CGIFURNITURE

Product 3D Rendering Guide

Everything a marketer and manufacturer needs to know about product CGI



The online marketplace is more competitive than ever. With countless brands vying for attention, standing out requires more than just attractive offers or great products. Today's consumers demand engaging, high-quality visuals, seamless shopping experiences, and compelling stories. For product manufacturers, having a strong online presence is no longer optional — it's essential.

So, how can a manufacturer thrive online and leave a lasting impression? Success starts with careful planning and answering these key questions:

- Which platforms are the most effective for reaching your target audience?
- What makes your brand or product stand out?
- Where can you find fresh, engaging visuals to captivate potential customers?
- How can you get these visuals within budget?

While the answers to the first two questions may vary, we have the solution for the third and fourth: **product 3D rendering**.





CG rendering or CGI is an effort, time, and budget-saving alternative to product photography. CGI provides companies with high-class visual materials for every purpose — advertising, product pages, Amazon and Shopify, configurators, etc. And that without photoshoots or transporting products to the studio. In fact, manufacturers don't even need to have physical products.

Moreover, CG rendering produces materials that are photorealistic and look like 1,000,000 bucks. And it can be reusable! This will help save even more time and money in the next marketing campaigns.

Best of all, you can find a solution for every type of advertising. CGI includes **3D product modeling services**, **3D animation video services**, silo and **lifestyle rendering services**, product feature imagery, interactive images and many more options to choose from.

Sounds too good to be true? Yet this is an understatement of what **product rendering services** can do. Let's get to the bottom of this phenomenon and see how you can benefit from it!

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CHAPTER 1

What is 3D Product Rendering?

Product 3D rendering is a process of generating photorealistic or non-photorealistic images with 3D models using specialized software. The resulting product is called a **3D render**.

In product design, this workflow often replaces repeated prototyping at early stages. It helps teams explore design options faster and with fewer physical iterations.

The primary advantage of 3D rendering lies in its ability to visualize the product well before its actual creation. And that — in color variations, at different angles, in any number and types of environments, isolated or in a group of objects, in front, side, top, closeup, and cross-section views! This way, marketers can get their ads earlier, manufacturers can see exactly what the product looks like, and brands can easily test the market by pre-selling.

This approach also reduces the risk of investing in large batches before a concept is validated. Visual assets can support pre-orders and early feedback before production ramps up.





Product rendering can scale from clean white-background views to styled lifestyle scenes, with material and color variations generated from the same 3D model.

How 3D Product Rendering Works

3D product rendering isn't just some mindless clicking on a screen. It's where tech and creativity actually meet, right from the first step. Every project kicks off with a deep dive into references, gathering every detail possible to really get what the product, space, or idea is all about.

Strong references help reduce revisions later, especially when a project needs multiple options, colorways, or product variations.

Then comes the real hands-on part, which unfolds step by step:

- **building the 3D model** by shaping accurate geometry and proportions;
- **applying textures** to define surface detail and visual depth;
- **tweaking materials** to fine-tune reflections, roughness, and physical realism;
- **setting up lighting** to control mood, contrast, and volume;
- **adjusting camera angles** to achieve strong composition and the right perspective;
- **iterating on all these elements** until the scene comes together and looks convincing.

When it all lines up, they hit render, and suddenly, the images aren't just ideas but a real thing. Usually, there's still some post-production work: touching up colors, polishing tiny details, and making sure the whole thing feels believable.

Honestly, the best work always happens when artists and clients actually talk to each other and work as a team. Staying in sync turns a successful project into something everyone can look at and say, "Yeah, we made that."

3D Modeling

3D modeling means building a digital version of something in three dimensions, all done with special software. Artists start by laying out points, drawing lines, and connecting polygons. These basic pieces shape how the object looks and how detailed it gets. They also control what happens when when it's spun around or zoomed in for a closer look.

In product development, the model can also act as a single source of truth across teams. It can support internal reviews, design decisions, and early approvals before any physical sample is requested.

When this is done, they've got a 3D model. It's surprisingly flexible. Artists can tweak it, polish it, or show it off from any angle. People use these models everywhere — architecture, product design, video games, movies, and marketing. Anywhere something needs something to look real and be easy to change, 3D modeling services step in.





3D Texturing

Textures are what make a 3D model look real. After finishing the geometry, the next step is UV mapping. This process essentially involves unwrapping the model's surface and laying it out flat, akin to removing the skin from an orange and pressing it down. This layout makes it possible to add textures in the right spots, without any weird stretching or messy details.

Artists then get to work with different texture maps, tuning things like color, metalness, roughness, and bump or normal maps. Each one tells the model how to look and interact with light. Does it shine? Does it matter? Does it look soft, rough, or maybe a little beat-up? Textures handle all of that. They're why polished metal looks slick, fabric feels soft, and wood grain seems natural. Honestly, textures are what sells the illusion, whether it's for games, product renders, or architecture. Without them, even the most detailed model falls flat.

This flexibility is also useful during design exploration, since finishes and materials can be swapped without rebuilding the asset from scratch.

Lighting

Lighting makes all the difference in product rendering. It's what takes a flat 3D model and gives it life. It allows viewers to see the shape, textures, and fine surface details. Good lighting highlights these elements and enhances realism through different lighting techniques.

When artists plan lighting well, they acquire depth and form. It can pull the viewer's eyes right to the features they want them to notice. Sometimes they want things soft and natural, especially if they're going for that bright, commercial vibe. Other times, a bold setup with strong shadows and contrast works better and adds drama. Either way, the lighting choices shape the mood of the image and decide how much it grabs people's attention.







Camera setup

An optimal camera setup is crucial for enhancing the product's visual appeal. Stuff like focal length, depth of field, and the angle chosen decides what pops out and what fades into the background, especially when using close-up shot types.

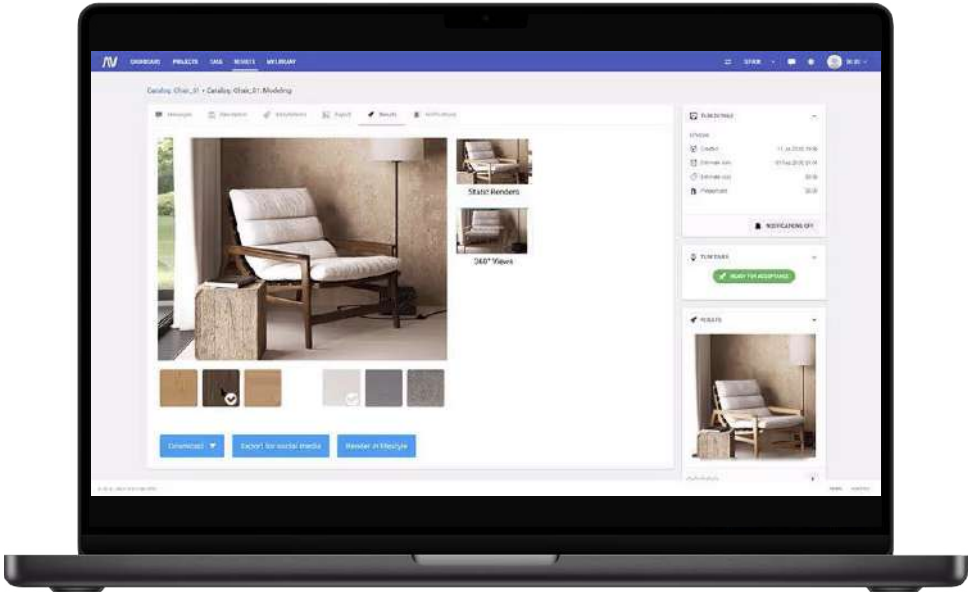
Get the camera right, and suddenly the product looks sharp, real, and easy to relate to. Even a basic shot can feel intentional and tell a quick story that grabs someone's attention for a few extra seconds.

Rendering

Once the textures, materials, and lighting all line up, it's time to hit render. Artists jump into their software, building sharp images or animations and testing out different camera angles to see what pops. As the scene comes together, they mess with shadows, tweak reflections, and fine-tune the colors until every detail shines.' At this stage, many teams use batch rendering, which allows multiple camera angles, variations, or versions of the same scene to be rendered automatically in a single run. This makes it easier to produce consistent visuals at scale without repeating the same setup work over and over, while also improving overall rendering speed.

Batch workflows also support fast comparison between options during design development, especially when a product needs several variants reviewed and approved in parallel.

The result? One ends up with an image so real it could pass for a photograph. No prototypes. No expensive photoshoots. Just pure, digital magic.





Post-production

After the render's done, there's usually some finishing work. Artists touch up colors, tweak the contrast, sharpen things up, or fix tiny flaws. Sometimes they'll drop the product into a lifestyle scene, add effects, or prep the image for a website or print ad.

This last step is all about making sure the final visuals look sharp, professional, and ready for use in any required context. If more details are needed, a description of the entire 3D rendering workflow is available in the overview of the guide. For a practical look at post-production, there is also a visual walkthrough that shows this step in action.

Post-production finalizes the render for marketing use by balancing light, color, contrast, and fine detail for a clean, realistic result.

Advantages of 3D Product Rendering

3D product rendering comes with a bunch of perks. Brands can skip endless photoshoots and physical samples, which saves money and time. One can create visuals before a product even exists, so launches happen faster.

In product design, this also means fewer prototypes are required for minor changes. Adjustments to color, materials, or small design details can be validated digitally before production resources are involved.

Plus, brands get a consistent look across their website, ads, and social media. Changing colors or materials is no big deal but a few tweaks to the file. The whole system is flexible, scalable, and ready to grow as a product line does.

Another advantage is stronger decision-making early in the pipeline. When teams see realistic images sooner, approvals often move faster and product development stays on schedule.





Product rendering used for consistent chair visuals in a furniture catalog.

Applications of 3D Product Renders

We find 3D product renders everywhere — from online stores and ads to packaging, catalogs, and social media. They're also ideal for early design reviews, client presentations, and immersive tech like AR or VR. No matter the product, renders help make it look polished and ready to share. For a deeper look at how CGI supports different parts of product marketing, see the uses and benefits across categories.

Product visuals are also useful for early consumer testing. Marketing teams can compare variants and measure interest before a final version is approved for mass production.

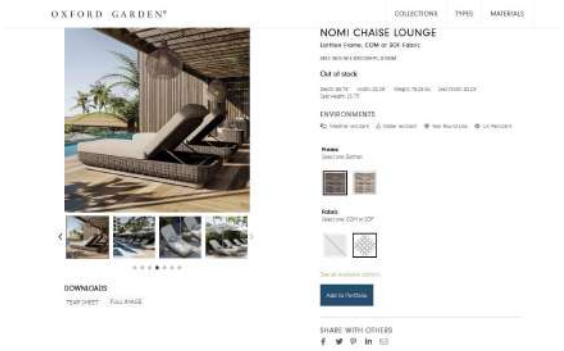
Applications of 3D Product Renders

During design, 3D renders allow product designers, engineers, and marketing teams to experiment with ideas and tweak details before spending money on prototypes. This saves time and cost and helps everyone stay aligned. Later on, the same visuals can support product launches, marketing materials, packaging or internal approvals, keeping the whole process smoother from concept to launch.

This workflow is especially valuable when a product requires frequent iterations. Digital reviews can reduce delays caused by producing, shipping, and reworking physical samples.

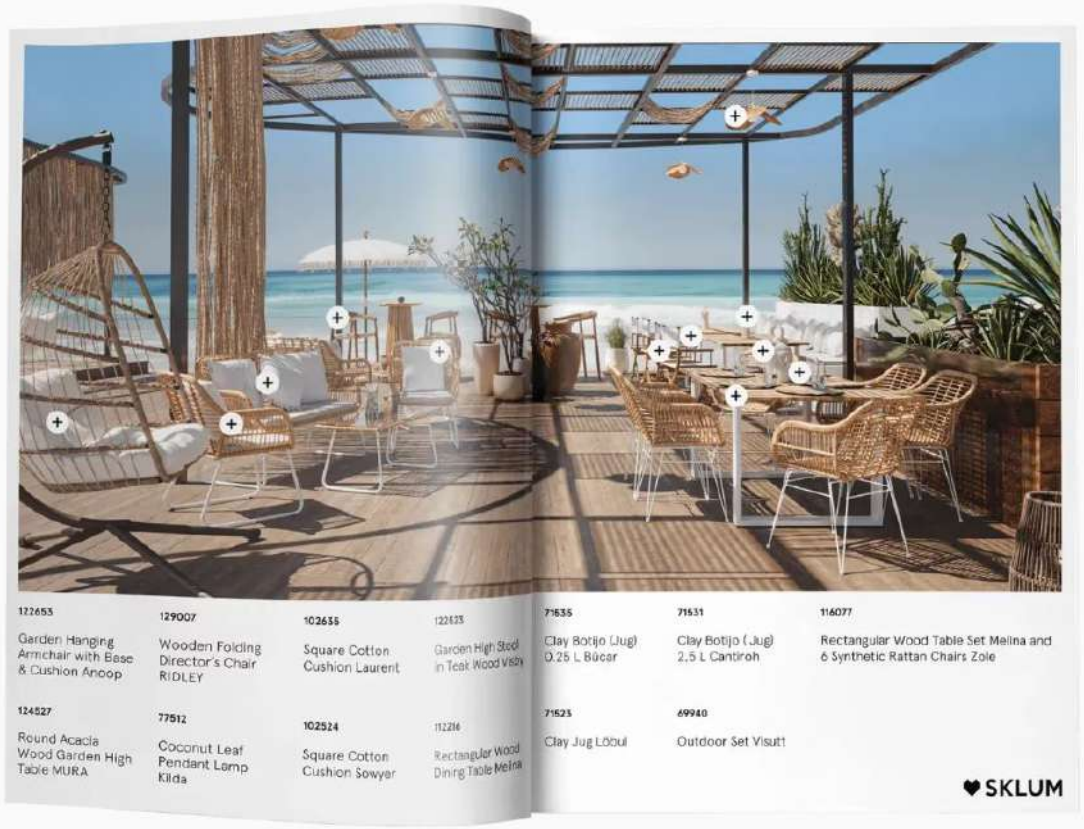








From early design reviews to launch assets, product 3D visualization helps teams test details, align decisions, and deliver consistent visuals for catalogs and eCommerce.



Marketing Strategies and Product Advertising

Professional 3D product rendering is a game-changer for marketing. It helps create stunning visuals for ads, websites, packaging, and social posts without needing a full photoshoot for every product variation. It makes campaigns more flexible, faster to roll out, and way easier to update whenever needed. Just as importantly, it supports improved marketing campaigns by enabling more customized visuals tailored to different audiences, platforms, and product versions, while keeping the overall brand look consistent.

It can also support pre-launch campaigns and pre-orders. Brands can promote a product before it is manufactured, which helps confirm demand and reduce inventory risks.

3D Visualization for Architecture and Interiors

For architects and interior designers, 3D rendering is like a preview button. It allows clients to see exactly how a space will look, down to the lighting, textures, and layout, before building even starts. That means fewer surprises, quicker approvals, and better communication all around.





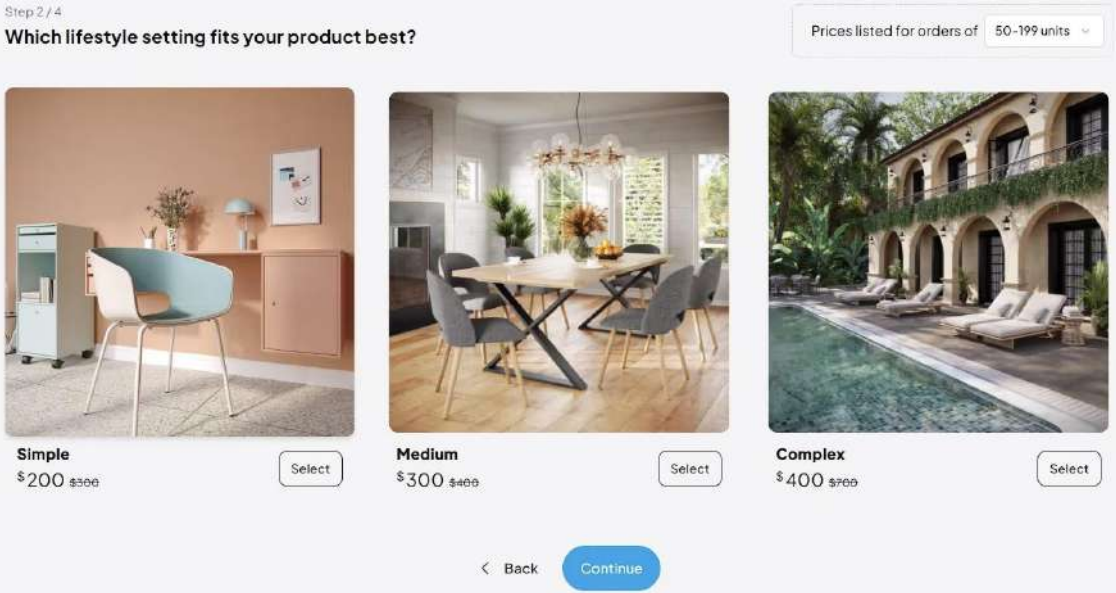
Visual Effects in Film and TV

In movies and shows, CGI makes the impossible look real. Whether it's adding small details or creating entire worlds from scratch, 3D rendering helps bring stories to life with visuals that really stick. It's a big part of what makes today's film and TV so immersive.

Use of 3D Rendering in Game Development

Games rely on 3D rendering to create rich, detailed worlds and lifelike characters. It's what makes gameplay feel real and engaging. With high-quality visuals and smooth performance, rendering helps build experiences that keep players hooked.





Pricing: How It's Formed and What Affects It

Product rendering prices really come down to a mix of technical know-how and creative choices. Some things matter more than others — like how complex the model is, the required level of realism, the materials and textures, and the number of images or angles involved. Scene type makes a big difference too. A simple white-background render? That's quick. But a lifestyle shot with detailed props and lighting takes more time and effort.

Other details play a role as well, such as the quality of reference materials, whether CAD files are available, and where the images will be used — web, print, AR, or animation. Each of those needs its own touch and some extra prep.

Prototyping costs are not part of a rendering quote, but they often impact the real budget behind a product launch. In many workflows, 3D rendering reduces repeated sample production and helps brands spend prototype budgets more selectively.

3D Product Rendering vs Photography: Key Takeaways

Traditional photography gives real-world look, but it’s not always straightforward. Reshoots get expensive fast, timelines drag out, and any product change means another shoot. Even changing a color or material can be challenging. That usually means starting over.

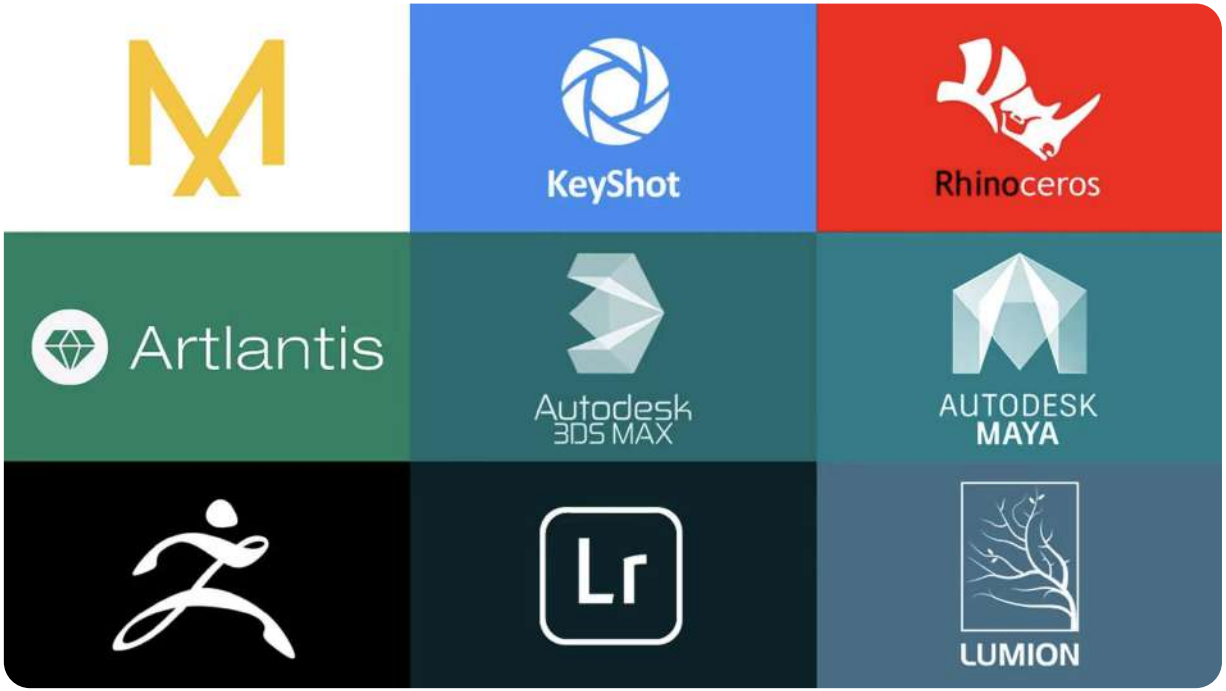
With product rendering, an artists builds a 3D model once, and it's set. They can change colors, materials, angles — no extra shoots needed. The brands get consistent visuals everywhere and can even launch products before the factory’s done making them. If one cares about speed and scaling up, 3D rendering is tough to beat.

This is also why product rendering supports faster iteration cycles. It keeps design updates and marketing production moving at the same pace instead of waiting for a new shoot.

We’ve put together a full side-by-side comparison, complete with real examples, in the comparison section.







Software Used for 3D Product Rendering

Pro-level product rendering leans on a toolkit of modeling programs and rendering engines. Artists use 3ds Max, Blender, Maya, Cinema 4D — those handle the modeling part. For lighting, materials, and the final image, render engines like V-Ray, Corona, or Arnold step in.

Which software to use? That depends on the product's shape, how complex the materials are, and what one wants as a result — maybe static images, maybe animations, or assets for AR and configurators. Picking the right tools keeps things sharp and production smooth.

Conclusion

Across design, marketing, architecture, entertainment, and gaming, 3D rendering is making things faster, easier, and a lot more creative. It cuts down on costs, helps teams stay in sync, and brings ideas to life in vivid detail. As the tech keeps getting better, the possibilities just keep growing.

For product design, the biggest shift is speed and flexibility. Digital visuals support concept testing, client approvals, and pre-launch promotion, without locking budgets into repeated prototypes and reshoots.

Benchmark the 3D Rendering Market

Compare typical rates, project timelines, and deliverables and see where your current vendor stands.



Download Product Rendering Research

CHAPTER 2

Who Uses 3D Product Rendering?

CGI has become indispensable in many industries and continues to gain new territories. A complete list would make a guide of its own, so let's focus on the categories that use product rendering the most. There are 5 of them:

Product manufacturers use CGI all throughout the project, starting with concept development and ending with marketing materials production. We'll learn more about each usage type in the next paragraph.

Retail companies choose CGI because of the reusability of assets, the possibility to get large batches of imagery fast and without any transportations, and the possibility to work with AR and VR.

E-commerce platforms extensively use CGI too. Some require 3D models from vendors in order to create 3D renders for them or showcase the product in AR.

Marketing agencies value 3D rendering for 2 main reasons. First, they gain time by getting visuals before the product is manufactured. Second, marketing agencies opt for CGI because of unlimited creative opportunities. For 3D artists can show the product from any angle and in any environment

Entrepreneurs use 3D modeling and rendering to get their products to the market quickly. With CGI, they can get top-class silos, lifestyles, and promo videos while the product is being shipped or even manufactured. And this way, launch the site and advertising campaign while collecting the funds through crowdfunding.

What Is Product Rendering Used for?

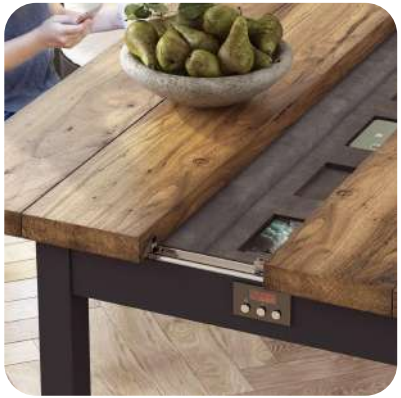
Product rendering is widely used across marketing, product development, and presentation. Below are some of the most common use cases where 3D visuals play a key role.

In practice, 3D rendering supports several key use cases across product marketing and development.

Product development CG images help teams visualize and approve the final design before production begins. Thanks to their photorealism, 3D renders provide a clearer and more reliable reference than drawings or sketches.







Social Media Playbook for Your Brand

Templates and examples for reels, carousels, and 3D motion—tailored to your brand.



Social Media Playbook for Your Brand

What Is Product Rendering Used for?

- **Market testing**. CGI allows estimating a reaction of the target audience to a product before it's manufactured or launched in order to predict its success or failure on the market. Before, the only way to do it was to produce prototypes.
- **E-commerce websites**. Product 3D rendering is a great source of show-stopping materials for visual merchandising. Online retailers use it to get lifestyles, silos, 3D animations for product pages, websites, as well as imagery for Amazon, Shopify, Etsy, eBay, etc.
- **Advertising**. Photoreal 3D visualization provides imagery for digital and outdoor advertising, photoshoot-free. This way, CGI allows for implementing any concept and doesn't require complex stage construction. And that for any concept and format, from online banners to billboards ads.
- **Print collateral**. CG renderings look extraordinary in print catalogs, flyers, brochures, in any resolution required. Moreover, as 3D renders can be done even before the prototypes are manufactured, it's possible to get all the collateral materials ready way before the launch.

CHAPTER 3

Product 3D Rendering vs Photography

This chapter compares product rendering vs photography for marketing and ecommerce. We look at cost, turnaround speed, creative flexibility, and the situations where each option performs best. We also break down which approach fits specific product types, so you can choose the most practical imagery format for your catalog.



Product Rendering Overview

Product rendering is the creation of imagery using 3D software and digital models. In this process, the product is recreated in 3D and shown in a digital scene instead of being photographed. The images are generated from the 3D data, which specifies the product's shape, materials, and dimensions.

In product marketing, 3D rendering services support a product across several stages of its lifecycle. They are often introduced early, when the product is still in development and physical samples are not yet available. At launch, they help create marketing visuals and sales materials. After release, the same assets can support updates, new variants, and ongoing campaigns.

Product Photography Insights

Product photography is the process of creating visuals by photographing a real, physical item. The product is captured using cameras, lighting equipment, and physical setups. The resulting photos reflect the product as it exists at the moment of the shoot.

Photography is used at the launch stage, once the product is finalized and physically available. It supports the release and sales by supplying approved assets for marketing use. Photography is used at this stage only because it requires the finished product and cannot be produced earlier.

Factors to Consider When Choosing 3D Rendering or Photography

Choosing between 3D rendering and photography depends on how the visuals will be produced, updated, and scaled over time. The key differences are not about looks but about how the work is done, shaping speed, cost, and long-term flexibility.

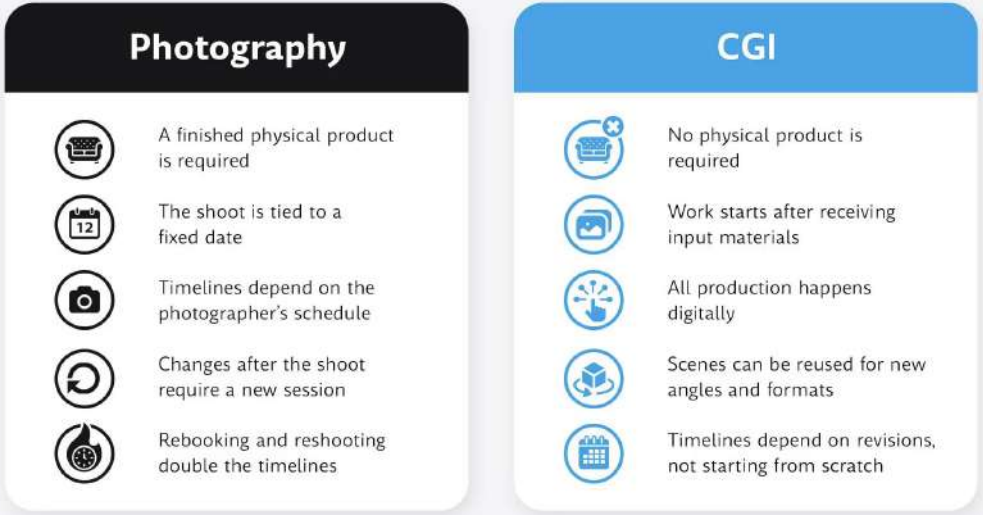
#1. Turnaround Time

Photography requires a finished product on site. The photographer's calendar and the booked facilities further define the scheduling limits. If changes come after the shoot, the team must schedule another session. *As a result, the delivery time is driven by scheduling constraints.*

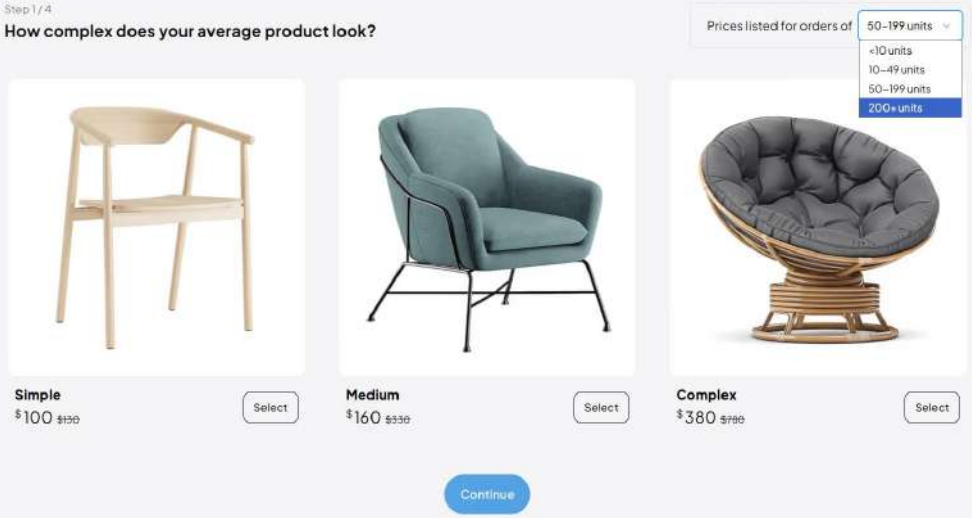
Product visualization starts once project inputs are provided. These are usually CAD files, drawings, or visual references for the product. Then production can move forward. There is no need to wait for a physical item to be prepared or delivered.

The production consists of several stages, all happening digitally. It includes *3D model creation, scene building, lighting and texturing, the rendering process, and post-production.* So unlike with photography, marketers have a flexible production window, not a fixed shooting schedule.

Once the scene is built, it can be reused to create additional views or formats. This means the process does not need to restart. When changes are requested, they are handled within the existing workflow. No rebooking or reshooting is needed. As a result, delivery time in product rendering depends on production complexity and the scope of revisions.



Comparison chart showing timelines for product photography and 3D rendering workflows



3D rendering price calculator interface on the CGIFurniture website

#2. Production Cost

In product photography, **cost is driven by logistics**. This includes studio rental, equipment, crew, and the work required to produce, ship, and handle physical samples at the shoot location. The shoot is executed according to a brief that defines the products, scenes, and outputs. Each of these elements is a direct budget item, so the total cost depends on how often they are booked and used.

In addition, new requests may appear after the shoot. Art directors often ask for more views, alternative styling, or different platform formats. These elements fall outside the prepared scope. To produce them, the team must reshoot the product. This phase requires additional studio time, crew involvement, and equipment use, all of which increase cost.

The impact grows when a project includes a full collection or many product variations. Each product in the collection is photographed separately, so the team must handle, set up, and shoot every item. If there are variations of the same product, each variation also requires its own shots. As the number of products and variations increases, the budget scales with the amount of repeated physical production.

#2. Production Cost

In **product rendering, cost is driven by digital production work** rather than physical logistics. It includes 3D artist time, scene setup, 3D model accuracy, materials, lighting, rendering, and post-production. The total cost reflects how much 3D artist time is required to complete the work.

In CGI production, **the brief** affects cost differently than in photography. It does not lock a fixed setup. First, it **defines the scope of work**, such as required outputs and quality level. Second, the rendering brief can provide production inputs, such as existing 3D models or reference materials. Using these inputs reduces the amount of production work compared to building assets from scratch, which lowers cost.

When **new requests** appear during production, they are usually **handled within the existing 3D scene**. Additional views and formats can be created by adjusting cameras, lighting, or materials. There is no need to rebuild the scene or restart the workflow. As a result, changes increase cost only when they introduce new elements or require more work than originally planned.

The cost structure also differs from product photography when it comes to *multiple products or variations.* In CGI, products can share the same scene, lighting, and camera logic, which reduces setup work per item. Variations often reuse the base 3D model with small adjustments. As a result, adding more products raises costs gradually instead of repeating the full production process for each item. Overall, product rendering costs **scale with digital complexity and revision scope, not with repeated physical setup.**



Video explanation for 3D rendering pricing



#3. Effort for Marketing Directors

Product photography demands continuous coordination due to its reliance on physical products. First, marketers must manage product availability, shipping, and handoff to the studio. They also need to align schedules with photographers and crews to ensure everything is ready on time. What adds to the planning challenge is that nothing can be adjusted once the shoot begins. For that reason, setups must be approved in advance, with all variations defined before the shoot.

When requirements change, those earlier decisions become unusable. As a result, the process has to be repeated through new bookings and approvals. As more products or outputs are added, this repetition becomes more frequent, steadily increasing the coordination load.

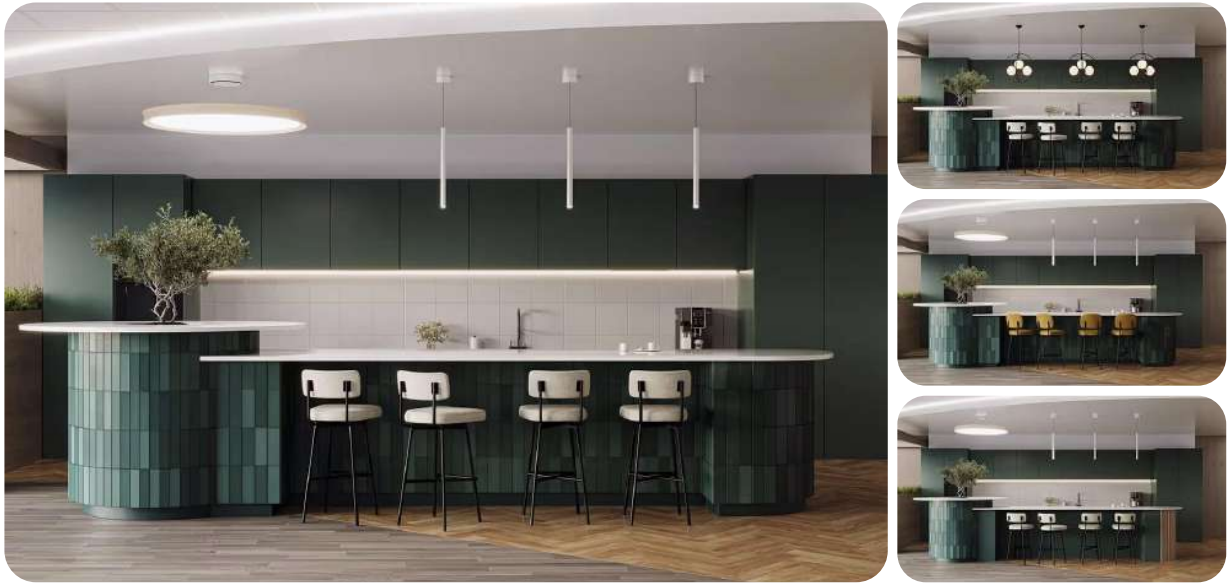
With **product rendering**, the effort shifts from logistics to decisions. Marketers provide inputs, clarify requirements, and approve 3D scenes early in the process. Once the base assets are in place, new views, formats, or variations require feedback rather than re-coordination. Outputs also scale within the same production environment. As a result, there is no need for complex logistics.

Because of this, product 3D rendering usually requires less operational effort from the marketer than photography. The workload stays focused on clear inputs and timely decisions instead of repeated coordination. When changes occur, the process continues within the same workflow. This makes marketer involvement more predictable and easier to manage over time.

#4. Flexibility

Product photography is tied to a fixed shoot setup, which limits flexibility. Lighting, camera position, and framing are set during the shoot and cannot be changed. New angles, formats, or visual adjustments require a new setup or repeating the shoot.

With **product rendering**, all elements remain editable within a 3D scene. This includes camera angles, lighting, materials, and formats. New views or changes are created inside the same environment without restarting production. In this way, with CGI, flexibility is part of the process.



3D renders of multiple lamp variants in the same kitchen scene for direct comparison







Product renderings with creative concepts for lighting

#5. Creativity

Almost any idea can be executed in **product photography**. However, several constraints often make marketing directors choose safe, noncreative solutions. Mainly, these constraints are cost, coordination, and physical effort. They all stem from the fact that every creative concept must be built in the real world. This means finding a location, moving the product, setting it up on-site, and arranging the crew, equipment, and permits.

For example, a luxury kitchen can be photographed in a forest. From a technical perspective, this is absolutely possible. However, it requires finding a location, moving heavy cabinetry, setting it up outdoors, taking it apart, and bringing everything back. In many cases, a crane is needed to lift and position the furniture. With **CGI**, a marketer can get the same result with a brief and lifestyle rendering services.

#5. Creativity

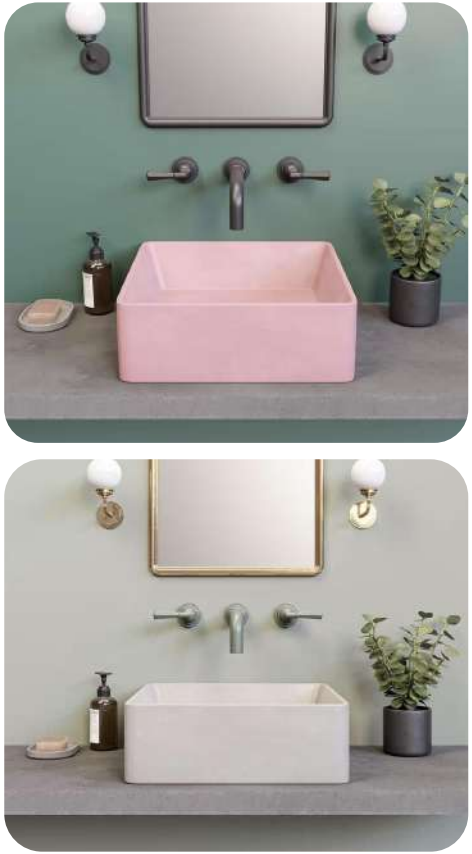
The same logic applies to more technical product images. For example, a cross-section view of a fridge floating in the air can be created. However, this approach requires extra product samples. The reason is that the fridge has to be physically held in place during the shoot. Metal supports are used to create the floating effect, and these supports must later be removed in post-production. This process also increases the amount of coordination required between multiple teams. This way, each creative idea adds real-world complexity and expense.

Photography offers broad creative potential, but each creative choice increases production effort. 3D photo rendering delivers the same visual freedom without physical logistics. The idea stays the same, while execution moves from the real world to a controlled digital space.





Product renderings with creative concepts for lighting



Lifestyle renderings created from the same 3D scene setup, ensuring fully consistent lighting and style

#6. Realism and Consistency

Both methods can produce hyperrealistic and accurate results. The difference lies in how accuracy and realism are achieved. In **photography**, visual fidelity depends on the setup, equipment, and retouching quality.

In **3D rendering**, results depend on the artist's skill with materials, scale, and lighting. A 3D scene fully controls materials, lighting, and environments. Understanding this aspect is of the utmost importance for product marketers. It helps them see how 3D rendering and photography handle imagery consistency. Let's look at both production types from this point of view.

In **photography**, each result depends on a specific physical setup. Lighting can change from shoot to shoot. Small shifts in camera position, reflections, or materials affect the outcome. Reproducing the same look later requires rebuilding the setup and often still leads to variation. This process makes consistency and repeatability harder to maintain.

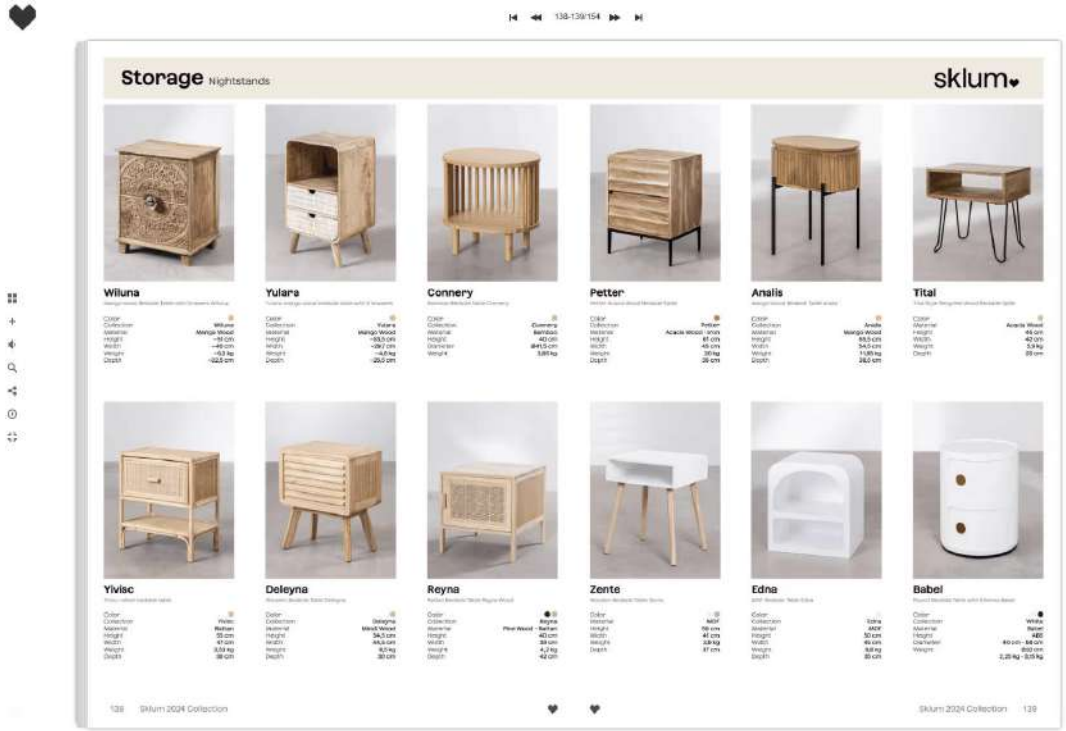
3D product rendering works differently. Once defined in a 3D scene, materials, lighting, and camera settings remain fixed. The same setup can be reused to create new views, formats, or revisions with the same visual conditions. This gives full control over all parameters and keeps results consistent across all outputs.

#7. Scalability for Large Product Ranges

In **photography**, scaling production is organizationally demanding. Large volumes mean more products to ship, store, handle, and track. Marketers must schedule shoots, crews, and equipment under tight deadlines.

Teams run parallel shoots when they need many images quickly. This increases coordination effort and the risk of visual inconsistency manyfold. Quality control is harder because many setups and teams work at the same time.

In **CGI**, scaling is mostly a staffing task. Production expands by adding 3D artists and briefing them on the visual standards. For highly complex projects, short training can align everyone to the same rules. The art director and project manager of the core team take care of that. This centralized control helps teams produce many images fast and keep them consistent.



Furniture catalog featuring exclusively 3D renderings



Lifestyle visuals featuring the same product, created for A/B testing

#8. E-commerce Performance and A/B Testing

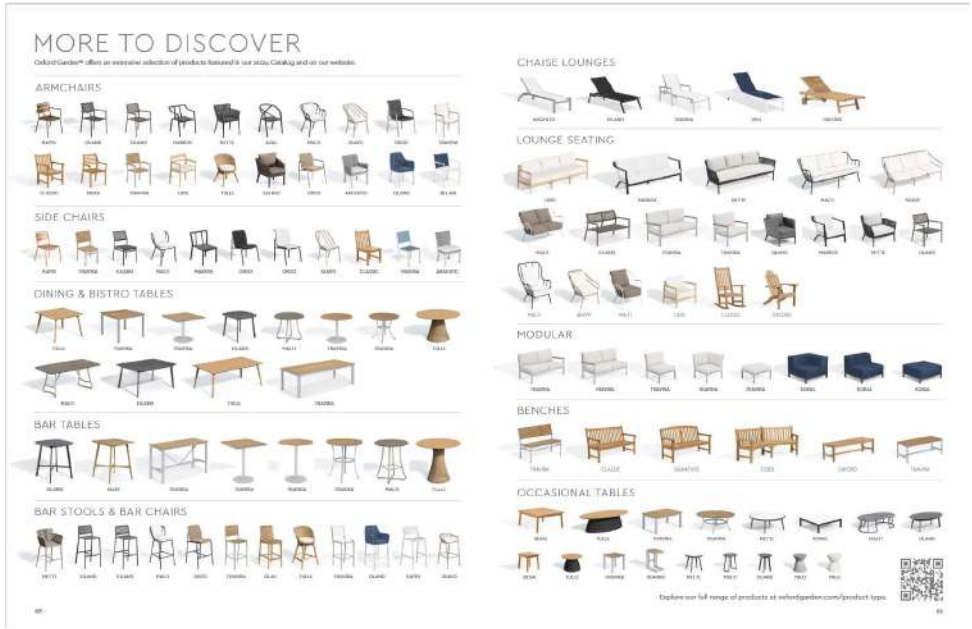
Product photography limits flexibility in e-commerce testing. Once images are shot, they are largely fixed. Creating new variants requires reshoots or extensive retouching, which takes time and budget. As a result, teams often test only a small number of visual options. This slows down A/B testing and makes continuous optimization harder.

Product rendering is built for testing and iteration. Visual variants are created by adjusting the 3D scene rather than reshooting. Camera angles, 3D lighting, silo or lifestyle backgrounds, and compositions can be changed quickly. Multiple versions can be produced at the same time. This allows teams to run A/B tests at scale, compare performance, and refine visuals based on real data.

#9. Sustainability and Ecological Considerations

Product photography depends on physical products and logistics. To create visuals, samples must be made and taken to the studio. Once on-site, they need storage, handling, and packaging. Obviously, all of these operations increase resource consumption. At the same time, crews, equipment, and props also need to be transported, adding more travel and energy use. Reshoots necessitate new setups and transportation when necessary changes arise. This way, higher production volume increases emissions, energy use, and material waste.

CGI lowers environmental impact by removing physical logistics from the process. Visuals are created digitally, without shipping products or organizing studio shoots. Updates and new variants do not need reshoots, additional samples, or transport. As for scaling production, it merely increases computing and staffing needs. Compared to photography, **CGI is a more sustainable way of content production**. It removes many resource-heavy steps. This benefit makes it a better fit for brands with ecological goals and long- term content needs.



Large batch of product images in a catalog, all created digitally







Product renders showing multiple angles and formats of the same scene

#10. Output Formats and Assets

This aspect is crucial when comparing 3D rendering and photography. In both technologies, the final deliverables are image files such as JPG or PNG. But that is where the similarities stop.

In **photography**, the output files are the direct result of the shoot. Therefore, only the images that were shot exist as final files. There is no way to generate new views later. This means that aspects such as viewing angles and resolution must be decided and produced in advance.

In **product 3D rendering**, the situation is different at the output stage. Final images are exported from a finished scene, not locked to a single capture moment. As a result, viewing angles can be chosen when exporting the images, not earlier. Resolution follows the same logic, since the same view can be rendered again in another size. This is why the file formats are similar, but the output flexibility is not.

Product Photography vs 3D Rendering for Tailored Customization

In the past, product marketing strategy usually relied on a single main product image and a small number of additional shots. The same images were reused across websites, ads, marketplaces, and social media.

Today, brands take a different approach – **tailored customization**. The term means creating multiple images of the product, where each image is designed to show a specific product aspect or serve a specific marketing purpose.

In practice, this includes separate images for the following purposes:

- to show different **product aspects**. Such as color appearance, material, finish, form, construction, or a specific function
- to show the **ways the product should be understood**. For instance, this includes how the product is used, how it fits into an environment, and what problem it solves
- to be used on different marketing channels. Including product pages, marketplaces, ads, social media, and campaigns.



Photorealistic rendering illustrating product features



Video explanation for material options 3D modeling

Product Photography vs 3D Rendering for Tailored Customization

Here are the key trends shaping tailored customization in marketing imagery.

1. **Customization becomes the default, not a premium extra**. It is no longer limited to special cases. Earlier, tailored visuals were produced mainly for flagship products or major campaigns. Now, customization is the baseline.

2. **Product images take over explanatory work from text**. Images are used to complement written descriptions. Today, they are designed to communicate key information on their own. Visuals answer common questions before the shopper reads any text.

3. **Channel requirements shape imagery**. In the past, the same image was used everywhere with small changes. Today, each channel has clear rules for image framing, format, and content. Customization is now driven by platform rules and how users behave.

4. **Consistency becomes harder but more important**. As the number of tailored images increases, maintaining consistency becomes more complex. At the same time, it becomes essential. Visual alignment in style and message is no longer optional. That is why brands invest more effort in keeping large image sets coherent.

3D rendering supports tailored customization more effectively. Its main advantage is that it works well at scale and supports variation. Once a product exists as a 3D model, brands can create many images without any extra production work. You can change camera angles, colors, materials, and framing within the same scene. This makes it easier to follow platform rules and keep visuals consistent. As a result, CGI turns customization into a controlled and repeatable workflow. Each new variation demands an entirely new setup or reshoot in photography. This slows production and increases costs.

3D Rendering vs Product Photography in Real Product Scenarios

Product design influences the creation of marketing imagery. Materials, surface finish, scale, and real-world use create specific constraints and requirements. Below are examples comparing 3D rendering vs product photography in real scenarios.

1. Acoustic Panels

Acoustic panels rely on visual details to convey build precision and acoustic intent. This section explains which details matter and how different production methods handle them.

a). Surface Texture and Edge

Texture and edge finish affect appearance and signal quality. To convey these aspects to customers, brands usually use various types of close-up shots. These views are unmatched for showing edge straightness, fiber structure, and cut quality.

Close-up photography can show fiber texture and soft edges well. However, this requires carefully controlled lighting conditions. If lighting is uneven, felt surfaces and perforations can cast harsh shadows. This exaggerates depth and distorts how the material is read.

With CGI, this dependency on lighting conditions is removed. Texture depth and edge profiles are defined directly in the 3D model. As a result, close-up views stay consistent across all angles and outputs, regardless of the shooting environment.





3D Product Animation for Acoustic Panels Promotion

3D Rendering vs Product Photography in Real Product Scenarios

b). Material Density and Perforation Patterns

Material density and perforation patterns are key visual cues for acoustic panels. They indicate how the material behaves and how sound absorption is distributed across the surface. If these details are unclear, the product's acoustic function is difficult to read from the image.

Photography shows perforation depth by using angled lighting so the holes remain readable. This helps communicate realism, but the result depends strongly on light angle and exposure. Changes in lighting can flatten perforations or overstate their depth.

In **product rendering**, perforation patterns are built as parametric geometry in the 3D model. This lets the 3D render artists generate clean variants by changing hole size, spacing, or layout rules within the same model. It also makes it easy to match a real spec, because the pattern can be set to exact measurements.

3D Rendering vs Product Photography in Real Product Scenarios

c). Depth and Thickness

Panel thickness affects whether the product reads as thin or solid. When thickness is visually misjudged, expectations about performance and durability shift. This can lead to misunderstandings with the client and product returns.

In **photography**, thickness is determined by the physical edge of the panel in the shot. During setup, lightweight panels can bend or tilt, changing how thick they appear in the image. Proper mounting helps, but the panel still needs to keep its shape during the shoot.

With 3D modeling services, thickness is locked to the 3D model.Edge depth is fixed in the model and unaffected by handling or gravity, so it stays the same in every view.





3D Rendering vs Product Photography in Real Product Scenarios

d). Modularity

Acoustic products are rarely sold as single units. Buyers need to see how individual elements fit together and function as a system.

Installed system shots in **photography** can be convincing because they show real-world use. However, each configuration requires physical mounting and precise alignment. This means panels must be mounted, aligned, and adjusted by hand every time the layout changes. Any new configuration repeats the same work, adds setup time, and increases cost and coordination effort.

With **CGI**, systems are assembled virtually — by placing panel models in a 3D scene. Layouts are changed by adjusting positions, spacing, and orientation in the 3D rendering software. New configurations are created by duplicating or rearranging elements. This removes the need to physically install the product for every view.

3D Rendering vs Product Photography in Real Product Scenarios

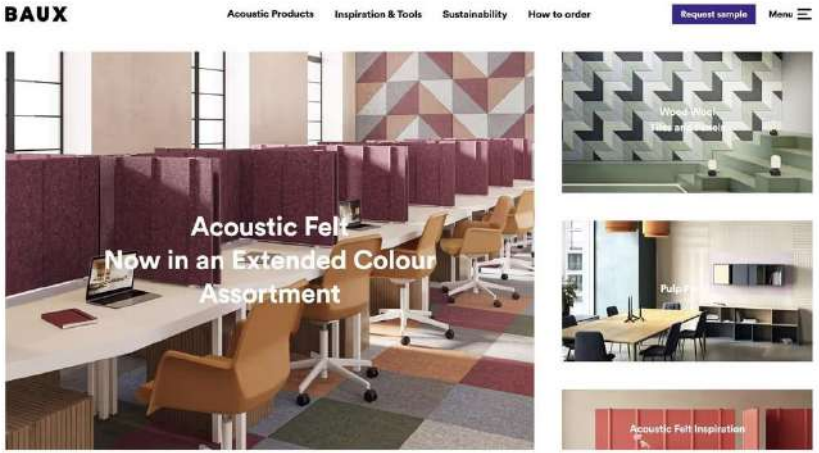
e). Installation Context

This factor is important to show in a product image because it demonstrates how the panels are mounted, spaced, and aligned in a real interior.

In product photography, this is done by shooting the panels in real interiors where mounting, spacing, and alignment can be seen. Each environment requires a new setup, which limits how many installation options can be shown.

With **3D rendering**, this limitation does not apply. The same panel model can be placed into multiple 3D scenes — as many as needed. This enables the display of mounting, spacing, and alignment in various environments without the need for physical setup repetition. As a result, brands can produce as many lifestyle cg images as needed for their marketing.

Photography delivers strong material realism for small collections and a limited number of scenes. As ranges become modular, color-rich, or system-based, production effort increases rapidly. In contrast, 3D rendering for acoustic surfaces supports scalable visualization and maintains consistency across large product families.







Lifestyle and close-up 3D render highlighting fabric texture

3D Rendering vs Product Photography in Real Product Scenarios

2. Upholstered Furniture

Fabric behavior, cushion compression, and stitching details in upholstered furniture infer comfort and build quality. This section compares how 3D rendering and product photos handle these aspects in practice. It also contains case studies on CGI for various types of upholstered furniture.

a). Fabric Texture and Weave Accuracy

These characteristics show material quality and affect perceived comfort and price. Furniture photography captures real fabric behavior, but the result depends on lighting and the fabric's condition during the shoot. The weave and surface look change with light angle and intensity. As a result, a setup that reveals texture in one view can flatten it in another.

Transport and staging often disrupt the pile or direction of many upholstery fabrics. This leads to noticeable changes in tone on the same surface. These effects come from the material itself and are difficult to control. Correcting them usually means adjusting the setup or reshooting, not making small fixes afterward.

With **CGI**, fabric appearance is defined digitally. Texture scale, weave depth, and surface roughness are set in the material model. Lighting can be adjusted to reveal the weave while the fabric state stays unchanged. As a result, pile direction and surface variation remain consistent across all views. This removes the need for physical rework when changing angles or variants.

All a brand needs to get accurate upholstery textures is to provide references. A case study on 3D modeling and rendering for HBF and HBF Textiles shows how the process works.

3D Rendering vs Product Photography in Real Product Scenarios

2. Upholstered Furniture

b). Cushion Softness and Compression

This detail helps indicate seating comfort and construction quality. **Product photography** can show real material compression, but only in the staged position used for the shoot. Any new pose requires restaging the product or doing a new shoot, which adds time and effort.

Product rendering allows cushion shape to be adjusted digitally. This makes it easy to show the product with and without load, without physically altering it. You can see how CGI shows cushion softness in this 3D visualization project for Palliser.





3D Rendering vs Product Photography in Real Product Scenarios

2. Upholstered Furniture

c). Seams, Stitching, and Detailing

These elements communicate build quality and durability. In **photography**, they are captured as they exist on the physical product. This requires close-up shots, careful focus, and controlled lighting. As a result, small defects or inconsistencies may show up even when they are not intended.

With **3D rendering**, seams and stitching are built directly into the 3D furniture product models. Their shape, spacing, and depth are defined intentionally. This way, the same construction details are preserved across all product variants. This case study on 3D rendering for Cotta provides examples of stitching and detailed imagery.

3D Rendering vs Product Photography in Real Product Scenarios

2. Upholstered Furniture

d). Color Accuracy across Surfaces

Color accuracy is critical for purchase decisions and for comparing product variants. Buyers rely on color consistency to judge materials, finishes, and differences between options. Even slight color changes can alter how a product looks and make different variants harder to tell apart.

In **product photography**, color reproduction is influenced by lighting temperature and fabric reflectivity. As a result, the same fabric may appear slightly different from one shot to another.

With **product 3D visualization**, fabric colors are set as exact values, not captured through lighting or a camera. For that reason, colors do not shift when the viewing angle, scene setup, or background changes. This makes color presentation stable across all views and comparable between variants. You can see great examples of such visuals in this case study on Anesis sustainable furniture rendering.



3D renderings for an armchair illustrating perfect color accuracy and consistency across views



Product render with a 3D model of a woman demonstrating scale and real life usage

3D Rendering vs Product Photography in Real Product Scenarios

2. Upholstered Furniture

e). Scale Relative to the Human Body

Showing scale relative to the human body helps buyers understand size and proportions. In **photography**, this usually requires large interiors and human models to provide reference. When space is limited, camera position and framing can distort scale perception.

In **3D rendering**, this limitation is removed. The product can be placed in environments built to the correct scale or shown next to reference models without needing physical space. As a result, proportions remain clear, and scale is read consistently across all views. Also, people are either 3D modeled or AI generated, so there is no need to hire anyone. Excellent examples of 3D visuals with people can be found in this case study on furniture renders for Doctor Sleep.

3D Rendering vs Product Photography in Real Product Scenarios

2. Upholstered Furniture

f). Variant Coverage such as Fabrics and Legs

Variant coverage is critical for configuration and range presentation. With **product photography**, each variant usually requires its own physical sample. As a result, every added option increases production costs and logistics effort.

With **CGI,** the workflow changes. The product is modeled once as a complete and accurate base. After that, all variant edits are made on this finished 3D model by swapping materials or components. Because the core 3D model does not change, additional variants add minimal cost and require very little extra time. This case study on 3D rendering for Reinforced Beds presents examples of 3D visuals for colorways.

As a result, marketers can launch full product ranges at once instead of releasing variants in stages. 3D modeling and 3D texturing services shorten timelines and allow pricing and ads to stay aligned from day one.



Product renderings for three fabric variants

CGI Furniture Services Catalog

All CGI services in one place: rendering, 360/AR, motion, specs, deliverables



Download Catalog

3D Rendering vs Product Photography in Real Product Scenarios

3. Case Goods

Marketing imagery must show these with the utmost care. Such visuals must help shoppers see quality, precision, and value and choose. The sections below look at how CGI and photography handle these details and how this affects imagery production.

3D Rendering vs Product Photography in Real Product Scenarios

3. Case Goods

a). Surface Finish and Material Consistency

In **product photography**, surface appearance depends strongly on lighting and camera setup. The setup is tuned to how the surface reflects light.

When the same product is photographed with a different surface finish, the lighting and camera often need to be adjusted. This is because different finishes reflect light in different ways. If the setup stays unchanged, problems appear. These include glare, uneven highlights, dark areas, or color shifts. As a result, details like wood grain, veneer, or lacquer can look distorted or inaccurate.

With **product rendering**, lighting and cameras exist inside a digital scene. They are not tied to a physical shoot and do not depend on the surface finish. Surface finishes are changed by editing material parameters, while the interior 3D scene stays intact. Examples of photorealistic visuals for products in various materials can be found in this case study on product 3D visualization for BDI.

For marketers, this means finishes can be changed instantly with no organizational effort. We show every variant with the same lighting and camera, making finishes easy to compare and maintaining visual consistency across all outputs.



Product renders created to compare color variants within the same 3D interior setting







Product renderings created to showcase furniture construction details

3D Rendering vs Product Photography in Real Product Scenarios

3. Case Goods

b). Geometry, Edges, and Joinery Accuracy

In **product photography**, the accuracy of edges and joints depends on camera distance, lens choice, and depth of field. When the camera is far, small misalignments and uneven joints may disappear. When the camera is close, the same details can look distorted or overly soft. As a result, edge quality and joinery can change from shot to shot, even for the same product.

With **3D rendering**, geometry is defined by exact measurements. Panel alignment, edge radii, and joint construction are modeled to precise dimensions from the start. Because these elements exist as true geometry, they stay consistent in every view. Edges remain sharp, joints stay aligned, and proportions do not shift. This accuracy is preserved in both wide shots and close-ups, without changing the setup or repeating production.

This case study on hardware 3D visualization for HABCO DESIGN provides inspiration for close-ups with joinery.

3D Rendering vs Product Photography in Real Product Scenarios

3. Case Goods

c). Scale and Proportion within Space

In **product photography**, furniture is shot inside a real room or a built set. The size of that room determines how far the camera can be placed and at what height. If the space does not allow enough camera distance, the camera must be positioned closer to the product. This forces the use of wider focal lengths and alters perspective. As a result, depth, width, and vertical proportions can appear distorted. Once the image is captured, these perspective effects cannot be corrected. Fixing them requires shooting the product in a different space.

With **3D rendering**, the product is placed into a digital interior defined by exact measurements. Camera distance, height, and focal length are set independently of the environment. Perspective is controlled directly, without spatial limits. Because of this, the product keeps correct proportions relative to walls, floors, and other furniture in every scene.

Examples of how CGI works for storage-oriented case goods can be found in this case study for 3D visualization for HOMEGA furniture.





3D renders showing LED light intensity, beam angle, and distribution

3D Rendering vs Product Photography in Real Product Scenarios

4. Lighting Products

Lighting products are harder to visualize because light is part of the product itself. How a fixture produces and directs light affects how buyers assess it. This section compares how photography and 3D rendering address these challenges in practice.

a). Light Output and Distribution

Buyers need to see how strong the light is, where it falls, how wide the illuminated area is, and whether the fixture creates glare or dark zones. These factors directly affect visual comfort, task usability, and the number of fixtures required.

With **photography**, light output is captured from a real fixture under a fixed setup. The result depends on exposure, camera distance, and ambient light in the studio. Because of this, brightness and beam spread can appear different from one image to another. As a result, customers can't judge coverage and glare accurately.

With **3D rendering**, light output is defined using physical light parameters. Intensity, beam angle, and distribution are set numerically and remain consistent across all views. As a result, coverage, glare risk, and fixture count are easier to evaluate and compare.

Examples of how light output is visualized in CGI can be seen in this case study on 3D rendering for Ultra LEDs.

3D Rendering vs Product Photography in Real Product Scenarios

4. Lighting Products

b) Materials and Surface Interactions with Light

Finishes on a lighting fixture affect light reflection and the way the product looks when it is turned on. Surface properties affect glare and highlights, helping judge comfort and fit for offices, retail, or homes.

With **photography**, reflections are shaped by studio lighting and camera position. Shiny or glossy finishes often need careful adjustment to avoid glare or blown highlights. Even small changes in setup can alter how the surface looks in the image.

With **CGI**, materials are controlled inside the 3D scene. Reflection, roughness, and translucency are adjusted on the material, while the lighting stays the same. This makes surface behavior predictable and visuals consistent across views.

This case study on 3D rendering for Capitol Lighting provides inspiration for creating lighting product renders.





Product lifestyle renders showing lighting fixtures in use in real interior and exterior spaces





Product renders showing how lighting options shape interior aesthetics and illumination

3D Rendering vs Product Photography in Real Product Scenarios

4. Lighting Products

c). Variants and Lighting Scenarios

Buyers often want to see the same fixture in different colors, output levels, or settings. Seeing these variants side by side helps judge fit, light strength, and suitability for use. With **photography**, each variant or lighting scenario requires physical changes to the setup. Lights must be repositioned, and the fixture may need to be reshot in a new environment. As a result, producing multiple versions takes more time and requires additional coordination.

With **3D rendering**, variants are created by adjusting parameters within the same scene. Color options, output levels, and environments can be generated without changing the setup. This makes it easy to create many versions and compare them under the same lighting.

Examples of fixtures in different 3D settings are shown in a case study on 3D rendering for Prulite.

3D Rendering vs Product Photography in Real Product Scenarios

5. Tiles and Mosaics

Accurately visualizing tiles and mosaics is difficult due to repetition, gloss, and installation context. Product imagery must show how patterns scale, how surfaces reflect light, and how tiles behave in real conditions. Below, photography and 3D rendering are compared across these key factors.

Explore the 3D Rendering Market Landscape

Review pricing norms, turnaround times, and output scope to understand how your current provider compares.



Download Product Rendering Research



Product renderings showing tile pattern scale and visual rhythm

3D Rendering vs Product Photography in Real Product Scenarios

5. Tiles and Mosaics

a). Pattern Repetition and Scale

Tiles and mosaics are modular, so pattern repetition and scale must be shown clearly. Buyers need to see how individual tiles repeat and how the pattern reads across a large surface.

With **product photography**, showing repetition requires physical layouts or full installations. The number of available samples and the size of the shooting space limit the visible pattern. It is difficult to show large areas or consistent repetition this way.

With **CGI**, patterns are mapped digitally and repeated with exact spacing. Also, large surfaces are shown without limits from samples or shooting space. This is possible because all 3D scenes, whether a silo or a lifestyle background, are built in CGI software. This approach makes pattern scale and visual rhythm easy to show.

3D Rendering vs Product Photography in Real Product Scenarios

5. Tiles and Mosaics

b). Glossiness and Specular Reflection Capture

Gloss controls how much of the surface is visible and how much is lost to reflection. Product imagery must show this accurately so buyers can understand the real finish rather than a distorted version of it.

With **product photography**, the reflected environment often dominates the image. Instead of the tile surface, the camera captures studio lights, ceilings, or equipment. As a result, the same tile can appear uneven in shine across one image. From shot to shot, the perceived gloss level can also change.

This creates a problem for evaluation. Buyers cannot reliably tell how glossy the tile actually is. Satin finishes may appear matte, while glossy surfaces can look overly plastic.

With **3D rendering**, gloss is handled differently. Glossiness is defined as a numeric material value, and reflections are controlled inside the scene. Since the surface reacts to light in the same way across all images, the finish remains consistent and easy to assess.



Product renderings showing tile glossiness and reflection



3D product renderings showing swimming pool tiles interacting with water

3D Rendering vs Product Photography in Real Product Scenarios

5. Tiles and Mosaics

c). Swimming Pool Tiles and Water Interaction

Swimming pool tiles combine several challenging factors. They are made of small modules, often have a strong gloss, and are installed in water on curved or fully submerged surfaces. Together, these conditions make visual accuracy difficult to achieve.

With **product photography**, these factors create clear limitations. Tile color often shifts underwater, while joints and edges become harder to see. In addition, lighting changes with depth and viewing angle, which further alters the appearance of the tile. As a result, evaluation becomes unreliable. The same tile may appear darker, uneven, or visually distorted.

With **3D product photo production**, these issues are handled easily. Water, refraction, and depth are simulated in a controlled way, which keeps tile color and pattern readable.

Also, product rendering removes the need for physical staging for lifestyle imagery. This way, brands can show all their tile options in one setup and in 3 states — dry, wet, and underwater. This makes the finish comparison clear and consistent.

This CGI case study for Tileshop provides examples of renders for swimming pool, kitchen, and bathroom tiles. The study encompasses both static renders and 3D product animations.

Deciding Between Rendering, Photography, or a Hybrid Approach

Choosing between **CGI, product photography, or a hybrid setup** is not a stylistic decision. It defines how visual assets are produced, reused, and updated over time. The right approach depends on product complexity, the number of variants, and how long the visuals are expected to support marketing and sales.

Explore project examples showcasing 3D animations, stills, and other CGI formats.



View Case Studies



Video guide on using 3D rendering in furniture marketing

3D Rendering as the Primary Production Method

CGI can be used across all types of marketing visuals. However, it becomes indispensable when there is a clear understanding of the product, not just its display. In such cases, structure, surface behavior, and functional details must stay readable in every image.

Furthermore, it is essential when visuals are expected to stay **consistent over time and across channels**. When images are reused in campaigns, catalogs, websites, and sales collateral, any visual drift undermines brand control. CGI removes that risk by keeping appearance stable regardless of format or update cycle.

The same applies when marketing requires **full visual control** rather than approximation. Color, finish, proportions, and lighting remain the same across all images. This level of control cannot be substituted once brand accuracy becomes critical.

Finally, CGI is unmatched when product visuals must **evolve alongside marketing**. When messaging, configurations, or use cases change, visuals can be extended and adapted without rebuilding the base setup. In this sense, CGI functions as a long-term visual system, not a one-off production step.

Product Photography as the Primary Production Method

Photography can deliver strong realism and a sense of authenticity. However, photorealistic CGI has been possible for years. As a result, the difference is no longer visual but economic. From that perspective, photography has clear constraints.

First, photography locks visuals into fixed camera angles and backgrounds set during the shoot. As a result, changes in framing, composition, or context are impossible. The visuals must be made again. For the same reason, even small updates like a new variant or finish require reshoots.

Because each shoot yields only a few images, photographic assets have a short lifespan. When campaigns or formats change, images become outdated and cannot be reused.

Over time, these limits lead to higher long-term costs. Repeated shoots, logistics, and coordination add up, making photography more expensive over time.





Product animation example for architectural lighting

A Hybrid Production Approach

A hybrid production approach reflects the sales reality of **complex B2B systems**. Architectural lighting, HVAC units, and building automation platforms are examples of such products.

At the early stage, **CGI is used to support launch and marketing**. It allows brands to present the system, its behavior, configurations, and applications. **Photography** may become available **later in the lifecycle**. The product must be sold and installed, and the client must allow access to the premises. This makes photo shoots across dozens of product variants costly and hard to manage.

For this reason, photography usually appears opportunistically. That is, when suitable projects and permissions are available. However, it is a powerful tool for sales and marketing collateral.

In this scenario, **product rendering and photography reinforce each other**. CGI helps drive sales by explaining the system, while photography supports later conversions.

CHAPTER 4

CGI Services Types

In today's digital commerce market, CGI is more than just a fad; it's the driving force behind product presentation, brand storytelling, and visual scaleability. But “CGI” can mean many things: static renders, animations, AR models, configurators, and more. To make sense of it all, this guide breaks down every major type of 3D product visualization used across e-commerce, retail, and manufacturing and shows which of these solutions CGIFurniture provides.

One will find a clear, structured overview of each category, its application, and the corresponding CGIFurniture services below.





Category 1. Static Product Rendering

Static CGI is the foundation of digital product visualization. These are high-quality, photorealistic still images created entirely in 3D. Brands use them for product pages, catalogs, ads, retail listings, and packaging. CGIFurniture provides all major types of static product rendering listed below.

1. Silo 3D Visualization

Service: Silo 3D Visualization Services

Silo graphics depict a product against a clean, plain background, usually white or transparent. They use optimum lighting and eliminate distractions to accentuate shape, proportions, colors, and materials.

Ideal for:

- e-commerce listings
- marketplaces like Amazon
- catalogs and product sheets
- technical validation

CGIFurniture specializes in clean, consistent silo renders for entire product lines or large SKU catalogs.

Category 1. Static Product Rendering

2. Lifestyle 3D Rendering

Service: Lifestyle 3D Rendering

Lifestyle renders place a product inside a fully designed 3D environment that reflects the target audience's style and taste. They help customers imagine how a product fits into their lives and create emotionally engaging visuals. Ideal for:

- website hero images
- ads and social content
- lookbooks
- brand storytelling

CGIFurniture creates custom lifestyle scenes tailored to décor direction, brand mood, and interior style guidelines.





Category 1. Static Product Rendering

3. Flat Lay 3D Rendering

Service: Flat Lay 3D Rendering

Flat lays display products in a top-down arrangement that is clean and beautiful, making them perfect for grouped compositions or collections.

Great for:

- bundle presentations
- catalog highlights
- landing pages
- social media content

CGIFurniture produces flat lay renders with consistent angles, lighting, and styling for cohesive collections.

Category 1. Static Product Rendering

4. Product Feature Rendering

Service: Product Feature Rendering

Feature renders focus on details, materials, textures, systems, or innovations that define the object. These close-up photos convey quality and craftsmanship significantly more effectively than text alone.

Used for:

- feature callouts
- zoom-ins on product pages
- comparison sections
- marketing visuals that highlight value

CGIFurniture renders micro-details with a high level of realism — from stitching and grains to reflections and edge finishes.





Category 2. 3D Modeling

3D modeling is the creation of a digital replica of a product. It's the backbone of all CGI: once a 3D model exists, it can be used for renders, animations, AR/VR, configurators, and more. CGIFurniture provides full-spectrum modeling services.

1. Product 3D Modeling

Service: 3D Modeling Services

This includes creating accurate, high-detail 3D models from CAD files, sketches, dimensions, or photos. Models can be realistic (for rendering), low-poly (for WebXR), or optimized for animation.

Essential for:

- catalogs and marketing visuals
- prototypes
- mass production previews
- brand asset libraries

CGIFurniture builds scalable model libraries for brands with large or frequently updated catalogs.

Category 2. 3D Modeling

2. AR 3D Modeling

Service: AR 3D Modeling Services

AR models are lightweight, optimized assets designed specifically for mobile augmented reality — like iOS Quick Look or WebAR tools.

Use cases:

- immersive product previews
- mobile-driven retail
- try-before-purchase experiences

CGIFurniture delivers AR-ready GLB/USDC models that maintain realism while staying performant on mobile.



See 3D Model on Our Site



Category 2. 3D Modeling

3. 3D Texturing & Materials

Service: 3D Texturing Services

This is where surfaces come to life. Texturing defines how materials look and react to light — wood, metal, fabric, plastic, glass, stone, and more. RBR (physically based rendering) materials ensure realism across platforms.

Used for:

- hyper-realistic renderings
- material libraries
- AR models
- animations

CGIFurniture creates accurate, brand-consistent material libraries for ongoing visual production.

Category 3. Product Animation

Animation helps brands show not just what a product is, but how it works. Motion content drives engagement, boosts conversions, and makes complex designs easier to understand.

CGIFurniture provides both standard and social-focused animation formats.

1. Product Animation (Standard Videos)

Service: 3D Product Animation Services

Full-length product videos that showcase features, assembly, mechanisms, or lifestyle usage. These often include camera motions, exploded views, close-ups, and storytelling sequences.

Perfect for:

- product pages
- YouTube ads
- presentations
- crowdfunding campaigns

CGIFurniture produces cinematic, high-realism animations that bring products to life in a compelling, polished way.





Category 3. Product Animation

2. Social Media 3D Animations

Service: 3D Animation for Social Media

Short, eye-catching motion clips tailored for platforms like Instagram, TikTok, Facebook, and Pinterest. These focus on bold visuals, quick pacing, and engaging moments.

Best for:

- social campaigns
- paid ads
- stories and reels
- brand awareness

CGIFurniture adapts animations to the formats and visual dynamics that work best on fast-moving social channels.

Category 4. Interactive Visualization

Interactivity is the next level of CGI — letting users control the view, change materials, explore features, or customize the product. These tools increase engagement, improve understanding, and often boost conversions. CGIFurniture provides interactive 360° viewers and collaborates on configurator-ready assets.

1. 360° Interactive Product Viewer

Service: Interactive 360 Product View

A 360-viewer allows customers to rotate a product in all directions. It offers a hands-on experience similar to inspecting a physical item.

Ideal for:

- e-commerce product pages
- B2B catalogs
- tech and furniture products
- interactive presentations

CGIFurniture creates optimized image sequences or interactive models that integrate smoothly into websites.



See 3D Model on Our Site



Category 4. Interactive Visualization

2. Web Configurators

Service: Configurator-ready CGI assets (via modeling, texturing, and rendering groundwork)

Configurators let users change colors, materials, modules, or components in real time.

Great for:

- customizable furniture
- modular products
- D2C brands offer personalization

While configurator development platforms vary, CGIFurniture provides the 3D assets, such as models, materials,and variants, suitable for integration with configurator engines.

CGI today covers a wide spectrum: from simple silo renders to advanced AR models and interactive configurators. This guide helps clarify what each type means — and where CGIFurniture fits within that ecosystem.

CGIFurniture delivers a full suite of static rendering, modeling, animation, and interactive visualization services designed to support e-commerce brands, manufacturers, furniture companies, and product developers.

Benchmark the 3D Rendering Market

Compare typical rates, project timelines, and deliverables and see where your current vendor stands.



Download Product Rendering Research

CHAPTER 5

Product 3D Modeling

3D modeling is the backbone of every CGI workflow. It covers all types of product rendering, animation, configurators, AR, and VR. No matter how advanced the final result looks, everything starts with a clean, accurate, well-optimized 3D model. If the model is incorrect, even the most advanced lighting, materials, or animation will fail to look realistic.

A professional 3D model can be built from almost any input: photographs, CAD drawings, technical blueprints, video references, 360° walkarounds, or even 3D scans. What matters is translating these sources into geometry that meets the needs of rendering or real-time engines.

Just as importantly, models for *photorealistic rendering and models for real-time interaction (AR/VR/web)* are two very different categories.

- Rendering models prioritize micro-details and realism.
- Real-time models prioritize polygon efficiency and speed.

This guide explains all major modeling types, categories, complexity levels, reference requirements, outputs, software, and the complete workflow used at CGIFurniture.



Types of 3D Modeling

Below are the essential modeling types used in product visualization, along with examples, applications, and key benefits.

Low-poly Modeling

Examples: • *Simple chairs for configurators* – Clean, lightweight models that allow users to quickly switch colors, materials, or finishes without performance issues. • *Basic light fixtures* – Straightforward designs that focus on form and proportions, making them easy to render in real time and reuse across multiple scenes. • *Accessories like baskets, trays, and minimalistic décor* – Small decorative elements that add realism to scenes while keeping geometry simple and efficient.

Where it's used: • *AR apps* – Optimized models ensure smooth performance on mobile devices and accurate placement in real-world environments. • *Web configurators* – Low-poly assets load quickly in browsers and make interactive customization feel responsive. • *360° interactive product viewers* – Lightweight models allow users to rotate and explore products freely without lag. • *Mobile experiences* – Reduced file sizes help maintain performance and battery efficiency on smartphones and tablets. • *Real-time engines (Unreal, Unity)* – Ideal for applications where speed, interactivity, and frame rate are critical.

Key benefits: • *Fast loading and smooth browser performance* – Users don't have to wait, which improves engagement and reduces drop-off. • *Minimal polygon count* – Keeps files lightweight while still preserving the overall shape and readability of the product. • *Ideal for animation and motion in real time* – Models move smoothly and respond instantly to user input. • *Easy to scale for large catalogs* – Makes it practical to manage and display hundreds or thousands of products consistently.

Types of 3D Modeling

High-poly Modeling

Examples: • *Sofas with stitched seams* – Highly detailed upholstery models where stitching, folds, and padding depth are clearly visible, even in close-up shots. • *Premium armchairs with quilting* – Complex fabric patterns and layered materials that require careful subdivision to maintain clean geometry and realistic softness. • *Metal structures with chamfers and micro-details* – Precisely modeled edges, bevels, and surface imperfections that prevent the object from looking too sharp or artificial.

Where it's used: • *Photorealistic rendering (V-Ray, Corona)* – High-poly models take full advantage of advanced lighting, shading, and material systems. • *Product feature shots* – Ideal for hero images that focus on craftsmanship, materials, and fine details. • *Advertising and lifestyle imagery* – Supports visually rich scenes where products must look premium and tactile. • *Close-up shots* – Holds up under tight camera framing without visible geometry issues.

Key benefits: • *Maximum realism* – Delivers a lifelike look that closely matches real-world products. • *Ability to show fabric folds, stitching, bevels, dents, and curves* – Captures subtle surface details that define product quality. • *Support for micro-displacement and subdivision* – Allows artists to add fine surface detail without manually modeling every element.





Types of 3D Modeling

CAD-based Modeling

Examples: • *Hardware and fittings* – Precisely engineered parts such as hinges, brackets, fasteners, and connectors that require exact dimensions. • *Technical components* – Mechanical elements and assemblies where accuracy matters more than visual simplification. • *Faucets, mixers, appliances* – Products with complex internal structures and tight tolerances, often created directly from engineering drawings. • *Industrial objects with precise tolerances* – Components designed to fit together perfectly in real-world manufacturing processes.

Where it's used: • *Exploded-view diagrams* – Clear visual breakdowns that show how individual parts fit and function together. • *Technical presentations* – Used to communicate design intent, construction logic, and assembly details to stakeholders. • *Manufacturing visualization* – Helps teams validate designs before production and reduce costly errors. • *Adaptation for rendering* – CAD models are often optimized or converted to work efficiently in photorealistic rendering pipelines.

Key benefits: • *High accuracy* – Maintains exact proportions and measurements from the original CAD data. • *Perfect engineering geometry* – Ensures clean surfaces, precise curves, and correct radii. • *Ability to preserve original dimensions* – Critical for technical validation, production planning, and scale consistency across visuals.

Types of 3D Modeling

3D Retopology

Examples: • *Converting dense CAD models into clean versions* – Heavy engineering files are simplified into optimized meshes while keeping the original shape and proportions intact. • *Preparing 3D scans for rendering* – Raw scan data is cleaned up, holes are fixed, and topology is rebuilt to make the model usable for visualization. • *Rebuilding models for AR or animation* – High-detail assets are restructured into lighter versions that perform well in motion and interactive environments.

Where it's used: • *Real-time engines* – Optimized topology ensures smooth performance in Unreal Engine, Unity, and similar platforms. • *AR/VR* – Essential for interactive experiences where low latency and fast loading are critical. • *Product animations* – Clean topology allows for smooth deformations and predictable motion. • *Web configurators* – Makes it possible to display complex products in browsers without performance issues.

Key benefits: • *_Mid-poly models suitable for real-time _* – A balanced level of detail that looks good without overloading the system. • *Smoother surface flow* – Clean topology improves shading quality and visual consistency. • *Drastically reduced file size* – Faster loading times and easier asset management. • *Cleaner UVs and easier texturing* – Well-organized meshes simplify the texturing process and reduce visual artifacts.







Model Categories

Each product type has its own nuances and technical requirements.

Furniture (Hard-Surface)

Service: tables, cabinets, metal frames.

• **Correct chamfers** – Edges are slightly beveled instead of being perfectly sharp, which helps the model catch light naturally and look more realistic in renders. • **Clean geometry and precise angles** – Proper topology and accurate angles ensure the furniture looks solid, well-built, and consistent from every viewpoint. • **Realistic wood and metal behavior** – Materials are set up to reflect how real wood grains, metal finishes, and surface imperfections react to light and wear.

Model Categories

Upholstered Furniture

Service: sofas, poufs, armchairs.

• **Cloth simulation** – Fabric is simulated to behave like real material, reacting to gravity, tension, and contact points instead of looking stiff or artificial. • **Proper cushion deformation** – Seats and pillows are shaped to show natural compression and softness, helping upholstered furniture feel comfortable and believable. • **Natural wrinkles and seams** – Wrinkles, folds, and stitching are placed where they would appear in real life, adding depth and realism to close-up and lifestyle renders.





Model Categories

Lighting

Service: pendants, floor lamps, sconces.

• **Transparent and translucent materials** – Glass, plastic, and diffusers are set up to realistically transmit and scatter light, avoiding flat or overly dark results. • **Internal lamp structure** – Bulbs, filaments, LED elements, and inner housings are modeled and shaded so fixtures look convincing even when switched on. • **Correct refraction** – Light bends through glass and transparent parts according to physical rules, ensuring reflections, highlights, and glow behave naturally in close-up renders.

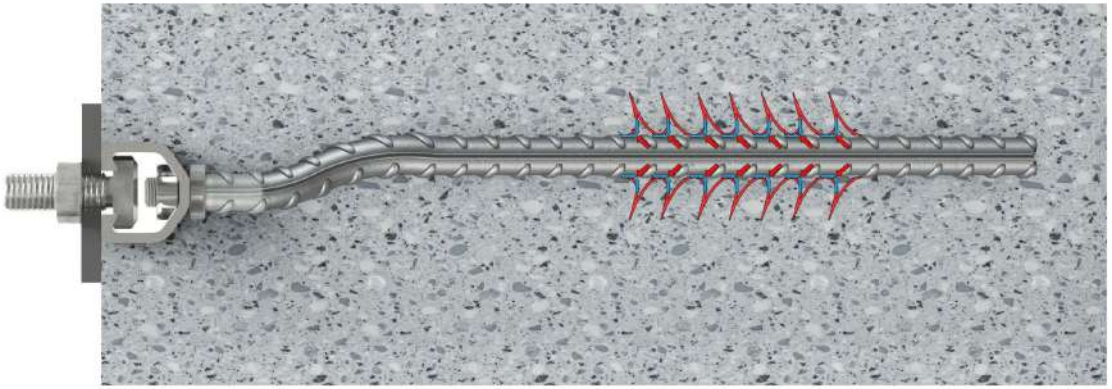
Model Categories

Décor & Accessories

Service: vases, bowls, organic shapes.

• **Complex curves** – Smooth, flowing shapes are carefully modeled to avoid shading artifacts and preserve elegant silhouettes from every angle.
• **Glass and ceramics** – Materials are tuned to capture subtle reflections, translucency, and thickness, which are essential for a realistic, premium look. • **Imperfections for realism** – Small asymmetries, surface variations, and micro-defects are added so objects feel handcrafted rather than overly perfect.





Model Categories

Technical / Industrial Items

Service: fasteners, connectors, fittings.

• **Engineering geometry** – Models are built with strict adherence to technical shapes and measurements, ensuring components fit together logically and accurately. • **High precision** – Tight tolerances and exact dimensions are maintained, which is crucial for technical visualization and manufacturing-oriented projects. • **Small but important details** – Elements like screws, joints, connectors, and grooves are carefully modeled, as they often define functionality and credibility.

Model Categories

Outdoor Furniture

Service: wicker items, metal frames, stone tops.

• **Natural material variation** – Surfaces include subtle differences in color, texture, and roughness to reflect how materials behave outdoors over time. • **Non-perfect shapes** – Slight warping, uneven edges, and organic irregularities are added to avoid an overly artificial look. • **Weathering effects** – Signs of sun exposure, moisture, dirt, and wear help the models feel realistic and grounded in real-world conditions.





Model Categories

Appliances

Service: kettles, microwaves, ovens.

• **Plastic + metal combinations** – Accurately showing how different materials meet, including seams, reflections, and textures. • **LED indicators** – Emitting light realistically, with proper glow, transparency, and reflections on surrounding surfaces. • **Glossy surfaces and tight tolerances** – Capturing smooth finishes, reflections, and precise edges to convey high-quality manufacturing.

Levels of Modeling Complexity

Below is a clear breakdown of the four main levels of furniture 3D modeling, based on CGIFurniture's internal standards. Understanding these categories will help you identify the right model type for your product and plan your CGI budget more accurately.

1. Simple Models

What they are: Simple models feature minimal geometry and very few details. They are built from basic shapes such as cubes, spheres, cylinders, and work perfectly for straightforward furniture items such as basic chairs, tables, benches, or simple shelving.

Characteristics:

- No seams, stitches, or fittings
- No complex texturing
- Often created from ready-made geometry and standard texture maps
- Fastest and easiest to produce
- **Typical production time:** ~1 working day
- **Price range:** ~$40–$60
- **When to choose this level:** For minimalist products with clean geometry and no ornamental elements. Ideal for quick prototyping or basic catalog imagery.





Levels of Modeling Complexity

2. Medium Complexity Models

What they are: Medium-level models include furniture with slightly more nuanced geometry — still fairly simple, but featuring more components and visible details.

Examples: Sideboards, bedside tables, TV consoles, chests of drawers, and similar cabinet pieces.

Characteristics:

- Moderate amount of decorative elements
- Simple fittings
- Common and uncomplicated textures
- Suitable for minimalistic or modern designs
- **Typical production time:** ~1 working day
- **Price range:** ~$80–$120
- **When to choose this level:** For furniture with clean lines but a bit more structural complexity. Perfect for most catalog-ready models.

Levels of Modeling Complexity

3. Complex Models

What they are: This tier covers furniture that requires intricate geometry, rich textures, and precise detailing.

Examples: Chesterfield sofas, upholstered armchairs, refined cabinetry, or furniture made of premium materials.

Characteristics:

- Detailed stitching, quilting, and fittings
- Challenging textures (leather, silk, unique woods, stone patterns)
- May require retopology in 3ds Max to optimize geometry for smooth performance
- Suitable for real-time rendering, AR/VR, configurators, and 360° viewers (if requested)
- **Typical production time:** ~2 working days
- **Price range:** ~$140–$200 **When to choose this level:** When the product has elaborate detailing or when the 3D model needs to be optimized for interactive digital experiences.





Levels of Modeling Complexity

4. Highly Complex Models

What they are: The top tier is used for furniture sets, multi-element compositions, or designs with extreme levels of sophistication.

Examples: Intricate furniture collections, items with carving, weaving, ornate materials, or many small components.

Characteristics:

- Large number of individual parts
- Extensive custom texturing and material creation
- Often requires retopology
- Each element is built with a fully customized approach
- Most time-consuming and detail-heavy modeling process
- **Typical production time:** ~2 working days (sometimes more, depending on set size)
- **Price range:** ~$220–$400
- **When to choose this level:** For luxury furniture brands, high-end marketing, or any product where visual realism and material accuracy are critical.

Factors Affecting Complexity

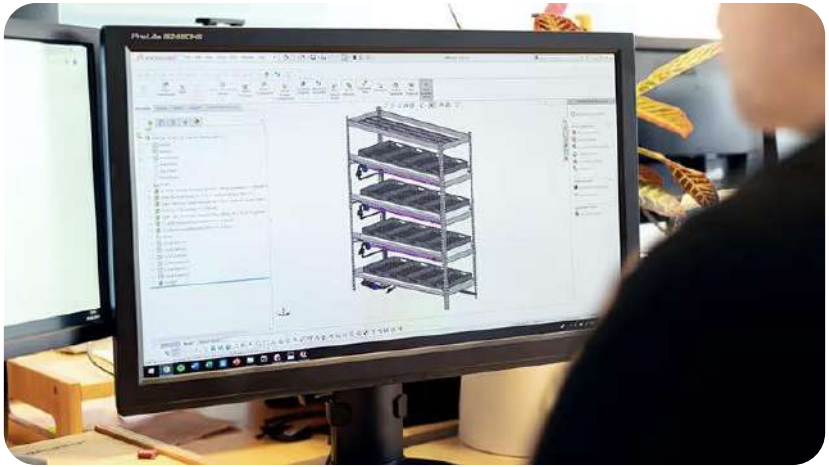
- Availability of CAD files or dimensions — the more accurate the references, the faster the workflow.
- Reference gaps — missing angles or low-quality photos increase complexity.
- Rigging requirements — hinges, openings, sliding parts, mechanisms.
- Material complexity — intricate textures, fabrics, patterns.

Reference Requirements

To create an accurate model, ideal references include:

- 360° video walkarounds
- Exact dimensions (height, width, depth)
- Close-ups of materials and details
- Finish options (colorways, hardware variations)
- Technical drawings or CAD if available

Accurate data reduces revisions and ensures scale precision.



Output

CGIFurniture provides models suitable for all pipelines:

High-poly (V-Ray / Corona)
High-poly models are used for photorealistic rendering in engines like V-Ray and Corona. They allow for maximum detail, including fine geometry, displacement, and subtle surface imperfections that are essential for close-up product visuals.

Mid-poly (Unreal / Unity)
Mid-poly models are balanced for real-time use in platforms such as Unreal Engine and Unity. They retain enough detail for configurators and animations while staying optimized for smooth performance.

Low-poly (AR / GLB / USDZ)
Low-poly models are designed for AR experiences and formats like GLB or USDZ. They are optimized for mobile and web environments, ensuring quick loading times and fluid interaction without sacrificing clarity.

UV Mapping
UV mapping is required when realistic materials are involved. Proper unwrapping ensures textures are applied correctly and is essential for any PBR-based texturing workflow.

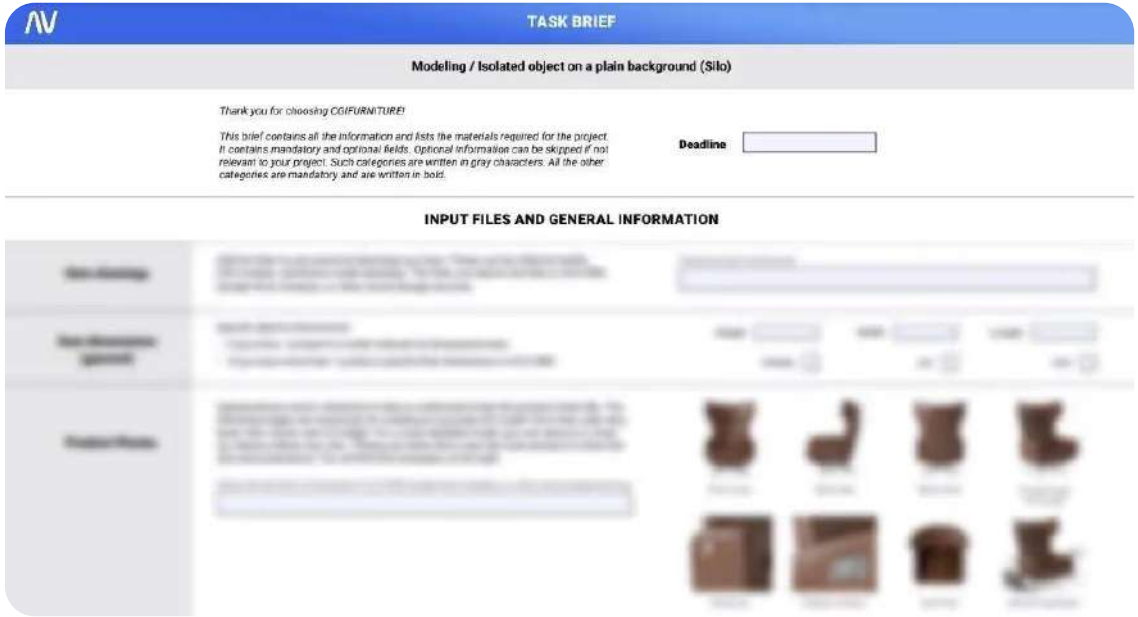
STEM-ready geometry
STEM-ready geometry refers to models that are precise enough for manufacturing and technical visualization. These models feature clean topology, accurate dimensions, and consistent structure suitable for engineering-related use cases.

How a 3D Model Is Made

Let's look at the 3D modeling workflow based on CGIFurniture's pipeline.

Step 1: Studying the Assignment

This stage involves analyzing all available references, such as photographs, CAD files, videos, or scans, to fully understand the object. Any missing or unclear references are identified early on to avoid issues later in the process. At the same time, the team defines the model's complexity and final output requirements, while also reviewing materials and color options to ensure everything aligns with the project goals.


TASK BRIEF

Modeling / Isolated object on a plain background (Silo)

Thank you for choosing CGIFURNITURE!

This brief contains all the information and lists the materials required for the project. It contains mandatory and optional fields. Optional information can be skipped if not relevant to your project. Such categories are written in gray characters. All the other categories are mandatory and are written in bold.

Deadline

INPUT FILES AND GENERAL INFORMATION



How a 3D Model Is Made

Step 2: Building Geometry

At this step, artists create the base shapes using either a high-poly or low-poly approach, depending on the project's goals. They carefully ensure correct proportions based on the provided dimensions, then produce a gray (clay) model for early review and validation. Once the core form is approved, secondary and tertiary details are added to refine the model and prepare it for the next stages.

How a 3D Model Is Made

Step 3: Applying Textures and Materials

At this stage, artists apply materials using a PBR workflow, working with albedo, roughness, normal, and displacement maps to achieve realistic results. Fabrics, metals, wood, and plastics are carefully matched to references, and texture samples are reviewed and adjusted until they accurately reflect the intended look and finish.





How a 3D Model Is Made

Step 4: Rendering the Model on White Background

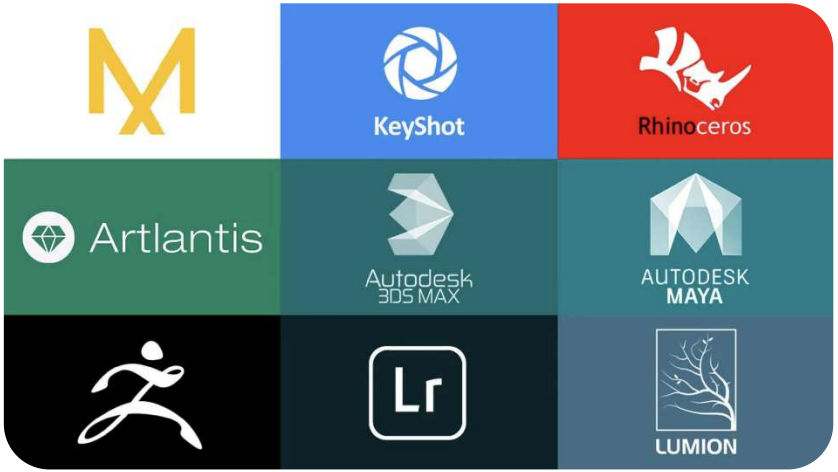
Next, test renders are created to verify the geometry and overall build of the model. Lighting is adjusted specifically to reveal any imperfections or inconsistencies, while scale and proportions are carefully reviewed using Silo 3D visualization to ensure everything looks accurate and realistic.

How a 3D Model Is Made

Step 5: Post-production

At this stage, any remaining artifacts are fixed and colors are corrected to achieve a clean, realistic look. The model then goes through a final scale verification to ensure accuracy, after which all assets are prepared and exported as the final deliverables.





Software for 3D Modeling

Different tools are used for different tasks and object types.

A. Hard-Surface / Product Modeling

3ds Max. Industry standard for product visualization.
Blender. Versatile: modeling + retopology + unwrapping.
Fusion 360. Great for mechanical and engineered shapes.
SolidWorks / Rhino. Used for CAD and highly accurate industrial forms.

B. Organic and Fabric Modeling

ZBrush. Best for sculpting and complex decorative shapes.
Marvelous Designer. Realistic cloth and upholstery simulation.
Houdini. Procedural modeling; ideal for complex forms and fabric logic.

C. Models for Production / 3D Printing

• SolidWorks • Onshape • Inventor • CATIA Used when exact dimensions and NURBS geometry are required.

D. Real-Time, AR, Low-Poly Pipelines

• Blender • 3ds Max retopology tools • Instant Meshes • Simplygon Real-time models require polygon optimization, clean UVs, and lightweight topology.

Why software choice matters

- **Different tools for different geometry** Hard-surface modeling and organic modeling follow completely different workflows. Software choice determines how accurately you can build sharp edges, chamfers, and mechanical parts versus soft forms, fabrics, and natural deformations.
- **CAD models require visualization adaptation** Engineering CAD files are precise but heavy and unsuitable for rendering out of the box. The right software allows proper retopology, cleanup, and optimization so CAD geometry can be used for CGI without shading or performance issues.
- **Topology affects lighting and realism** Clean, well-structured topology is essential for correct lighting, reflections, and shadows. Poor geometry leads to visual artifacts, even with high-quality textures and render engines.
- **Output type defines the pipeline** Models created for static renders, animations, AR, or real-time configurators all have different technical requirements. Choosing the right software ensures the model balances detail, performance, and compatibility for its final use.

Social Media Playbook for Your Brand

Templates and examples for reels, carousels, and 3D motion—tailored to your brand.



Social Media Playbook for Your Brand

Conclusion

When brands invest in professional 3D modeling, they speed things up, cut production costs, and stay flexible. You can swap out designs, materials, or colors without going through the hassle of reshooting photos or making new prototypes every time. Plus, when the models look real and the details are spot on, customers get a much clearer idea of what they're buying. That kind of transparency goes a long way toward building trust before anyone even clicks "buy."

With e-commerce and digital marketing on the rise, 3D product models aren't just one-off visuals anymore. They turn into valuable digital assets that stick around for the long haul. If you nail the details, keep the models clean, and know what you want out of them, these assets carry your product from the first concept sketch all the way through engineering, sales, marketing, and whatever comes next.

CHAPTER 6

Silo 3D Product Rendering

Silo 3D Rendering for E-Commerce

Silo 3D rendering is a core visual format for e-commerce platforms and online product catalogs. Clean white or transparent backgrounds ensure consistency across product listings, simplify catalog management, and meet the technical requirements of major marketplaces. This format allows brands to scale large SKU portfolios efficiently while keeping product presentation clear, accurate, and uniform across digital and print channels.

What is a silo product image?

Silo rendering is a type of image in which a product is depicted against a seamless white or neutral background. The main purpose of it is to show a product in the cleanest and simplest way possible. Here are the key features of silo images:

- The entire product is in focus;
- The product is the center of an image;
- The background is usually white;
- The product is depicted from the front or at a 45-degree angle.
- The product is not backlit;
- The image can be of any size;
- No logos or copy are in the image;

The benefit of a silo image is that the product can be easily cut out from the background and used in different marketing visuals, both digital and print. For example, white is the most popular background for silo product images because most websites, as well as catalogs and magazines, have white pages. But if the plan is to use a silo render for a collage or banner as well, then the transparent background is the best choice.



Types of silo 3D images

Product silo on a neutral background

A product silo on a neutral background shows the item on a white, off-white, grey or transparent backdrop. These shades do not distract customers from the product and highlight its design. On top of that, neutral backgrounds make it easy to place the image on product pages, print and online catalogs, presentations, email newsletters, etc.

Types of silo 3D images

Product silo with shadows

Adding shadows to a silo image is optional but it certainly helps maintain a realistic look of the product. When silo 3D visualization service, depicting the item with shadows imitates a real photo shoot in the studio. Since 3D artists recreate realistic lighting, they can also add a natural companion of lighting — shadows.





Types of silo 3D images

Exploded silo rendering

An exploded silo rendering depicts the components of the product and how they come together. This way, viewers easily understand how it's constructed or assembled. It gives a glimpse into the manufacturing process to prove to customers the quality of items.

Types of silo 3D images

Cutout view

A **cutout** or cutaway view shows the inner structure of the product. This type of rendering proves the quality of a product by showcasing every detail of its design — inside and outside. For instance, it can be a furniture frame, layers of materials, mounts and joints, stitches and seams.





Types of silo 3D images

Product silo with dimensions

A **product silo with dimensions** is a classic white-background 3D render with measurements. Manufacturers use them to produce items, and customers can understand the proportions of the product by simply looking at the picture. It is a much faster and easier way to learn basic information about the item than looking for a text description.

Types of silo 3D images

Feature Callout Silo Rendering

Silo 3D rendering is an effective way to highlight the distinctive features of a product. By isolating key elements, these 3D renders draw attention to specific functions and design details with clarity and precision. This approach makes complex features easier to understand and visually stand out. Silo 3D rendering works well for marketing materials and presentations where clear communication of product benefits matters.





5 Benefits of Using Silo Renders for Product Promo

Silo is the main image for product sales, so its quality should be on top. All the colors, textures, and details have to be depicted with maximum clarity, which is exactly what CGI is famous for.

When launching a new piece of furniture, marketers need lots of pictures of an item in all design variations and from different angles. However, a traditional photo shoot for all the models could cost a pretty penny – a company has to make all the prototypes and bring them to the location, rent a studio, and hire a photographer. Using silo 3D renders allows for avoiding all these unnecessary expenses and allocating more money for effective advertising.

Based on our experience as a 3D rendering studio, we outlined the key benefits of silo rendering for an effective product promo:

- showcasing product design in detail without distractions;
- demonstrating all product design options;
- getting varied promo content for marketing channels;
- transforming visual content into different formats;
- proving product quality with close-up shots.

In order to launch an effective product promo campaign, furniture manufacturers need to use all possible marketing channels – online and offline ads, social media, and e-commerce stores. White background photography works for all of them and presents an object in the best way, while helping to save money on photo shoots at the same time.

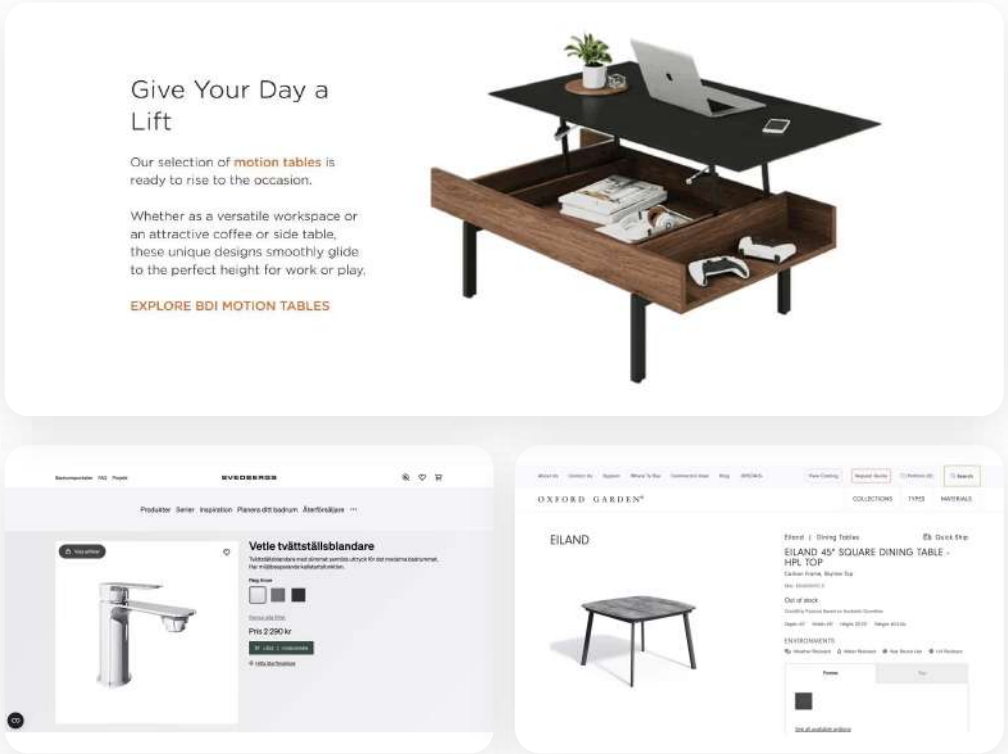
What are the Best Backgrounds for Silo Renders

The key point of silo images is to focus on the product and to exclude the influence of surrounding objects on the main item. That's why the most popular backgrounds are neutral.

- white;
- off-white;
- transparent;
- grey;
- nude.

With 3D rendering, specialists can change a background in mere seconds using the same 3D model of the product. This means, if the client doesn't like one option, they can always ask for another.





Silo product renderings used on various marketing channels

How to Use Silo Rendering for Product Promo

One of the best features of silo images is that they can be added to other visuals. The white or transparent background makes it easy to cut out and add the product to collages and banners, as well as seamlessly incorporate silos into website pages, most of which are white.

How to Use Silo Rendering for Product Promo

Let’s see how and where to use silo renders to get the most out of them:

- on product pages of e-commerce websites;
- in digital and printed catalogs;
- placed on ad banners;
- in email newsletters;
- in social media posts and stories.

Silo renders serve the needs of e-commerce marketing and advertising, and address the challenges of such trends as influencer marketing. They are multipurpose and more affordable than other types of 3D product renders. They also provide enough information for online shoppers to make a purchase right away. This way, using silo renders greatly benefits both online furniture retailers and their customers.

Social Media Playbook for Your Brand

Templates and examples for reels, carousels, and 3D motion—tailored to your brand.



Download Social Media Guide



CHAPTER 7

Lifestyle 3D Product Rendering

What is a lifestyle product image?

A lifestyle product image (also called an in context image or a roomset) shows a product placed in a styled environment. The scene can be indoor or outdoor and may include models, depending on the campaign concept.

A 3D lifestyle scene is often easier to organize and more predictable than a traditional photoshoot. This helps teams compare product photography vs visualization for a campaign. There is no need to rent a location, build a set, buy decor props, arrange logistics, or hire a large on set team. The full environment is created digitally, which saves time and removes many production risks.

Lifestyle 3D Rendering Project Requirements

Lifestyle 3D rendering runs smoother when the brief defines the setting, mood, and visual style upfront. Unlike isolated product images, lifestyle scenes depend on context and story, so the team needs to align early to keep results consistent. A typical lifestyle rendering brief includes:

- Product specifications (dimensions, materials, finishes, variants)
- Target audience and intended use case
- Interior or exterior setting requirements
- Preferred design style and visual references
- Lighting mood
- Camera angles and framing priorities
- Level of realism and detail
- Output formats and resolutions for different channels



Examples of 3D lifestyle renderings used in advertising campaigns

Why is lifestyle imagery so popular in product advertising?

The main reason for which in-context images are so widely used is that they show the item in usage and in its natural setting. This way, a brand can communicate the offer to the target audience without saying a word — and sell.

Here are some of the things lifestyle product imagery helps manufacturers do:

- **Show the dimensions**. As the item will be placed next to other familiar objects, the viewers will understand its size at a glance.
- **Cross-sell**. Brands can place the main product next to items that complement it. And possibly, sell a bundle! For instance, a dining table with a set of chairs.
- **Target to the right audience**. A context image shows the product in a scene that is relatable to the target audience. That is, it reflects the lifestyle potential buyers lead or aspire to lead.
- **Show the purpose of the item**. Or purposes! For instance, in one lifestyle product image, the console is put in a Scandinavian interior and topped with a TV. The same console can also appear in a Boho roomset, but serving as a cool table for books and decor.
- **Promote product design variations**. For instance, the same furniture model in different colors can help create entirely different moods. And there is no better way to demonstrate that than with product lifestyles images!
- **Convey the feel of luxury**. An upmarket product will look all the more exclusive when surrounded by items of the same class. So the context image for a luxury sofa can feature a lavish fireplace, a magnificent carpet, and some exquisite art pieces.
- **Inspire customers**. A lifestyle product image can sell not just an item but a dream. That is, the person who didn't even think about buying a sofa can see it in an amazing interior, and realize they want this look in their home. And that requires the sofa, as well as everything else in the picture — the coffee table, bookshelves and even the decor. If all those complementary items exist and can be easily bought from the brand's partner, all the better!
- **Communicate the brand's message**. A product lifestyle image in 3D can convey the main idea a company promotes. Be it family values, eco-consciousness, taste refinement, the context will help communicate it.
- **Establish emotional connection**. In-context pictures not only show the functions and aesthetics of a product, but also tell its story – through composition, lighting, and thoughtful details. As a result, the viewers feel something when looking at the ad. Where a silo picture would get an absent-minded glance, the lifestyle product image catches attention and evokes emotion. Which translates into recognition or even a sale.
- **Fast creative optimization**. Brands often test a few scene directions to see which one communicates the product best. The decision is based on simple checks. In particular, the product must be easy to recognize at a glance, its scale must read correctly next to familiar objects, and the mood must match the brand positioning. If needed, the CGI team can fine-tune lighting, props, materials, and camera framing to strengthen product focus and improve clarity across channels.





What are the types of lifestyle product imagery?

Depending on the background, context images are divided into indoor and outdoor ones. An indoor lifestyle shows the product in a roomset, while an outdoor one showcases it in plein air.

Another way to classify the product lifestyle images is according to their purpose. Depending on the aspects to highlight, context images come into the following categories.

What are the types of lifestyle product imagery?



1. Individual product image features one single object. The setting is designed to highlight the product features and plays a secondary role.



2. Group lifestyle shot shows a set of products. This allows buyers to see different options in one product lifestyle image and thus compare them easily.

What are the types of lifestyle product imagery?



3. Colorways lifestyle shots let viewers discover color variations of the same product. This way, prospects can choose the option they like best or get inspired to combine a few.



4. Scale lifestyle image showcases the product with objects that help identify its dimensions. For instance, it's easier to understand the size of the coffee table when it's next to a sofa.

What are the types of lifestyle product imagery?



5. Detail lifestyle image or a closeup shows a part of the product. It allows the viewer to see detailing, patterns, and texture so that viewers could appreciate the quality and craftsmanship.



6. Concept lifestyle shows the product in an unusual environment. The setting does not highlight any features but serves to catch attention, surprise, and emphasize a product's design aesthetics.

What are the types of lifestyle product imagery?



7. Flat-lay product image has a thought-out concept, composition, and color scheme that suit each other perfectly. The most important feature of the flat lay image is the layout of items that could be parts of the product or elements of the product set. This way, a manufacturer demonstrates all components of product design but in a more creative way.



8. Wall product image is a simple rendering that depicts a product on the background of the wall. Such a type of render is an alternative to a silo image but with a realistic setting, however simple it may be. Its purpose is no different from that of a silo 3D visualization service. It is likewise designed to focus viewers' attention on the main item rather than distract from it.

What are the types of lifestyle product imagery?



Lifestyle 3D visualization highlighting the TV stand's functional storage design with hidden compartments for electronics

9. Feature lifestyle is an image focused on a certain product feature. This way, manufacturers can demonstrate a product's competitive edge to e-shoppers across all marketing channels. Overall, product feature rendering services provide manufacturers with visuals that highlight unique functions more effectively than feature lists.



Selection of lifestyle 3D renderings with motion

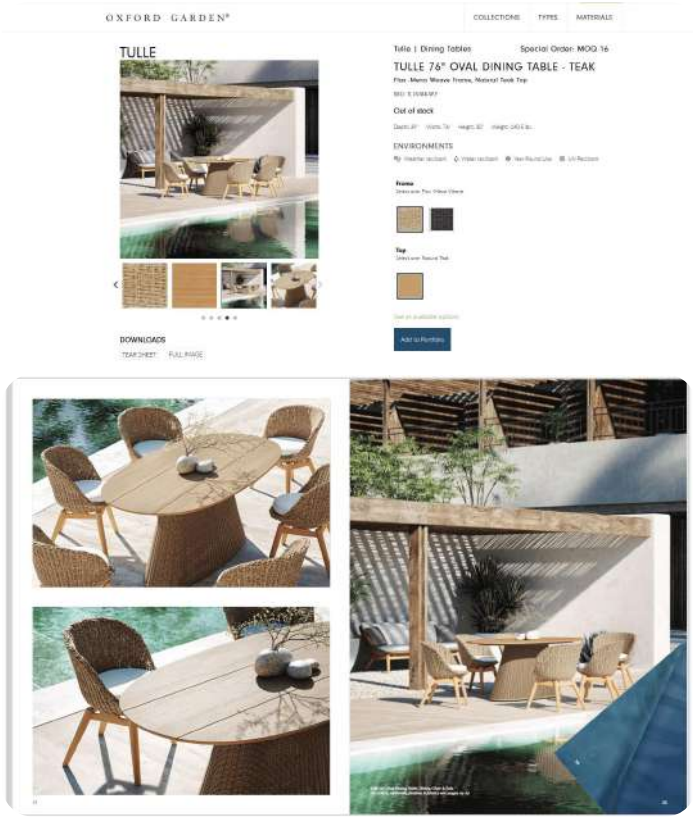
10. Motion lifestyle is a 3D rendering that includes movement. The latter may come from the product, props, people, etc. The lifestyle may be based on ideas like water splash, frozen motion, "a second before", etc.

Where Lifestyle Renders Are Used

Lifestyle 3D renders are applied across a wide range of marketing and sales materials where visual context helps communicate product value more clearly. By placing a product in a realistic or aspirational environment, these images support decision-making and improve content clarity across channels. Lifestyle renders are commonly used in:

- advertising and promotional visuals
- social media content
- website hero sections, category pages, and product detail pages
- digital and printed catalogs and lookbooks

This flexibility allows the same lifestyle scene to be adapted for different formats while maintaining visual consistency throughout the brand's visual ecosystem.



Lifestyle rendering used in a catalog and on a product page



Main camera angles for 3D lifestyle rendering

Angle for a 3D Lifestyle Render

Another important factor of a lifestyle image success is the angle choice. Depending on the aspect, there are 3 types of the images:

- Straight-eye angle
- Bird's-eye angle
- Low-angle.

Camera angle choice is not just a technical detail. It shapes what customers notice first. That is why CGI artists approach camera setup the same way photographers do, with attention to framing, balance, and focus on the main product.

Context images are a separate form of art, and camera angle is one of the main reasons why. With the right framing, brands can control what viewers notice first and what they understand about the product in the first seconds. That opens up plenty of creative solutions for every product type.

Manufacturers can use them to showcase product color and design variation, a whole set of products, the quality of the item, and simply entertain. Too much choice? Book a demo and let a CGI specialist recommend the most suitable 3D modeling and rendering services for your product.

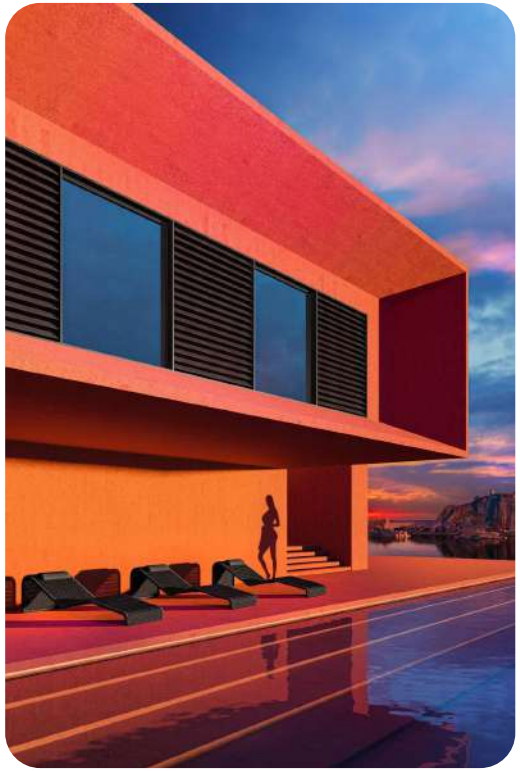
Lifestyle 3D Rendering Project Requirements

CGI offers product manufacturers the possibility to get any ambiance for their lifestyles. There's no limit to what an artist armed with powerful 3D rendering tools can achieve. They can conjure any light, weather, and season, find any decor props for making the product lifestyle image speak. Snowfall in the Christmas living room scene? Sure. A lion on the velvet couch to set the atmosphere of power and luxury? Great idea! And it will look amazing.

This creative freedom is also practical. A brand can test different environments, moods, and lighting scenarios without booking locations or transporting products. If the concept changes mid-project, the scene can be reworked with less disruption than a physical reshoot.



















Lifestyle 3D Rendering Project Requirements

In terms of mood and atmosphere for lifestyle rendering services, there are many options. The most popular of them are dramatic, lyric, and epic ones.

- **A dramatic product lifestyle** is characterized by light-and-shadow contrasts, and a dynamic story told through props. The scene looks theatrical, with all the focus on the main star — the product.
- **A lyric roomset** can be recognized by pastel colors, pretty decor and flower arrangements, daytime and morning light.
- **An epic scene** exudes the feeling of grandeur and has a lot of character. Such ambiance is often used for commercial settings, for instance, in product lifestyle images for evening bar and restaurant furniture.

For more details on each of these lifestyle moods, check out our article about 3D rendering styles. You'll find there characteristics of each mood and a series of photorealistic renders to guide and inspire you.

Types of Lighting in Outdoor Lifestyle Rendering

Light is important for setting the atmosphere in all types of context images. And for the outdoor lifestyle scenes, lighting is simply everything! So 3D artists can reproduce it with photorealistic quality. The choice of illumination type depends on the brand, product, and advertising concept. Usually, manufacturers choose among the following options:

- regular daylight
- highly-detailed daylight
- mid-detailed daylight
- ambient
- fog+morning light
- sunrise/sunset
- nighttime.

Making the right lighting choice is crucial, so it makes sense to see the impact of each illumination type and decide which option will flatter the item most. So don't hesitate to read our article about product render lighting with a detailed and illustrated description of each lighting.









Lifestyle 3D renderings in different styles

Choosing the Style for a Jaw-dropping In-context Image

Photorealistic 3D rendering can help manufacturers get a background of any style they want. For there's no need to look for furniture props, rent, buy, transport, and store them. Everything is available digitally!

This is also where "photorealistic" matters. A well-built roomset with quality models and correct render settings will not look artificial or "computer-made." In many cases, only CGI professionals can tell the difference between a high-end lifestyle render and a traditional photo.

Which means that the only thing a manufacturer needs to do is to answer the question: "What interior design style would make this product look best?" Or even styles. There are neither budgetary nor physical constraints!

Choosing the Style for a Jaw-dropping In-context Image

With that new freedom of creative choice, it makes sense to reconsider the current advertising concept. Here are the links to our articles on various interior design styles. Check them out to see if you'd like to try for your new product lifestyle images the following styles:

- Luxury styles
- Ethnic
- Eclectic
- Modern
- Traditional
- Country

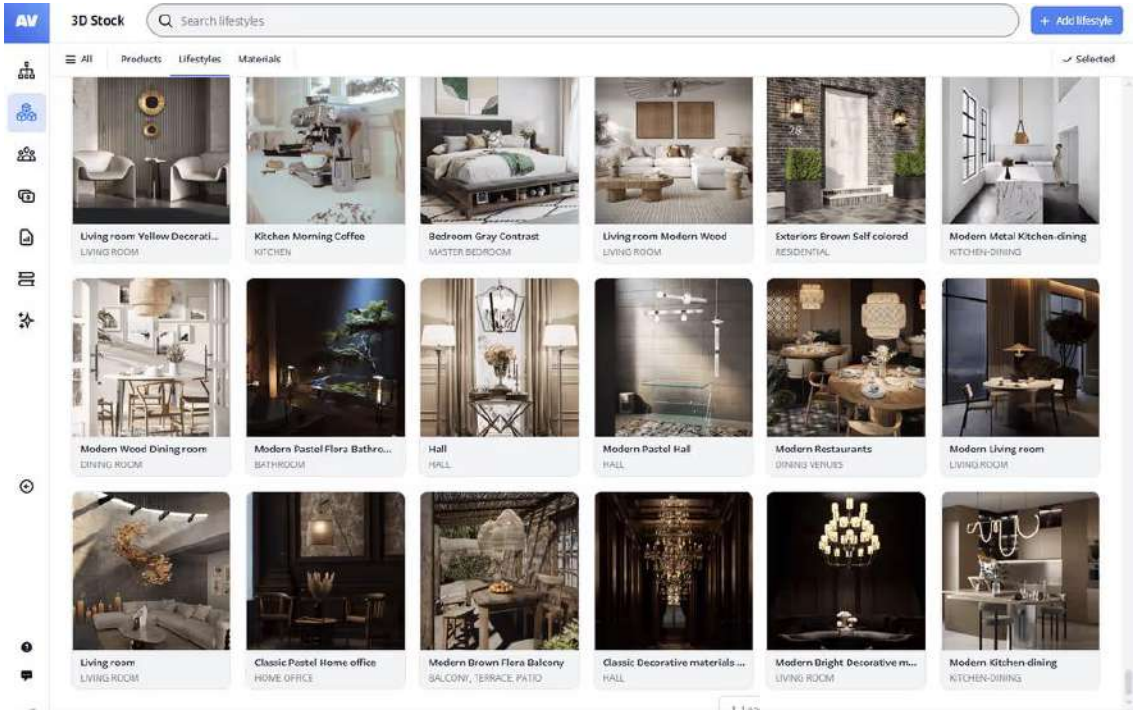
Now that 3D rendering has eliminated all constraints on concepts of product lifestyles, manufacturers can consistently get show-stoppingly beautiful visuals. Moreover, it's possible to showcase how the furniture piece or decor would look in a few different styles! Which will help attract a broader audience to the item.

Social Media Playbook for Your Brand

Templates and examples for reels, carousels, and 3D motion—tailored to your brand.



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Lifestyle 3D Scene Templates

Lifestyle scene templates help manufacturers and retail brands get high-quality lifestyle visuals fast at a reduced cost. Instead of ordering a custom environment every time, CGI teams can start with a ready setup and focus on product styling and composition. This saves time and money, and keeps the visual language consistent across all the marketing materials.

CGIFurniture provides clients with free access to a library of 4,200 lifestyle scene templates. Each template can be customized to match brand guidelines, product category, and campaign references. The library is easy to filter by style, color palette, and space category. If needed, the CGI team can also select the most suitable scenes based on provided references.

CHAPTER 8

Product 3D Animation Overview

What is product animation?

Product animation is a CGI video that puts a product in motion and lets people see how it really works. It shows the shape in a clean, direct way and makes the design choices easy to understand. It also draws attention to the key moments of use that influence how people judge the product.

The unique benefit of 3D production is that a 3D video is made in digital form. It lets the brand fine-tune every part of the scene and try creative choices that a live shoot cannot offer. With 3D product animation services, one can show one's products in any setting, from any angle, and at any level of detail. Furthermore, 3D videos can showcase a new product before launch, demonstrate how it works, show assembly steps, or highlight design variations.



How Product 3D Animation Differs from Product Video

Product 3D animation reshapes how brands present their products. It turns complex ideas into clear motion and delivers visuals that a standard video shoot cannot match.

1. 3D animation gives **full control over lighting, camera moves, timing, and materials**. A real video shoot depends on the studio and the gear you use, so the results change every time the setup changes. In contrast, product 3D animation delivers stable quality.

2. 3D animation **shows angles a real camera cannot reach**. It can pull apart the product, reveal inner parts, and break down each step in a way that is easy to follow. This gives viewers a quick, clear understanding of how the product works. Here you can explore camera angles used in 3D animation.

3. 3D product animation **builds scenes that are impossible to film in real life**. The product can rotate in open space, move through perfect backgrounds, or shift between environments in one smooth shot. A video shoot cannot create this range without costly effects and complex setups.

4. 3D animation **does not depend on a physical sample**. It can be created as soon as the product design is approved, so the product can be shown months before production. A live shoot must wait until a finished sample exists.

5. 3D animation is **easy to update**. If the product gets a new color or a small feature change, the 3D artist edits the product inside the existing animation. If the product gets a full redesign, the 3D visualizer replaces the old 3D model with the new one while keeping the same cameras and movements. A live shoot must be done again each time something changes.

6. **The workflow is simpler**. A shoot requires a studio, a crew, equipment, props, and time for setup and teardown. Product 3D animation works using product data alone, so the team can build scenes, adjust details, and render updates without any physical logistics. This process streamlines the workflow and accelerates the release of new visuals.

Essential Visual Blocks in Product 3D Animation

Strong product animation uses key visual parts to make the message clear and to give the scene real impact. A 3D rendering company relies on these parts to show how a product works and what its design brings to the user. They guide the tone of the scene and keep the viewer focused on the message. The list below outlines the core building blocks that help create compelling, informative product 3D animations.



Get insider knowledge of the CGI market

Check typical pricing, delivery timelines, and outputs against your current vendor.



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Essential Visual Blocks in Product 3D Animation

1. **Light Transitions**. These are gradual shifts in brightness and direction that shape the mood of the scene. They reveal the form of the product with more depth and make each detail easier to read.
2. **Usage and Configuration Demonstration**. This part of the animation walks the viewer through real use cases and shows how each feature is set up or adjusted. This approach helps the viewer understand how the product works in practice and why these functions matter.
3. **Assembly Sequence**. This part of the animation shows the product coming together step by step and makes each connection between parts easy to see. It helps the viewer understand how the build process works from start to finish.
4. **Exploded View**. This visual block pulls the components apart to reveal the internal layout and the logic behind the engineering. This way, the viewer sees how the product is organized inside and how each part fits into the whole.
5. **Design Variations**. This part of the animation switches colors, materials, and finishes directly on the model. The viewer can see how each option shifts the product's look while the scene stays consistent.
6. **Macro and Detail Shots**. Close-up framing draws attention to textures, finishes, and small components that need precise visibility. Such camera shots let the viewer study features that would be lost at a wider distance.
7. **Lifestyle and Monochrome Scenes**. Lifestyle scenes place the product in a simple, atmospheric environment, while monochrome scenes use a clean, neutral setup. Both approaches keep the model readable and add mood without distracting from the form.

The Main Types of 3D Product Animations

Below are the main types of 3D videos that brands rely on in their campaigns. Usually, 3D animations blend several formats to achieve a stronger impact. Look at how each type works and use these insights to shape the next video assets.

#1. CG Assembly Animation

This type of 3D animation divides the assembly process into simple, readable stages. The viewer sees the product grow from its basic components to the finished form, which makes the whole construction easy to follow. Assembly 3D video is a practical way to explain designs that rely on many interacting parts.





The Main Types of 3D Product Animations

#2. Demo 3D Animation

This format presents the product with a focus on its core functions and the actions that matter most to the user. The viewer sees how key features operate through simple, direct motion. A 3D animation demo gives a clear sense of what the product offers without going into technical depth.

The Main Types of 3D Product Animations

#3. How-to 3D Videos

These 3D videos show each step of the operation in a clear, linear order that removes guesswork. Viewers can see how to switch modes, adjust settings, or use specific functions without needing extra explanation. The format is practical because people can pause or replay steps as they learn the process.





The Main Types of 3D Product Animations

#4. Detailed Animations

These animations bring the camera close to the product to show textures, materials, and fine craftsmanship with real clarity. Small components become visible in a way that wider shots cannot provide. This approach is useful when the value of the product lies in precision and finish.

The Main Types of 3D Product Animations

#5. Story Animated Video

These videos frame the product inside a simple narrative that highlights its purpose and the experience it offers. The storyline supports the brand message and gives viewers an emotional point of entry. When you aim for the product to evoke emotions rather than just functionality, this approach proves effective.





The Main Types of 3D Product Animations

#6. Installation CG Video

These animated 3D videos guide viewers through the setup in a clear, step by step flow. Customers see where parts go, how they connect, and which tools are needed. This way, installation 3D animation reduces setup errors and helps people complete the process with confidence.

The Main Types of 3D Product Animations

#7. Exploded View 3D Animation

This type of animation pulls the product apart on screen so the internal layout is easy to see. Each component appears in its proper place, which helps viewers understand how the whole system fits together. It is a strong choice for showing complex builds without long technical text.





The Main Types of 3D Product Animations

#8. 3D Animation for Design Variations

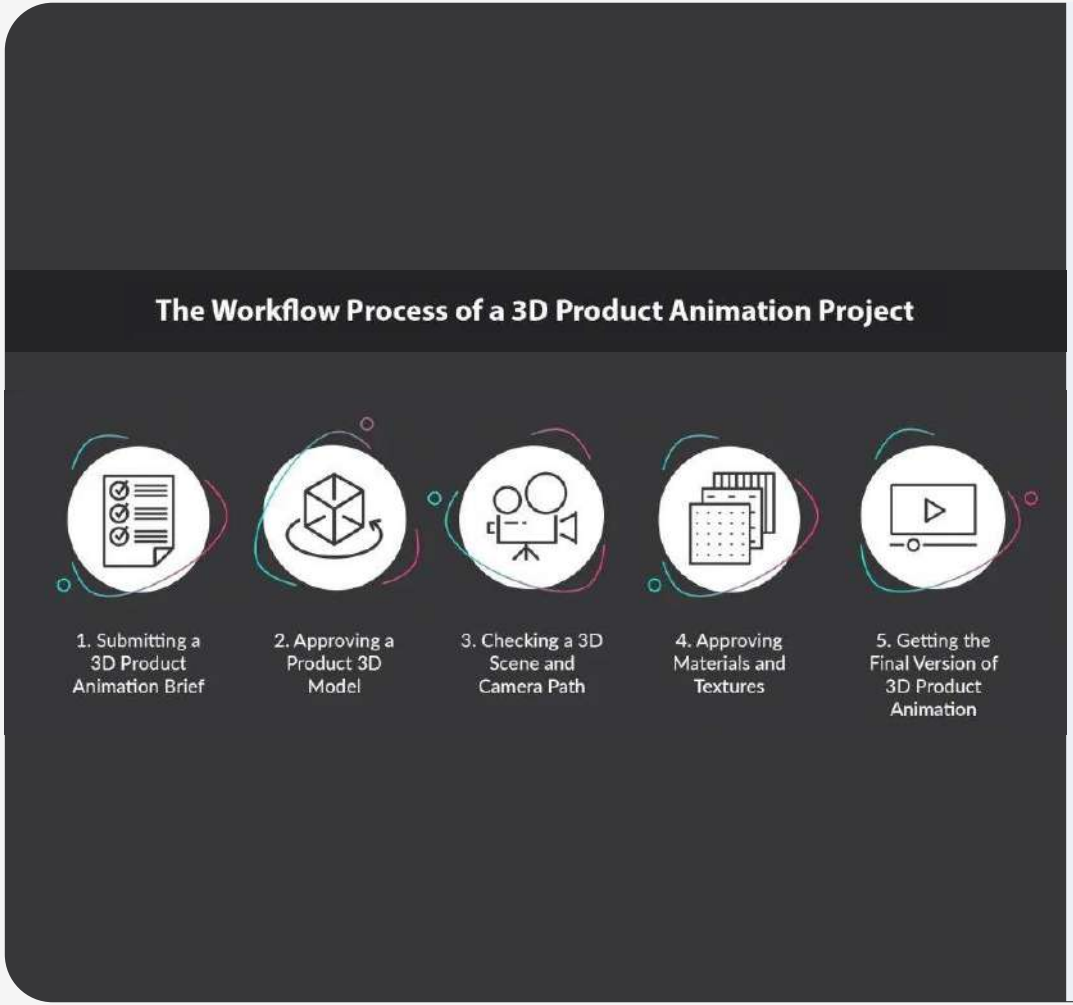
This type of animation presents one model in a range of colors, materials, and finishes so viewers can compare options at a glance. All variations appear under consistent lighting, which makes every difference clear. It offers a clean way to show a full range of design choices in one place.

The Main Types of 3D Product Animations

#9. Promo 3D Video

This type of video shows the product in a polished, attractive scene without using direct sales language. Lighting, motion, and framing work together to create a strong first impression. A promo 3D animation is ideal when the goal is to communicate the product's appeal before introducing its details.





Basic Product Animation Pipeline

Here is how a product animation is made. These are the usual stages of the project, and they can be adjusted to the client's needs.

Stage 1: Brief
The process starts with a 3D animation brief. The client lists the features they want in the video and sends any storyboard they have already prepared. They also send the product references, images, links, technical notes, and the exact output formats for the final video. When all of this material is received, the team starts the production.

Stage 2: 3D Model and Scene Setup
The team builds the 3D model of the product and models the scene where it will be shown. This covers the environment, the surfaces the product interacts with, and the props needed in the scene. Both the product model and the scene layout go for approval to evaluate accuracy and confirm that the setup matches the brief. Once approved, they form the base for all further stages.

Stage 3: 3D Animation Preview
After that, the team prepares a preview of a future 3D video. They set camera paths, timing, and basic movement to show how the story will unfold. This preview video, also called "grab viewport", lets the client approve the flow before materials and lighting are added.

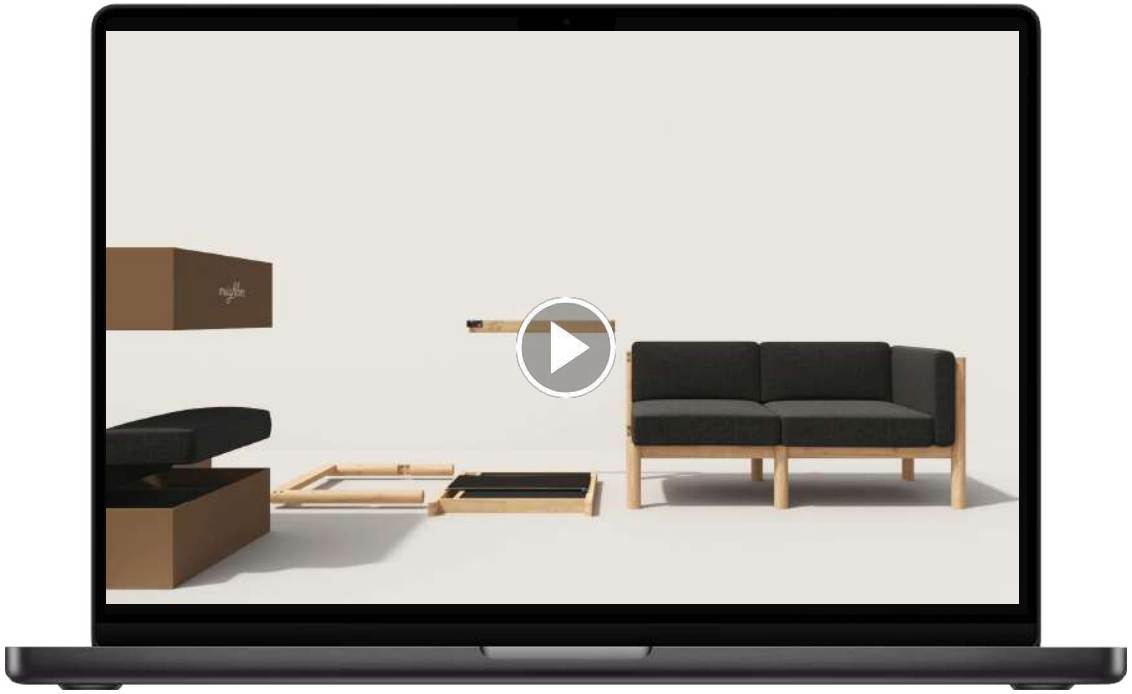
Basic Product Animation Pipeline

Stage 4: Material and Lighting
The next step is materials and lighting setup. CGI artists assign surface textures, adjust reflections, and place lights to create the desired look. This stage defines the visual character of the final product 3D animation.

Stage 5: Final rendering and post-production
The production ends with the final 3D rendering and a few finishing touches. Frames are rendered at full quality, then enhanced with color correction, depth effects, and branding elements. This stage brings the 3D product animation to its final form. It is finished, ready for marketing use, and provided in the format requested.

The above description was a general overview of a typical 3D video production process. A more detailed breakdown with practical examples is available in this article 3D product animation stages.





What Post Production Can Enhance

What happens at the post production stage strongly influences the final result. Sure, nothing structural can be changed. Geometry, camera movement, and composition are already finalized. However, this stage makes a major difference in how the animation turns out. Post production gives the 3D animation its final atmosphere, elevates its visual appeal, and allows adding new elements.

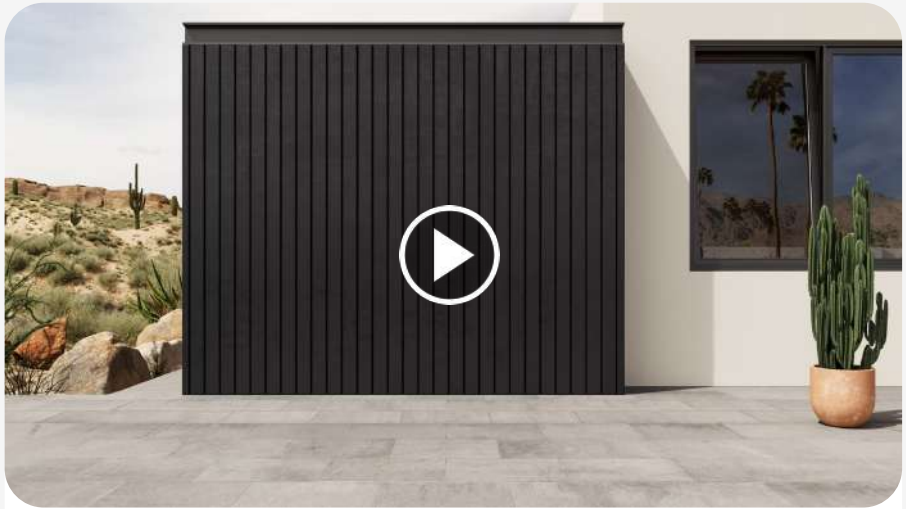
Here are the central steps that shape the post production stage of a 3D animation.

What Post Production Can Enhance



#1. Artifact cleanup

This is the stage where small mistakes are fixed so nothing distracts from the product. Flicker, noise, or uneven edges get cleaned up. The result is a frame that looks stable and intentional.



#2. Adding people, décor, or additional elements

These elements are added to complete the scene and give the product a clear environment. People can appear as simple figures to show scale or presence in the space. Décor and props fill the background so the product sits in a setting that feels intentional rather than empty.

What Post Production Can Enhance



#3. VFX

Visual effects are added when the scene needs extra clarity or movement. It can be a small glow, a bit of smoke, drifting dust, or another cue that helps the viewer read the action. They are used when the product benefits from a clearer visual signal.



#4. Color Grading

Colors are adjusted so the product looks the same across all shots. This step sets the overall tone and makes sure the lighting and contrast stay steady from frame to frame.

What Post Production Can Enhance



#5. Lens and cinematic effects

This step adds optical effects that recreate how a lens behaves in real footage. Flare, motion blur, bokeh, and depth of field are applied to brighten highlights, soften fast motion, blur the background, or control focus. More examples with illustrations are available in the article cinematic visual effects in 3D animation.



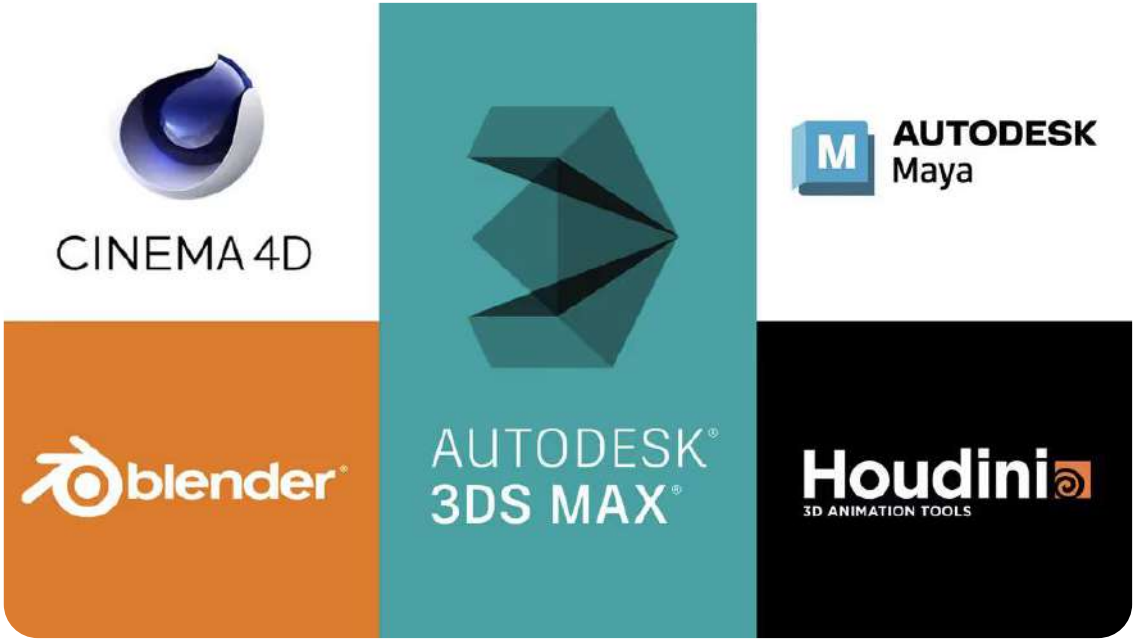
#6. 2D overlays

These graphics are added to the post when the information is easier to show in a flat layer than to build in 3D. They can be *labels, icons, simple diagrams, measurements, or a logo* placed over the frame.

What Post Production Can Enhance

#7. Callouts

A callout shows exactly which part of the product you want to explain. A short label points to the sensor, button, or other feature in focus, so the viewer understands the detail right away. More details about product animation visual effects are available here product animation visual effects.



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3D Product Animation Software

Studios choose 3D animation software based on how well it supports their work. For instance, character teams lean toward Maya because it handles rigging and deformation well. Motion graphics departments often rely on Cinema 4D because it connects easily with design workflows. Product and architectural studios used to favor 3ds Max. Many now switch to Maya or Houdini when they need stronger animation tools or a more unified pipeline.

Thereafter, the pipeline makes most of the decisions. Once a studio builds a render farm, gathers plugins, and sets up asset libraries, any new tool must fit into this structure without friction. Client expectations add another constraint. Each project comes with required formats and workflows that the 3D rendering studio's pipeline must comply with.

As a result, most CGI studios keep one primary 3D animation software and use a secondary tool only when a project needs it.

Industry Standard Tools for 3D Product Animation

Now let's look closer at the most popular software choices for 3D animation projects. We will learn what the strengths of each solution are and how they support the 3D video production pipeline.

#1. 3ds Max

3ds Max is widely used in studios that work with architectural CGI, product CGI, and advertising videos. In architectural projects, 3ds Max is used to build interiors, furniture, and full room layouts quickly and with clean structure. It fits this type of work well, since the modeling tools handle straight lines, clear shapes, and detailed surfaces without much setup.

All of these workflows benefit from the wide range of plugins available for 3ds Max. This lets each studio shape the software to match its own pipeline and tools. Because of this flexibility, 3ds Max stays a dependable option for many types of CGI work.

For product animation, 3ds Max is often the main tool because it works well with manufactured objects. CGI Studios combine it with V Ray, Corona, or Redshift to shade and render their scenes. They bring in Maya or Houdini when a project needs advanced rigging or complex physics. Max stays central because it handles hard-surface models cleanly and works smoothly with other engines.

#2. Blender

Blender is an open source tool, and its low cost makes it a strong choice for small studios and indie teams. It includes features for modeling, shading, sculpting, and animation, so artists can cover most tasks inside one program.

In product animation studios, Blender is often the main tool for shots that need clean geometry and steady movement. Teams use it for device visuals, assembly steps, and simple mechanical motion where fast edits matter more than advanced rigging.

It works well with Cycles and Eevee, so studios can check materials and lighting fast. Larger teams may still use Maya or Houdini for complex setups or heavy simulation, but Blender covers most daily work.

What Post Production Can Enhance

#3. Maya

Maya is the standard in character driven production. It stands out by precise tools for rigging, skinning, and deformation, which keeps motion clean and predictable. This is why film studios and AAA game developers rely on it when they build complex facial systems or need full control over how a character moves. The program also supports large pipelines well, so teams can automate many steps without breaking the workflow.

For product animation studios, Maya is usually a secondary tool. They use it when a project needs parts to move in a very controlled way, like hinges, sliders, or linked pieces that must follow exact rules. It often works with tools like 3ds Max, Blender, or Houdini, which handle most of the modeling, materials, and final rendering.

#4. Cinema4D

C4D is excellent for short, polished animations that do not need complex setups. CGI studios choose it when they need fast and precise movement, like product spins, clean camera moves, or small graphic elements. It works well because the timeline is easy, the keyframing is fast, and it runs smoothly with Redshift and Octane. CGI Artists also send C4D renders to After Effects when they need to add labels, text, or icons.

For product animation studios, C4D is usually a secondary tool. They use it to add smooth supporting movement and clear visual accents that enhance the main 3D work. It fits well into pipelines built around Blender, 3ds Max, or Maya and adds extra speed to tasks that need clean, design focused motion.

#5. Houdini

Houdini helps studios handle shots that involve real physical behavior. 3D Animation teams use it when they need liquids to move naturally, powders to scatter, or pieces to break apart in a believable way. The setup stays flexible, so if the product shape or timing changes, the 3D artist tweaks the node chain instead of starting again.

3D animation studios also open Houdini when they need to show how a texture behaves in motion. For example, gels stretching, grains settling, or soft materials reacting to pressure. In these cases Houdini works as a secondary tool, used only for the complex scenes that the main 3D software cannot handle. These moments often appear in small portions of a project, while the rest relies on simple camera moves and clean product shots.

To learn more, refer to this article about product 3D animation software.

CPU vs GPU Rendering for Product Animation

Let's start with terminology. A **CPU** is the main processor in a computer. It handles many different tasks and works through them in a steady, predictable way. A **GPU** is its own processor, built to deal with images and other visual tasks. It works on lots of small operations at once, so it can render much faster than a CPU.

The Difference between CPU and GPU Rendering

CPU rendering moves through the scene step by step. It checks lights, shadows, and materials in a careful, linear process. This slower pace makes it stable when a scene is large or full of detailed objects.

GPU rendering works in parallel. It breaks the image into many small tasks and works on them at once, so the result comes much faster. Modern engines such as Redshift, Octane, Cycles X, and V Ray GPU push this even further and keep the quality high.

Because of these differences, **3D animation studios use each option for different needs**. CPUs offer steady performance for heavy or complex scenes. GPUs give quick results and faster revisions, which helps keep production moving. Most pipelines rely on both, depending on the project and the stage.

Learn how to maximize your social media marketing



Download Social Media Guide



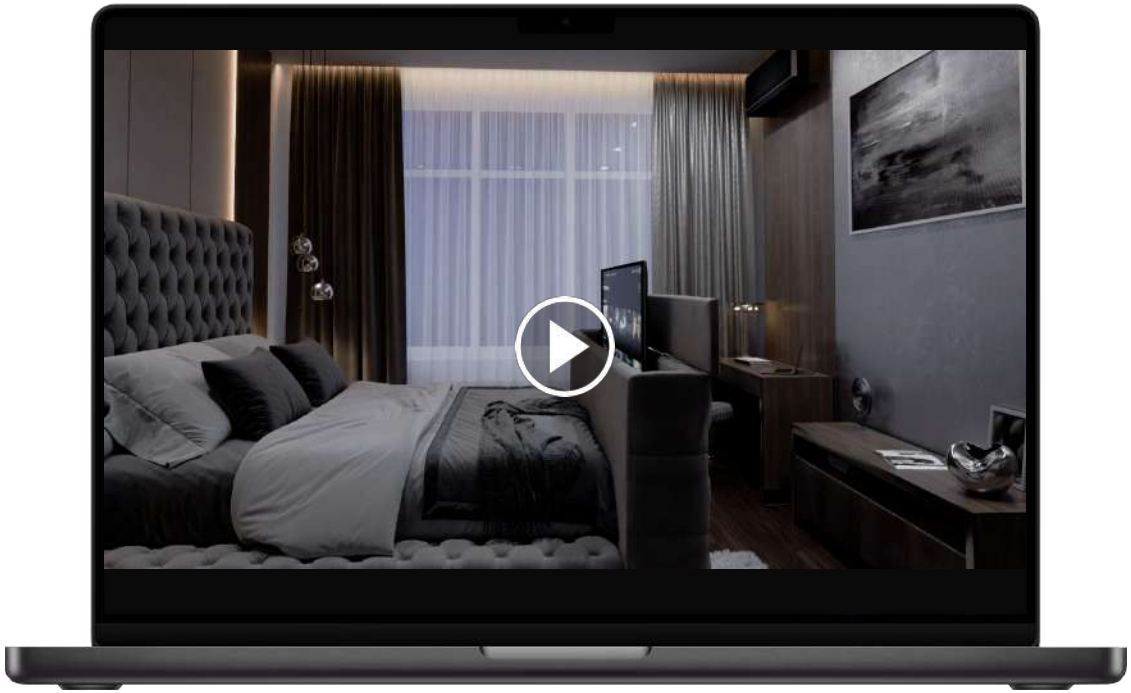
Why Brands Use Product Animation

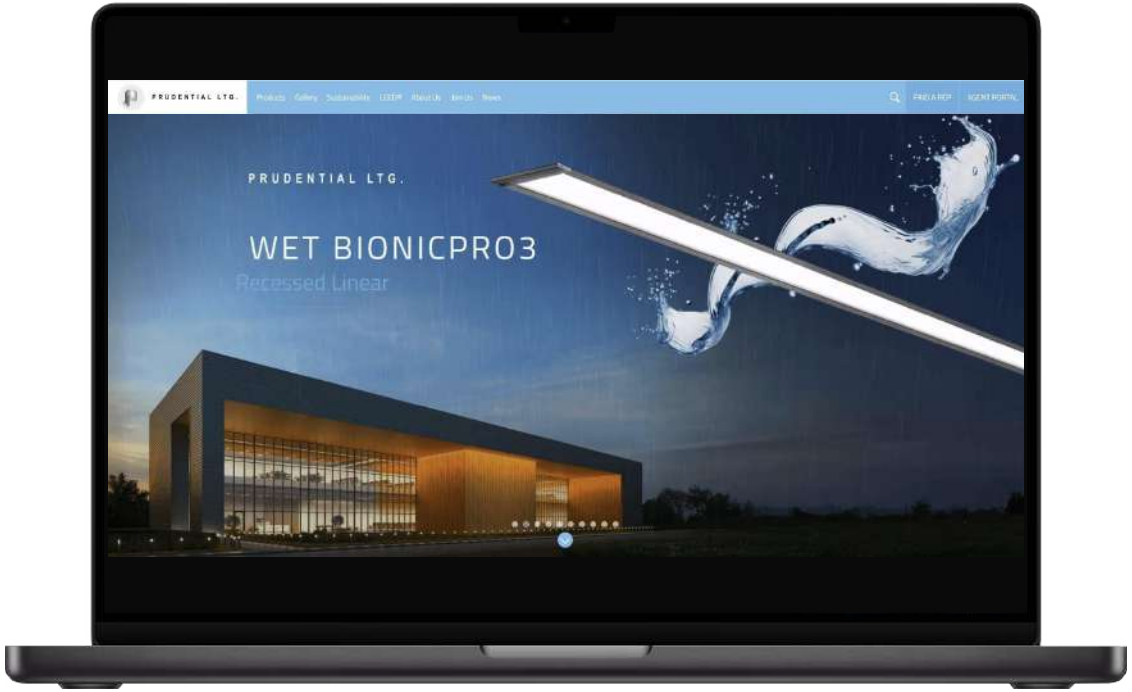
Brands choose product animation when they need clear communication, flexible production, and results that support sales and engagement. Here are the core reasons behind this choice.

Why Brands Use Product Animation

#1. Clear Function Breakdown

3D animation makes complex features feel simple. It shows the product in a way that filming cannot, revealing the parts that work behind the scenes. This kind of view helps buyers follow the idea with ease and understand how the product delivers its value. It gives them clarity fast and supports a confident choice.





Why Brands Use Product Animation

#2. Pre-launch Sales Readiness

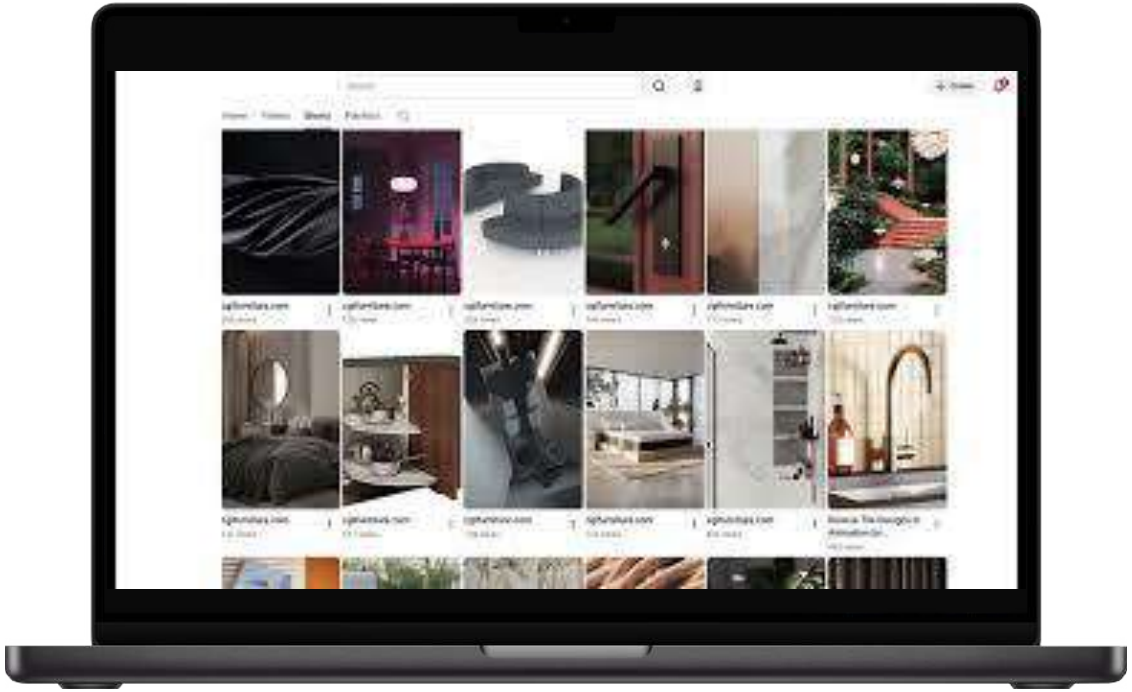
3D product animation lets brands present a finished concept before any physical unit exists. Marketers can use a full motion sequence in landing pages, sales decks, and pre-launch ads while production is still underway. This supports launch planning because the team sees the full use flow, not a single frame. They understand how each part moves and how every feature works. This helps brands write product texts, plan demos, and prepare sales scripts that match real use. The 3D animation also gives a clear view of each planned function. Such an approach lets the team create launch content and confirm the feature list without waiting for a prototype.

Why Brands Use Product Animation

#3. Higher Conversions on Product Detail Pages

3D product videos help buyers make a faster choice on PDP pages. The format reduces hesitation by showing the product in real use instead of asking buyers to imagine how it works. Smooth, controlled shots highlight each benefit and keep the focus on what matters. 3D animation also replaces long text with clear visual proof, so buyers get the clarity they need and move closer to the Add to Cart moment.





Why Brands Use Product Animation

#4. Higher Engagement

3D animation for social media stands out next to static posts because movement grabs attention fast. Short loops keep viewers on the post a little longer, which gives the brand time to show a clear benefit. The motion also shows how the product works even with the sound off, so people understand the value right away and respond more often. Most importantly, strong engagement on social media requires posting many videos and testing them fast. So 3D animation technology helps produce a steady stream of fresh content. It allows flexible scenes, fast edits, and reusable assets that keep brand channels active without constant reshoots. This way, marketers can get amazing 3D product animation reels, stories, feed videos, ads, and more.

Why Brands Use Product Animation

#5. Scalable Video Production

3D animation scales video content because it removes the limits of filming. Once a team builds a 3D model, they can reuse it for many versions and updates, so new clips do not require another shoot. This keeps production fast, because teams do not spend time searching for locations, waiting for daylight, or setting up lights. Everything happens inside the software, which keeps the process steady and predictable. As a result, marketers can make new clips for every channel and keep their schedule on track.



Explore examples of real projects with 3D animations, stills, and other CGI formats.



View Case Studies

3D Product Animation Pricing

There are two criteria that influence the price of a product 3D animation the most. The first one is **the length of the 3D clip**, since most studios charge by the second and build the base cost around the final runtime. The second one is **the 3D model of the product**. If the model is ready, production moves faster and costs less. If the model needs upgrades to reach the right quality, the price is still lower than creating a new model from scratch.

There are a number of additional factors that affect the price of a 3D product animation in addition to these two fundamental ones. They shape the scope of work, the time it takes to produce the clip, and the final budget. Here are the key points below.

3D Product Animation Pricing

#1. Product complexity

A product with many parts, materials, or internal elements takes more time to model and animate.

#2. Movement type

A basic spin is quick because the motion is simple. When parts move, connect, or react to force, the work takes longer. Each action must be built by hand, which adds time to the project.

#3. Detail level

High resolution textures, micro details, and close up shots add cost because the artist must build much finer shapes for everything that appears in the frame. Close views expose every small surface, so the 3D animation team spends more time refining the model. These shots also extend render time.

#4. Number of scenes

Each 3D scene needs its own lighting, camera setup, and object layout. These elements must be built again for every new scene because the angles, distances, and shadows change. None of this setup can be copied, as it was in the previous scene.

#5. Rendering quality

Full HD is the default option we work with. Higher realism requires longer render times and more setup, which increases the 3D product animation price.

#6. Adding people

Adding people raises the workload. A 3D human needs a body setup, clothing, and motion that looks natural in the shot. AI-generated people skip some steps, but the team still needs to refine the image, place it in the scene, and match the lighting to ensure it looks realistic.

#7. Post production

After the frames are rendered, the team shapes the final look of the video. This stage covers titles, logos, sound, and simple graphic moves. Each item needs its own setup, and they all must work together with the footage. The more elements involved, the longer this last stage takes.

Now it is clear how 3D product animation works and where it brings the most value. This makes it easier to choose the format that fits the product and explain the idea to the studio. With clear direction, the team can produce a video that highlights the right features and supports the launch plan.

Conclusion

Product 3D animation is a functional tool, not a decorative one. It helps brands explain how a product works, prepare marketing materials before production, and keep visual output consistent across channels.

Because the process is fully digital, teams get control and flexibility. One 3D model can be reused for product pages, demos, ads, and social media, with updates made quickly and without reshooting. This keeps production predictable and supports faster launches.

When integrated into the workflow, 3D product animation simplifies communication between design, marketing, and sales. It replaces long explanations with clear motion and helps customers understand the product faster, which directly supports stronger engagement and better decisions.



CHAPTER 9

AR Modeling Overview

AR isn't just a shiny new feature anymore — it's quickly becoming a must-have in modern eCommerce. And it's not just for the big players. Brands of all sizes are now turning to augmented reality product visualization to help customers really see what they're buying before they commit.

For online retailers, it is a straightforward way to help shoppers get a better sense of a product's size, design, and overall vibe. This brief interaction can have a significant impact. It builds trust, keeps people interested, and often leads to fewer returns.

In this section, we'll unpack what AR product models are, how they actually work, and the different types and formats available for brands to use.

What Is Product AR?

Product AR lets shoppers place a digital 3D version of an item right into their space — using just a phone or tablet. One quick scan of a QR code or tap on an AR button, and the product appears in front of them. They can rotate it, zoom in, and see exactly how it fits in the room.

It's a huge leap from static photos or videos. Instead of guessing how something might look, customers get an interactive sneak peek. It's basically turning their living room into a mini showroom.

What Is AR Modeling?

AR modeling is a specialized type of 3D modeling where models are created with low polygon counts and simplified textures, and the result is saved in formats designed for augmented reality applications — .glb for Android and/or .usdz for iOS.

What Are AR Models?

AR models are 3D versions of products, built to run smoothly on mobile devices. Unlike traditional 3D visuals that can be heavy and complex, these models are optimized to be “lightweight.” They’re fast-loading but still accurate in terms of shape, size, materials, and overall proportions.

Getting them onto a website is pretty simple. Upload the AR-ready model to the product page and add a QR code or AR button. That's it. Once a shopper scans or taps, the model shows up in their space at true scale — ready to be explored from every angle.

This kind of interaction doesn’t just look impressive. It helps people judge if the item really fits their space and their needs.



AR Models: Types & Prices

Not all AR models are created equal — and they don't need to be. The level of detail depends on what's being shown. Models generally fall into four categories to help plan production time and effort:

1. Simple models

Clean and minimal, with basic geometry. Perfect for items like a simple chair or a plain table.

Price: $60-120



Scan QR code to see this product in augmented reality

2. Medium-complexity models

A bit more going on: cushions, curves, handles, maybe a drawer or two.

Price: $100-240



Scan QR code to see this product in augmented reality

3. Complex models

Think layered upholstery, carved wood, or multiple components that need to be shown.

Price: $300-420



Scan QR code to see this product in augmented reality

4. Highly complex models

These include woven details, intricate folds, and mechanical bits — the works

Price: $375-450



Scan QR code to see this product in augmented reality

AR Models: Types & Prices

Beyond simple AR product representation (placing a 3D object in a room through a phone screen), **animated AR content** is gaining popularity. It's not just about placing a model in a space — it's about showing it in action. For example, a recliner that unfolds when tapped, demonstrating its transformation mechanism and real-scale behavior in the environment.

These categories are useful for estimating the level of modeling effort required. Selecting the type that accurately reflects a product's complexity helps ensure visual quality without compromising performance on mobile devices. For commercial use cases, see our AR services page.

When a high-poly model is ordered together with an AR model, the AR model comes with a 60% discount.
When AR models are ordered separately, pricing depends on the volume of the request.

Benchmark the 3D Rendering Market

Compare typical rates, project timelines, and deliverables and see where your current vendor stands.



Download Product Rendering Research

AR Models Formats

There are two main file formats used for AR in eCommerce: **USDZ** and **GLB**.

- **USDZ** is the go-to for Apple devices. It works seamlessly with Safari, iOS apps, and Apple's native AR tools like Quick Look.
- **GLB** (and its broader format, **GLTF**) is widely supported on Android devices and across most browser-based AR viewers.

Both formats work well with major platforms like Shopify, WooCommerce, WordPress, and WIX. When using a specific AR engine, app, or product configurator, brands should inform their 3D team upfront. The team can then export the model in whatever format works best for the setup.

Benefits of Using AR Models

AR helps bridge the gap between online shopping and in-store experiences — and in some ways, it actually goes beyond. When people can see how a product fits in their space, decisions come faster and with more confidence.

Here's what AR brings to the table:

- **Immersive experience** — Shoppers can drop the product into their space and move around it.
- **Accurate visuals** — Models reflect real-life size, proportions, and materials.
- **Smarter shopping** — Customers can figure out if it fits their home, style, or needs before buying.
- **Fewer returns** — Clear expectations lead to fewer "this isn't what I thought it would be" moments.
- **Higher engagement** — People stay on the website longer and leave with a stronger sense of trust.

AR can even help post-purchase. For example, animated instructions can show how to set up or use a product — no more flipping through a 30-page manual.

Where AR Models Are Used

AR is popping up in all sorts of places — not just online stores. It's becoming part of the full customer journey. Common uses include:

- **Product pages** — Instant previews right where people shop.
- **Mobile apps** — Integrated AR for a richer, branded experience.
- **QR catalogs** — Whether printed or digital, these let people scan and see the product in AR.
- **Retail spaces** — Add digital layers to show options, features, or variations that aren't on the floor.
- **Pre-launch campaigns** — Let customers test-drive a product design before it even hits the shelves.

AR can be embedded in a website or accessed through a standalone mobile app. Either way, it's important to share the intended use with the 3D team early on. That helps them pick the right format, test it properly, and make sure everything runs smoothly. A quick check in the real environment can save a lot of back-and-forth later.



How AR Models Are Made

Creating AR models is a careful balance between detail and performance. Here's what the typical process looks like:

Getting the Brief Right
It starts with a clear project brief — including product specs, goals, timelines, reference photos, drawings, and texture samples. The more detailed the brief, the better (and faster) the results.

Modeling the Shape
The 3D artist builds the base geometry in modeling software. For AR, the goal is to keep the mesh lightweight without losing important features.

Retopology & Optimization
If the mesh is too dense, artists reduce the polygon count without changing how the model looks. This keeps things running smoothly on phones and tablets.

Texturing & Lighting
Materials are applied with texture maps. Artists then bake the details into smaller files to cut loading time. A neutral lighting setup ensures the model looks appealing across different environments.

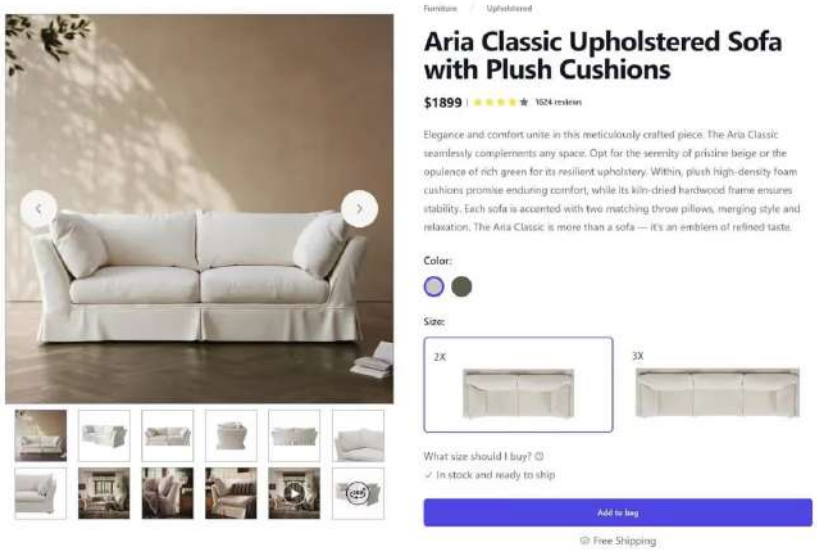
Export & Test
Finally, the model is exported — usually as USDZ or GLB, depending on the project's needs. Textures are saved in standard formats like JPEG. It's key to test the model where it'll actually be used — whether that's a product page, a QR code in a catalog, or inside a mobile app.

Conclusion

AR product visualization is becoming a standard part of how people shop online. By letting customers place products in their own space, brands remove guesswork and build confidence before the purchase happens.

The technology is accessible, the formats are well-supported across devices, and the process of creating AR models is straightforward when paired with the right 3D team. Whether it's a simple chair or a complex recliner with animated features, there's a solution that fits.

For brands looking to reduce returns, increase engagement, and offer a shopping experience that actually helps people decide — AR is worth the investment.



CHAPTER 10

Product Detail Pages (PDPs) for eCommerce Marketplaces

A Product Detail Page (PDP) is a webpage on an eCommerce platform that provides comprehensive information about a specific product. It's often the first thing a shopper encounters when browsing online, making it crucial for driving purchase decisions. A well-crafted PDP includes all essential details—such as color, dimensions, materials, pricing, and shipping options—to help customers make informed choices.

Traditionally, furniture manufacturers have relied on physical stores for sales. However, with the rise of eCommerce giants like Amazon, eBay, Shopify, Walmart, and others, much of the furniture retail industry has shifted online. To create an engaging online shopping experience that rivals in-store browsing, manufacturers need captivating visual content—and the most efficient way to achieve this is through CGI. Unlike traditional photography, It offers flexibility, cost-effectiveness, and high-quality visuals that allow easy customization, variation, and consistency across all PDP images.

As an Amazon Certified 3D Content Provider, CGIFurniture specializes in creating high-quality CG visuals that enhance product listings. Let's explore the key components of a PDP that are essential for success on major eCommerce platforms.

1. Hero Image

The hero image is the cornerstone of any product listing, especially on platforms like Amazon. This primary visual is often the first interaction a customer has with your product and significantly influences click-through rates—optimized hero images can boost these rates by up to 40%.

Key Guidelines:

- Accurately represent the product with high-resolution, professional-quality images.
- No added text, logos, borders, watermarks, or distracting graphics.
- Display the entire product without cutting off parts.
- Exclude unrelated accessories or props.
- Show the product from a single perspective (e.g., front view only).

The hero image sets the tone for the entire PDP, acting as the visual ambassador of your brand. With 3D rendering services, sellers can create a flawless, high-resolution image that perfectly represents their product without the need for costly physical photography setups. High-quality hero images not only improve click-through rates but also foster a sense of trust and professionalism. When potential customers see clear, well-lit, and professionally composed images, they're more likely to perceive your product as reliable and worth purchasing.



Technical Requirements

Platform	Recommended Size	Format	Background	Product Coverage
Amazon	2000x2000px	.tiff, .png, .jpeg, .gif	Pure white (RGB 255,255,255)	85% of the frame
Shopify	2048x2048px	.tiff, .png, .jpeg, .gif	Not specified	Not specified
Walmart	2000x2000px	.png, .jpeg, .bmp	Pure white (RGB 255,255,255)	50% or more of the frame
eBay	1600x1600px	.tiff, .png, .jpeg, .gif, .bmp, .webp, .avif	Clear, white preferred	80-90% of the frame



2. Additional Images

While hero images attract attention, additional images provide deeper insights. These images follow similar technical requirements but allow more creative freedom regarding backgrounds.

Infographics
Infographics visually present product features and benefits through icons, charts, and concise text. With 3D visualization, these infographics can be enhanced with dynamic renders, exploded views, or detailed cutaways that showcase the internal components of the product. They can simplify complex information, making it easy for customers to understand key product features at a glance. Infographics are particularly effective for highlighting technical specifications, unique selling points, and product comparisons in an engaging format.

The most effective angles for infographics include exploded views that showcase internal components and top-down views that highlight proportions. With 3D visualization, these angles can be adjusted to enhance clarity and effectively communicate the product's technical aspects.

Lifestyle Images

Lifestyle images showcase the product in real-life settings, helping customers envision its use. Using 3D technology, sellers can generate multiple room scenes without the need for expensive photoshoots, ensuring that products are displayed in various aesthetic contexts while maintaining brand consistency. They create an emotional connection by illustrating how the product fits into various environments and daily routines. These images are essential for demonstrating versatility, aesthetic appeal, and practical applications, making it easier for customers to relate to the product. Furthermore, consistent CG lifestyle images allow brands to create a signature look that aligns with their overall brand identity, reinforcing recognition and credibility.

To create engaging lifestyle images, the camera perspective should mimic the way a customer would see the product in a real-life setting. Eye-level and slightly angled shots add realism, while close-ups of specific details help customers imagine how the item fits within their environment.





Feature Images

Feature images are close-up shots highlighting materials, textures, and functional details. These images emphasize the craftsmanship and quality of the product, allowing potential buyers to appreciate finer details that might be overlooked in broader shots. Feature images help build trust by providing a clear view of the product's design and construction.

The best angles for feature images include macro shots to showcase intricate textures and material finishes and sectional views that reveal internal structures or hidden details. With 3D rendering, sellers can refine these perspectives and ensure that the images reassure customers about product durability and aesthetics.

Including a diverse range of additional images helps address different customer needs, whether they seek technical details, aesthetic appeal, or practical usage scenarios.

3. Product Animation

Videos are powerful tools for capturing attention and showcasing product functionality. They bridge the gap between in-store and online shopping by providing dynamic, engaging content. Product videos allow potential customers to see items in motion, understand how they work, and visualize them in real-life settings, which static images can't always achieve. They also create an emotional connection, making products more relatable and appealing.

The camera perspectives in product videos should dynamically transition between different views, such as slow panning shots that highlight the overall design, zoom-in details that focus on textures and functionality, and 360-degree rotations that provide a full view of the product. With 3D animation, sellers can easily fine-tune these angles to create a professional and visually compelling experience.



Technical Requirements

Platform	Resolution	Format	Max File Size
Amazon	Up to 4K (4096×2160)	.mp4, .mov	500 MB
Shopify	Up to 4K (4096×2160)	.mp4, .mov, .webm	1 GB
Walmart	Not specified	.mp4, .mov	100 MB
eBay	Up to Full HD (1920×1080)	.mp4	150 MB

3. Product Animation

Best Practices:

- Hook the viewer within the first few seconds with a compelling introduction or a visually striking scene.
- Keep videos concise (Note: if you want to use your video for the Amazon Sponsored Brands video ads, it must be under 45 seconds.).
- Focus on key features and benefits without unnecessary filler.
- Use captions to ensure accessibility and engagement, even when the sound is off.
- Highlight unique selling points early in the video to capture interest.
- Showcase the product from different angles and in various usage scenarios to provide a comprehensive view.
- Incorporating these best practices can significantly enhance the effectiveness of your product videos, increasing customer engagement and driving more conversions.

4. 360° Product View & AR Models

Unlike static images, interactive 3D visuals and AR models offer customers an immersive experience, allowing them to explore products from every angle and even visualize them in their own environments. This level of interaction enhances customer engagement and reduces uncertainty, leading to higher conversion rates and fewer product returns. These visuals provide an experience on par with in-store shopping, giving customers the confidence they need to make informed purchasing decisions. However, these features are only supported on Amazon and Shopify.

Amazon's View in 3D allows users to rotate and zoom in on products, while its View in Your Room feature enables AR visualization in real-world settings, helping customers see how a product will fit in their space before purchasing. Shopify supports similar features, offering an option to upload 3D models that allow customers to explore items from any angle and visualize them in their environments using AR technology.

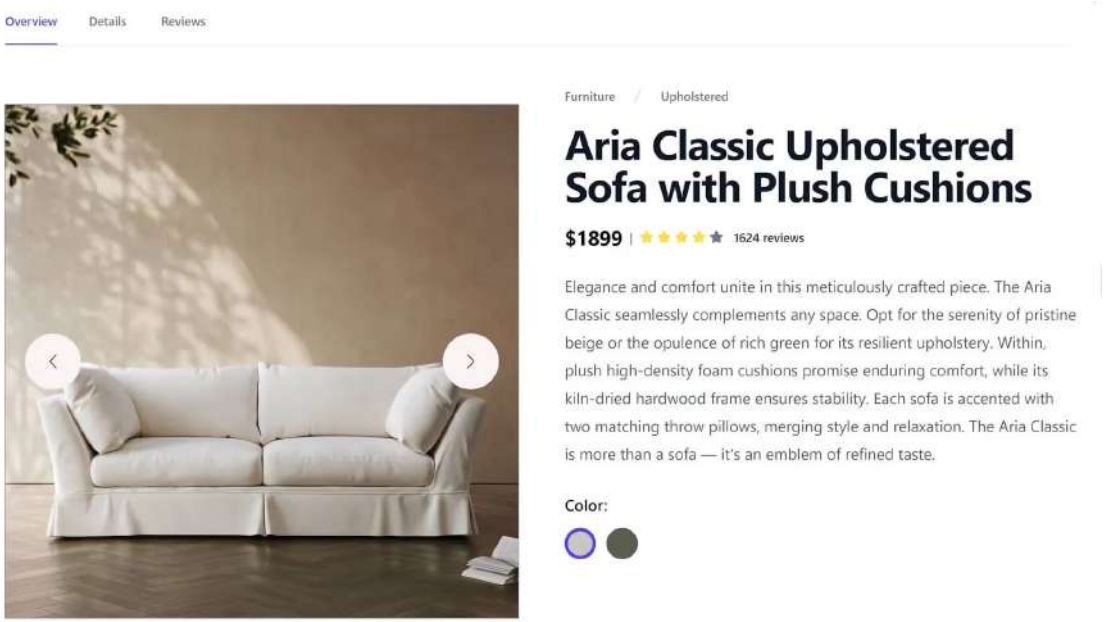
File Requirements:

- **Amazon:** .GLB, .glTF formats
- **Shopify:** GLB, USDZ formats; file size up to 500 MB

Integrating 360° views and AR capabilities can significantly enhance customer engagement, providing a more interactive and informative shopping experience that mirrors in-store product interactions.



Scan QR code to see this product in augmented reality



5. Product Description

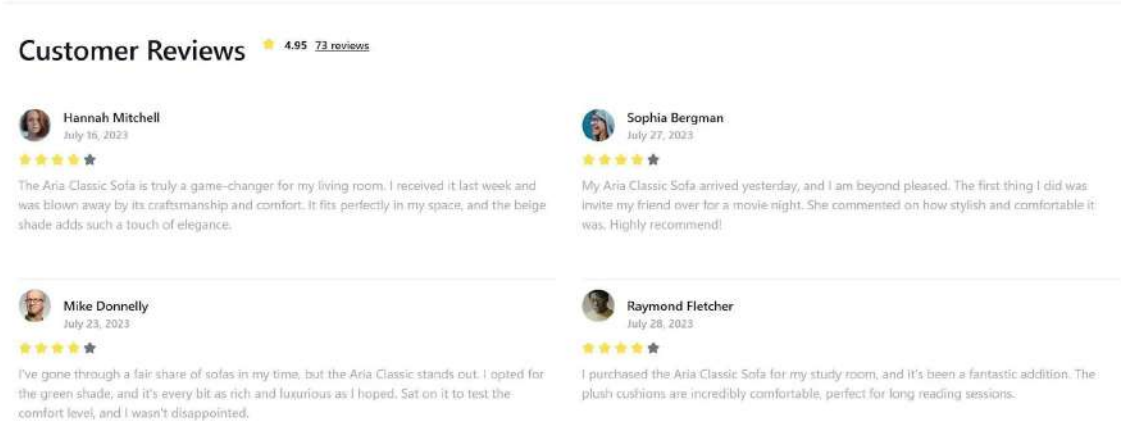
The product description section provides a detailed overview of a product's specifications, features, and functionalities, helping customers make informed purchasing decisions. This section delves deeper into details such as available colors, dimensions, materials, primary product features, benefits, and warranties. A well-written description should anticipate and address potential customer questions, which will reduce hesitation and improve the likelihood of conversion.

A strong product description not only informs but also enhances the brand's identity. For instance, if sustainability is a key selling point of your furniture items, the description should highlight eco-friendly materials and responsible manufacturing practices.

6. Customer Reviews

Customer reviews are vital as social proof, building trust, and influencing purchase decisions. They provide authentic insights from real customers, helping potential buyers feel more confident in their choices. Reviews often highlight product benefits, performance, and quality in ways that marketing content cannot, making them an invaluable part of any PDP.

In addition to boosting credibility, positive reviews can significantly influence purchasing decisions by addressing potential concerns and reinforcing the value of your products. Reviews also contribute to the overall customer experience, showcasing transparency and fostering a sense of community around your brand.



Strategies to Maximize Reviews:

- Request feedback post-purchase through follow-up emails, ideally timed when the customer has had enough time to use the product.
- Highlight top reviews on product pages to showcase authentic experiences that resonate with potential buyers.
- Use reviews to address common customer questions and concerns, reducing purchase hesitations.
- Engage with customer reviews by responding to feedback, both positive and negative, to demonstrate active customer support and commitment to improvement.

Positive reviews not only boost credibility but also improve search rankings on eCommerce platforms, making your products more discoverable. They can enhance conversion rates, reduce return rates, and build long-term customer loyalty by reinforcing trust and satisfaction.

Why You Need 3D Modeling for eCommerce

3D modeling enhances eCommerce by offering a range of benefits tailored to platforms like Amazon, Shopify, Walmart, and eBay. By integrating high-quality 3D visuals, businesses can create consistent and professional-looking product listings that attract more buyers and reduce return rates.

3D modeling also simplifies the process of meeting platform-specific image requirements. Many marketplaces have strict guidelines regarding image size, background color, and resolution. CGI allows sellers to adjust visuals seamlessly without the need for new photoshoots. Additionally, the technology supports rapid A/B testing, enabling businesses to experiment with different visuals and optimize conversion rates. You can effortlessly change up the materials, colors, and textures of a particular furniture item.

Another key advantage of 3D modeling is its ability to strengthen brand identity while creating interactive shopping experiences. Features such as 360-degree product views and augmented reality allow customers to explore products in detail before making a purchase. These tools not only boost engagement but also ensure that the online shopping experience mimics in-store interactions and in-store shopping, making the buying process more immersive and informative.

What's more, once the 3D model is created, it becomes a versatile asset that can be integrated into various mediums. Besides eCommerce platforms, this content can also be incorporated into your social media posts, promotional emails, and other marketing channels.

CGI Furniture Services Catalog

Examples of CGI projects across furniture categories, use cases, and formats. Includes real case studies, typical pricing ranges, and delivery scopess



Download Catalog

Essential Visual Elements for a PDP

To create a compelling and effective PDP, the following visual elements are essential:

- Hero Image: The main product image that attracts customer attention and sets the tone for the listing.
- Infographics: Visually present product features, benefits, and specifications in an easy-to-understand format.
- Lifestyle Images: Showcase the product in a real-life setting to help customers visualize its use.
- Feature Images: Close-up shots that highlight materials, textures, and intricate product details.
- Product Videos: Engaging videos that demonstrate product functionality and key benefits.
- 360° Product Views & AR Models: Interactive visuals that allow customers to explore the product from all angles and visualize it in their space.

Conclusion

To ensure that all visual assets meet marketplace standards and deliver consistent quality, working with a professional 3D content provider is essential. An experienced team produces imagery, videos, and 3D models in line with platform requirements, ensuring accuracy, visual consistency, and alignment with brand identity.

The furniture market has shifted toward customer-driven choice. With countless alternatives available online, buyers can easily move on if a product is not presented clearly and convincingly. Today, success is defined less by company size and more by how effectively a product communicates its value through visuals.

A well-structured product detail page plays a key role in this process. High-quality imagery, interactive elements, and clear product information help improve conversion rates, reduce returns, and build customer trust.

Special Offer

When ordering a full package of 3D imagery for a product detail page, a 10% discount is applied. If a different number of images is required, the 3D package can be customized to match specific product and platform needs, ensuring the right visual set for a high-performing PDP.

Software for CGI Production

CGI pops up everywhere these days. It appears in blockbuster movies, slick ads, and even in walkthroughs of buildings that only exist on someone's laptop. It's digital wizardry, but please keep in mind that the magic doesn't happen on its own. It all comes down to the right tools and plugins. And honestly, the tech just keeps leveling up. It's faster now, smarter, and way more impressive than it used to be. No wonder some CGI looks so real that it often requires a second glance. So, what is the best software for CGI, what are the must-have rendering plugins, and where could CGI software be heading next?

The Best CGI Software Right Now



Autodesk 3ds Max

3ds Max has long been a standard tool in architecture and product visualization. It's been the standard for years, and for good reason. The modeling tools are efficient, the workflow feels familiar, and it works seamlessly with most major rendering engines. People love it for product shots, interiors, and massive architectural projects. Studios stick with 3ds Max because it's stable, it plays well with a ton of libraries, and it can handle heavy-duty scenes without falling apart.



Maya

While 3ds Max rules in architecture, Maya is the king when it comes to animation and film CGI software. Animators swear by its rigging tools and dynamic simulations. It supports complex character animations, effects, and just about anything you see in blockbuster VFX. It's the backbone of many big studio pipelines, especially precision and a team working in sync.

The Best CGI Software Right Now



Blender

Blender's kind of the wildcard here, but in the best way. It's totally free, open-source, and somehow just keeps getting better. It includes tools for modeling, sculpting, and powerful render engines like Cycles and Eevee. The community's a giant part of why Blender's become a real contender, not just for indie artists, but for big studios who want to save money without giving up quality.



Cinema 4D

Cinema 4D is widely associated with motion graphics. Its clean interface and accessible workflow make it easy to get started without a steep learning curve, which is why it is commonly used across broadcast, advertising, and branding projects. Designers love how easy it is to whip up slick and animated graphics in this CGI software. It plays really well with other design tools, too.



Lumion

For architects who need fast results, Lumion is a game-changer. While it is not used for modeling, once a 3D model is imported, Lumion brings it to life. Real-time lighting, moving trees, weather—it's all in there. To wow a client right away, Lumion's crazy speed and dead-simple workflow make it difficult to beat.

The Best CGI Software Right Now



Houdini

Houdini is all about control. To create rain, fire, explosions, or complex particle effects, this is the best CGI software. The learning curve is steep, but the node-based setup gives you insane flexibility. High-end VFX teams love Houdini, and it's popping up more in product and architectural animation too.



Maxwell

Maxwell is for people obsessed with realism. Its rendering engine is physically accurate and unbiased, closely replicating real-world lighting behavior. It's a bit slower than some alternatives, but when flawless product shots are required, Maxwell delivers stunning results every time.

Top Plugins for CGI



V-Ray

If there's one render engine everyone knows, it's V-Ray. It's everywhere: architecture, cars, ads, products. Artists stick with V-Ray for its robust materials, realistic lighting, and the fact that it works with just about every major 3D package.



Corona Renderer

Corona keeps things simple but powerful. The interface is easy to understand, and supports quick, interactive rendering. It's a favorite for interiors and product visuals, especially for avoiding endless settings.



Brighter3D

Sometimes a quick, lightweight plugin is all that is needed to get the job done. That's Brighter3D. It's perfect for SketchUp users who need clean renders without a lot of fuss or heavy system requirements.

Top Plugins for CGI



Arnold Renderer

Arnold is built for heavy-duty animation and VFX. If the project has complex lighting, tons of geometry, or tricky characters, Arnold handles it with ease. Big studios trust it when they need cinematic results — and tight deadlines don't hurt.

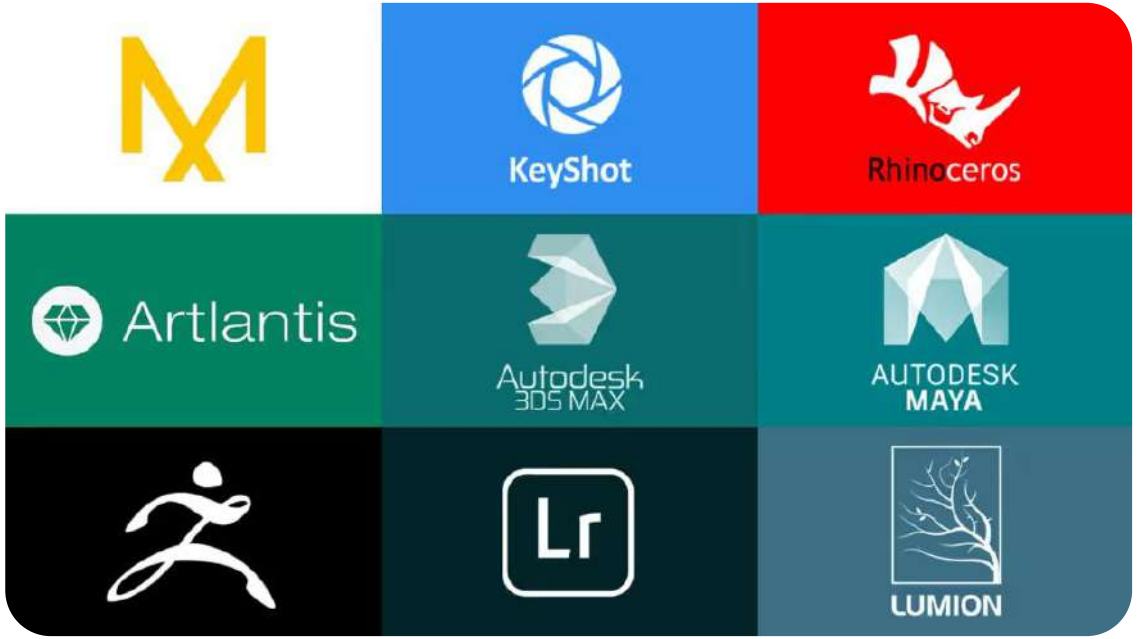


Final Render

Need speed and realism? Final Render provides both by allowing a choice between biased and unbiased rendering options. That flexibility is a big deal for artists working on advanced projects who need to switch gears.

Choosing the Right CGI Software

Picking the right CGI software isn't just a technical choice — it's a big move that shapes everything from final images to how fast the team works and how creative they can get. There's no single best option out there. The right choice depends on the project scope, visual complexity, and the way the team prefers to work.



Benchmark the 3D Rendering Market

Compare typical rates, project timelines, and deliverables and see where your current vendor stands.



Download Product Rendering Research

Choosing the Right CGI Software

1. Define the Project Scope and Deliverables
Every CGI software has its strengths. Before comparing features or pricing, it is important to clearly define what the visuals need to achieve.

Architectural Visualization and Interior Design
For projects focused on buildings, interiors, landscapes, or anything in real estate, start with something like *Autodesk 3ds Max, Blender, Cinema 4D, or Revit* with rendering plugins. They chew through heavy geometry, have huge material libraries, and connect easily with top render engines. To impress clients fast, real-time tools like Lumion, Twinmotion, or Unreal Engine can turn around presentations or design tweaks in no time.

Product Visualization
For furniture, electronics, or anything that needs to look perfect up close, choose software that's excellent at precision modeling and nailing the look of different materials._ 3ds Max, Blender, and Maya_ work well, especially paired with render engines like V-Ray, Corona, or Maxwell for that ultra-realistic lighting. For products that require animation or interactive demos, Cinema 4D and Houdini bring powerful motion tools to the table.

Animation and VFX
For film projects or productions that require extensive animation and visual effects, Maya and Houdini are the heavy hitters. Their rigging, simulation, and procedural tools handle complex scenes and wild effects with ease. They also link up smoothly with renderers like Arnold and Redshift, which can take on layered scenes and character animation without breaking a sweat. Once the primary use case is clearly defined, selecting the appropriate software becomes significantly more straightforward.

Choosing the Right CGI Software

2. Align Features with the Workflow

Once the project goals are clear, it is important to evaluate how each CGI software aligns with the existing workflow.

Ease of Use or Full Control?

- Cinema 4D is well suited for teams that need a user-friendly tool capable of delivering results quickly.
- Houdini is for power users who love digging into complex setups, procedural tricks, and custom controls.

Modeling Tools

When modeling is the primary focus, it is important to compare how each platform performs in this area:

- 3ds Max has a killer modifier stack and strong poly modeling.
- Blender provides a full set of modeling tools along with advanced sculpting capabilities at no cost.
- Maya excels at creating organic forms and detailed character models.

Rendering

Rendering plays a decisive role in the quality and realism of the final visuals. Pick the best CGI software that works well with the right engines:

- V-Ray and Corona deliver a high level of photorealism, making them strong choices for architectural visualization.
- Arnold is built for cinematic VFX.
- Blender's Cycles and Eevee are flexible and work right out of the box.
- Maxwell is tough to beat for realistic product shots.

Tighter integration between tools results in a smoother and more efficient production pipeline.

3. Think About Hardware

Different CGI programs place varying demands on hardware resources.

- Real-time tools like Lumion need a beefy GPU.
- Houdini's simulations gobble up CPU cores and RAM.
- Rendering engines go either way. Some lean on the GPU (like V-Ray GPU or Redshift); others want more CPU muscle.

Please ensure that the software you select is compatible with your equipment to avoid delays in rendering or potential crashes.

Choosing the Right CGI Software

4. Weigh Costs and Licenses
Pricing can significantly influence the final decision, particularly for teams working within defined budgets.

- Blender is free and open source, offering professional-grade tools without licensing costs.
- Autodesk products are industry standards, but they rely on subscription-based licensing, which can become costly for larger teams.

Don't forget plugins and render engines, as they can be essential for high-end results but add to the bill. It is important to balance available budget with actual production needs.

5. Check Out the Community and Support
A strong community makes learning and problem-solving easier.

- 3ds Max and Maya come with years of tutorials, scripts, and plugins.
- Blender's open-source community is super active, always cranking out new features and add-ons.
- Cinema 4D is backed by motion designers who share presets, training, and assets.

Strong support and accessible learning resources reduce downtime and allow teams to focus more on production and creativity.

6. Plan for the Future
CGI tools change fast. Pick something that's keeping up with where the industry's headed:

- Real-time rendering
- AI-driven modeling and textures
- Procedural and node-based workflows
- Cloud collaboration

Easy integration with other software
Ensure that the chosen solution not only fits current needs but also remains viable as projects and industry requirements continue to evolve.

Conclusion

There is no single CGI software that fits every project. Each tool supports a specific part of the production process, from modeling and rendering to animation and real-time visualization.

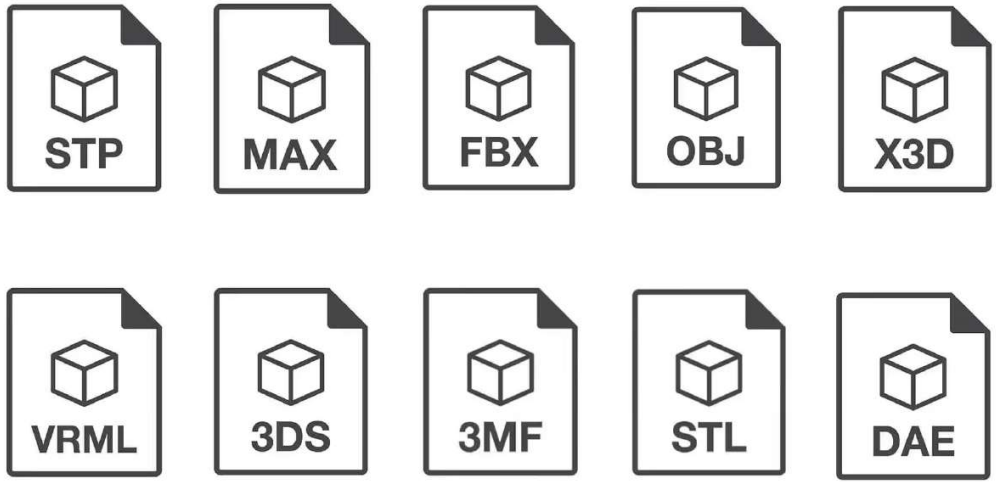
The most effective workflows combine multiple solutions based on project goals, team workflow, and technical requirements. Clear use cases and the right software mix help maintain quality, speed, and scalability as production needs evolve.

CHAPTER 12

3D File Formats

Photoreal product rendering doesn't just begin with lighting or materials. It all starts with the 3D file — the real core of the whole process. Understanding how different 3D file formats work, what kind of data they hold, or when to pick one over another, is essential for smooth collaboration with a rendering company. Plus, the quality of final images depends on these choices.

This chapter outlines the most common 3D file formats used for photoreal product visualization. It explains where each one does well, where they fall short, and how to pick the right one for a specific project.



Understanding 3D Files

A 3D file does way more than just store shapes. It's got all the info about how an object looks and functions, including geometry, structure, sometimes colors and textures too. Depending on the file, it may also include details like scale, animations, or extra notes.

In product rendering, 3D files usually come from one of three sources:

- CAD or engineering software
- 3D modeling tools
- Scanning or manufacturing pipelines

But not all 3D files are created equal. Some are all about precision for manufacturing, while others are designed for animation or real-time use. Choosing the wrong file type can lead to cleanup headaches, missing details, or annoying compatibility issues.

3D File Format Types

Proprietary
Proprietary formats are native to specific software and are designed to work best within that ecosystem. Examples include files created directly in 3ds Max, Maya, or SolidWorks.

Key traits:

- Full feature support inside the native software
- May include advanced data like modifiers, parametric history, or animation rigs
- Limited compatibility outside their original application

These formats are ideal when the rendering team works in the same software environment as the file's creator.

Neutral
Neutral formats are designed to transfer 3D data between different programs. They focus on compatibility and data exchange rather than software-specific features.

Key traits:

- Widely supported across platforms
- More predictable imports
- Often require optimization or retopology for rendering

Neutral formats are the most common choice when sending files to external visualization studios.



Core Features of a 3D File

When evaluating a 3D file for photoreal rendering, several core features matter more than the format name itself:

- **Geometry quality** – clean topology, correct scale, and accurate proportions
- **Surface data** – normals, smoothing groups, and curvature
- **Material support** – whether materials and textures are embedded or external
- **UV mapping** – essential for applying realistic textures
- **Hierarchy** – useful for complex products with multiple parts
- **Precision** – critical for technical or industrial products

The richer and cleaner the data, the faster and more accurate the rendering process.

Most Common 3D File Formats



STL
STL is widely used in 3D printing and manufacturing.

- Stores only geometry
- No materials, colors, or textures
- Often very dense or uneven topology

Use case: Manufacturing reference or basic shape transfer. **Limitations for rendering:** Requires heavy cleanup and material recreation.



OBJ
OBJ is one of the most popular formats in product visualization.

- Supports geometry, UVs, and material references
- Simple, lightweight, and widely compatible
- Textures are usually stored separately

Use case: Product rendering, texturing, asset exchange. **Strength:** Reliable and easy to import into most rendering pipelines.



Collada (DAE)
Collada is designed for asset exchange between tools.

- Supports geometry, materials, textures, and simple animations
- XML-based and human-readable

Use case: Cross-platform transfers and interactive content. **Limitation:** Can be inconsistent depending on the exporter's quality.



FBX
FBX is a robust format developed for animation pipelines.

- Supports geometry, materials, hierarchy, animation, and cameras
- Excellent compatibility with 3ds Max, Maya, Unreal, and Unity

Use case: Product animation, configurators, real-time visualization. **Strength:** One of the most versatile formats for rendering and animation.



STEP
STEP is a CAD-standard format focused on precision.

- Extremely accurate geometry
- Ideal for mechanical and industrial products
- Not optimized for rendering by default

Use case: Engineering-grade products, appliances, hardware. **Limitation:** Requires conversion and optimization for visualization.

Most Common 3D File Formats



IGES
IGES is another CAD exchange format.

- Supports surfaces and curves
- Often used in older engineering workflows

Use case: Legacy CAD data transfer. **Limitation:** Less reliable than STEP for complex assemblies.



3DS
3DS is an older Autodesk format.

- Limited polygon count
- Basic material support

Use case: Legacy projects. **Limitation:** Mostly obsolete for modern photoreal rendering.



3MF
3MF is a modern manufacturing-oriented format.

- Supports geometry, materials, and scale
- More advanced than STL

Use case: 3D printing pipelines. **Rendering relevance:** Limited but improving.



AMF
AMF was created as an STL replacement.

- Supports color and material data
- Rarely used in visualization workflows

Use case: Niche manufacturing applications.



VRML / X3D
These formats are designed for interactive and web-based 3D.

- Support geometry, materials, and basic interactivity
- Used in older web visualization systems

Use case: Educational or legacy interactive content. **Limitation:** Largely replaced by modern real-time formats.

How to Pick the Optimal 3D File Type

Project Requirements
Start with the goal of the project. Is it a static product render, animation, AR experience, or technical visualization? Each use case favors different formats and data richness.

Target Output
High-end still renders, animations, and real-time assets all have different requirements for geometry density, UVs, and material handling.

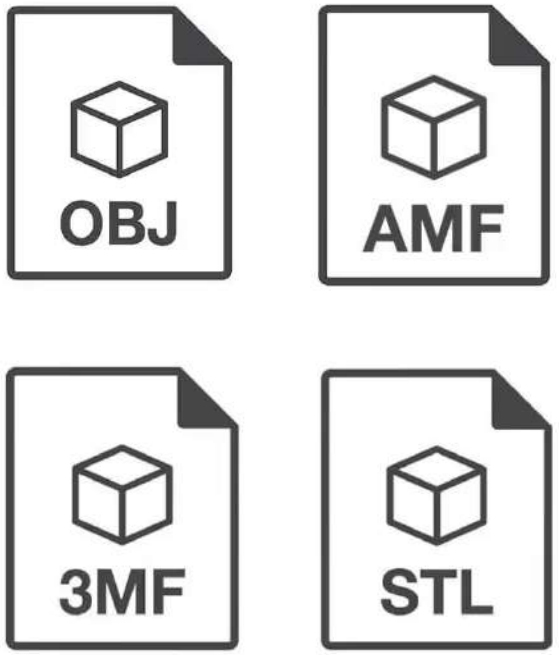
Software Compatibility
The format should import cleanly into the software used by the rendering team. For most photoreal workflows, formats compatible with 3ds Max, Blender, or Maya work best.

Why Sending 3D Files to a Product Rendering Company Helps
Providing existing 3D files reduces modeling time, increases accuracy, and lowers costs. It allows artists to focus on materials, lighting, and realism rather than rebuilding geometry from scratch.

What Types of Files to Send
The most useful formats for product rendering are:

- CAD files (STEP, IGES) for precision products
- OBJ or FBX for visualization-ready assets
- Native files when requested by the studio

Always include reference images, dimensions, and material specs alongside the files.



Benchmark the 3D Rendering Market

Compare typical rates, project timelines, and deliverables and see where your current vendor stands.



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How to Pick the Optimal 3D File Type

In What Format Will the Output Files Be?
Final deliverables are usually:

- High-resolution images (PNG, JPG, TIFF)
- Animations (MP4, MOV)
- Real-time assets (FBX, GLB, USD, depending on use case)

The output format depends on where the visuals will be used.

What If I Need a Format Not Compatible with 3ds Max?
Professional rendering studios can convert, retopologize, and adapt files between formats. Even if the source file isn't natively compatible, it can usually be translated into a usable visualization asset with the right workflow.

Conclusion

3D file formats play a critical role in photoreal product rendering, even if they're often overlooked. Choosing the right format ensures accurate geometry, faster production, and fewer technical issues down the line.

Whether the project involves CAD data, custom modeling, or preparing assets for animation and real-time use, understanding 3D file formats improves communication with rendering partners and leads to more consistent, higher-quality results across projects.

CHAPTER 13

Outsource 3D Studio vs In-house Team

There are 2 ways of getting 3D modeling and rendering services: hiring 3D artists full-time or outsourcing to a CGI studio. Which option is best? Let's see the pros and cons of each choice.



Outsource 3D Studio vs In-house Team

1. Budget

Regardless of the projects' frequency, an in-house team naturally requires salaries, paid sick leaves and vacations, and up-to-date workstations. Not to mention that CGI professionals don't work for peanuts.

Meanwhile, outsource 3D artists are only paid for the time spent on the project. The rest of the spendings, including equipment, software, workstations, are taken care of by their employer — the product rendering studio.

2. Time

An in-house CGI team usually includes 3D artists, an art director, and a project manager. Finding such a group of skilled specialists requires a lot of time from the HR department. And then, the new team would need to settle in the space, install the equipment, and some time to work out standard workflows and learn to work together.

Outsourcing 3D rendering is time-saving in terms of monitoring the process. Big 3D studios employ project and client managers who organize everything and help clients track the progress. Overall, less time and trouble — and a better result.

3. Capability

And what if the project is large-scale, time-sensitive, and requires a lot of 3D renders? And a series of photorealistic 3D animations. And on further reflection, a few 360º views, too.

Given sufficient time and technical resources, a large in-house CGI team with various skills can handle such a challenge. Hiring that many CGI professionals isn't cheap though. Moreover, it doesn't make sense unless large-scale projects are an everyday reality for the company.

Big CGI studios employ lots and lots of highly trained professionals of every specialization imaginable. They can serve as a single source of product 3D rendering services, or as a backup for the in-house team.

CGI Furniture Services Catalog

Examples of CGI projects across furniture categories, use cases, and formats. Includes real case studies, typical pricing ranges, and delivery scopess



Download Catalog

Outsource 3D Studio vs In-house Team

4. Equipment
Large-scale and urgent product 3D rendering projects require special equipment and software. Let's say, the team mainly works with still images. So to create a 3D animation, they would need to acquire specialized software, say, Cinema 4D, plugins for it, video editing tools, like Adobe After Effects. As for the equipment, creating a large animation requires a **render farm** — a high-performance computer system, consisting of many powerful hardware components that speed up the implementation of 3D projects. Needless to say, buying a render farm is expensive, and probably doesn't make sense for a product brand.

In contrast, a CGI company works on 3D rendering projects every day. So they have all the range of 3D software solutions, plugins, scripts, and render farms too. This way, a product manufacturer contacting an outsource company **gets access to all these assets without buying them**.

A product manufacturer can get 3D rendering services with a studio or an in-house team. Both have their pros and cons. An in-house team is a more traditional choice, with a familiar working process, and it is seemingly easier to control. Meanwhile, a CGI studio is way more budget-saving, offers more flexibility in terms of time and scale, and has its own management, project communication, and quality assessment systems.

CHAPTER 14

How to Choose a 3D Rendering Provider

Finding a perfect 3D rendering agency is a challenge that can only be overcome with careful planning and thorough analysis. To choose a provider for long-term cooperation, manufacturers and marketers need to know what to look at and what questions to ask. To make things easier, we broke the process down into steps. Let's check them out.

Step 1: Browse for Options

The first thing to do is to google product 3D rendering companies. Then, it's necessary to look through the highest-ranked studios and choose the 6 most suitable options. This is the shortlist of candidates to analyze in the next steps.



Step 2: Check Out Work Examples

Look at the studio's or artist's CGI portfolio to see their experience, quality of work, and the exact type of services they provide. If there are case studies on the website, that's even better. Check them out too, to understand the company's workflow, the project scales, how they communicate with clients, and deal with challenges.



Step 3: Look for the Clients' Feedback

Testimonials and reviews are a valuable source of information. One needs to look at their number, at what they say, and at who writes them. After that, it's wise to google the company reviews to see what can be found on other platforms.





Step 4: Enquire about Guarantees

When choosing a product 3D rendering services provider, it's vital to make sure that the project information and business data will be safe and protected. This is what guarantees are for.

Freelancers can sure promise things and keep their words. However, they are not bound by law to deliver unless they sign some kind of contract.

In contrast, companies value their reputations and have whole strategies developed to nail their brand promises. This is why they can totally give guarantees on things that matter most, like speed or quality.

For instance, CGIFurniture has an **"On time or for free"** option. Those who apply for it are guaranteed that either they get their results on time, or we return the payment. We are that confident because we have state-of-the-art equipment, our own render farm, and a whole army of highly skilled specialists.

Sometimes, the guarantees available can be found right on the website, usually on the FAQ page. If not, it's necessary to call the company. Here are the main things to ask about:

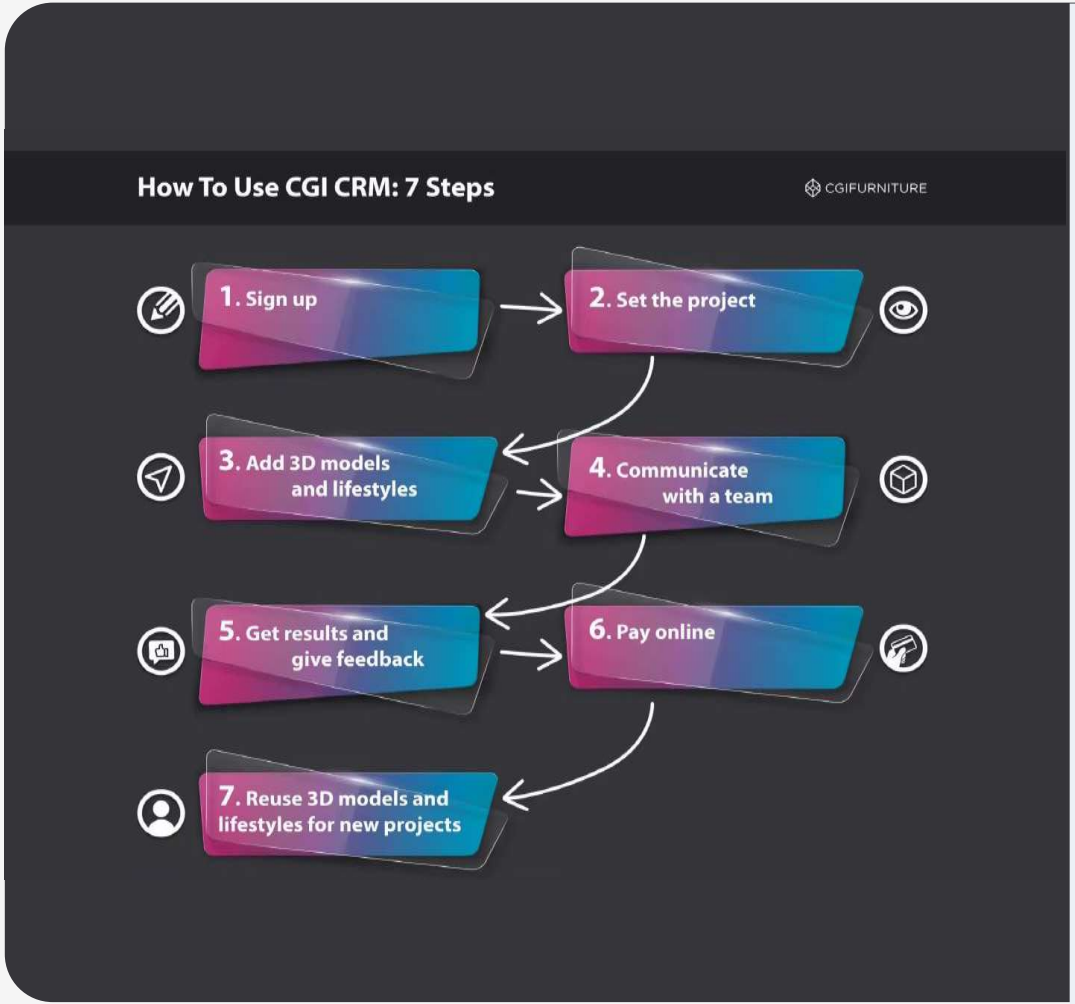
- Can they sign an NDA?
- Do they sign NDAs provided by clients?
- Do they have other ways to safeguard clients? What are they and what's necessary to apply to them?

Step 5: Find out about the Communication Process

Effective communication is key to getting top-notch results. It's vital to ensure that the 3D artists won't disappear till the deadline, or that one won't have to communicate in several channels with a dozen people who do not seem to share information between them. Those things can and must be avoided with smart professional management solutions.

For instance, CGIFurniture had an online project management platform developed especially for communication, keeping information, project updates, and files storage. Now, all of those processes are easy and comfortable for our clients.





Step 5: Find out about the Communication Process

So to safeguard the project, it's necessary to ask the following questions:

- Is there one single communication channel?
- Where will the information be kept?
- Who will be managing the project?
- How often will the studio share updates and intermediate results?

As you see, finding a reliable product rendering company is a matter of research and knowing what to look for and what to ask. It's best to take the top-ranked google choices, study what they offer, and narrow down the list to the top 6. Then, it's time to see the quality they deliver. The best way to do that is to check out companies' portfolios and case studies. Having selected the top performers, it's necessary to find out what cooperation experience they deliver.

For the workflow is crucial to a smooth work process and getting results on time. The best way to understand how a product rendering studio works is to read the reviews from clients, find out more about the communication process and the guarantees available. If the information cannot be found on the website, it's worth calling the shortlisted companies. With all these answers, the choice should be obvious.

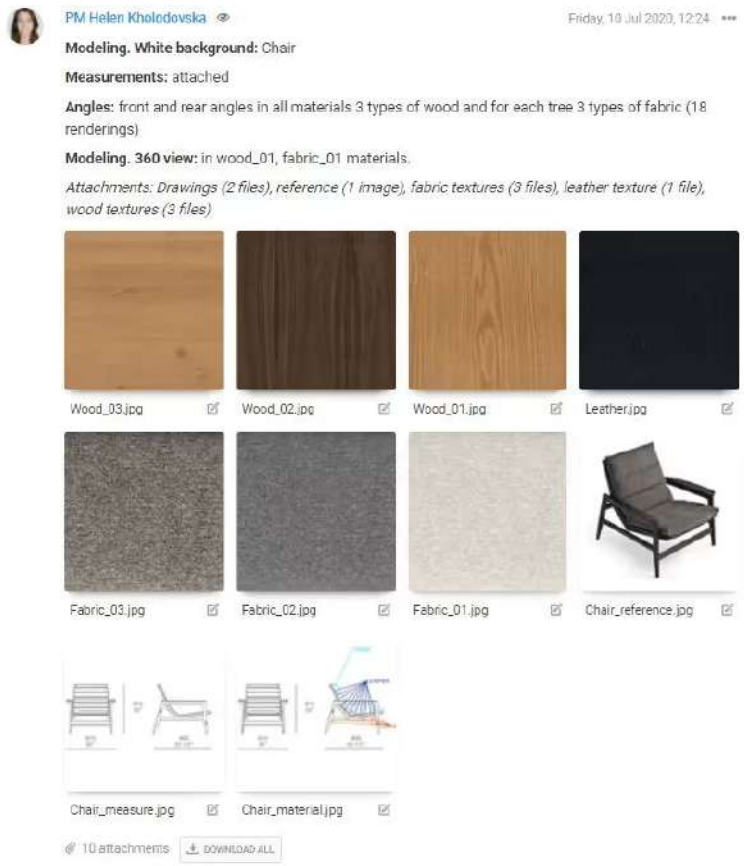
CHAPTER 15

How is a 3D Model of a Product Made?

A manufacturer greatly benefits from understanding the 3D model creation process, since its pipeline largely defines the project workflow. While the workflow can be customized, 3D model production usually follows the same steps. Let's examine the typical workflow of 3D modeling for a silo 3D visualization service.

1. Studying the Assignment

The first step is for the project manager to look at the files and information submitted, and estimate the time and cost of the 3D model creation. Once we have all the details, the manager approves the scope of work, assigns a dedicated team to the project, and the process starts.





2. Building Geometry of a 3D Model

At this stage, a grayscale model of the product is created, often referred to as the “clay” model as well. It doesn’t show colors, materials, or textures. The main goal at this stage is to get the **geometry, proportions, and shape** of the product right.

So the 3D artists make **silo renders** showing the grayscale 3D model from different sides, and send them to the client. The latter gives their feedback, the 3D artists make the necessary updates, and submit new renders. Once the results are approved, the next step of 3D model creation begins.

3. Applying Textures and Materials

When the shapes and proportions are established, textures and materials are applied. **UV mapping** is the first step here.

Basically, the 3D specialists divide the surface of the 3D model into separate elements, and then “unwrap” the latter to get 2D planes. After, the artists apply the texture map to each and project them onto the model.

This allows making sure that the materials will be laid evenly and thus have realistic patterns and no unnecessary seams. The result looks like the 3D models in the renders above.

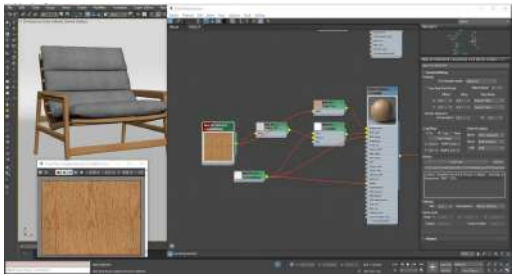
Next, it’s time to apply materials to the surface of the model. The process happens like in the 3ds Max screenshots above and is vital to the creation of a highly realistic CG asset.

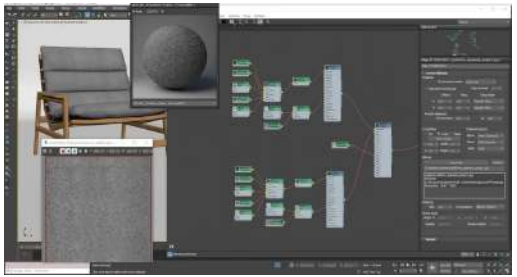














4. Rendering the 3D Model on White Background

When the textures are in place, the 3D artists send the client renders with the **3D model on the white background**. The client views the 3D model and gives feedback. Once the results of this stage are approved, the 3D model creation process is essentially over. The only thing left is to enhance the asset's visual impact through post-processing.

5. Post-production

At this stage of the 3D model creation process, the CGI artist makes creative adjustments such as hue and contrast. The result is a photorealistic 3D model that looks crisp and vibrant. The CGI team delivers it to the client in the file format specified in the Scope of Work. Once approved, the 3D model is ready for use in commercial 3D rendering services.

The 3D model creation process takes the idea of a product to a photorealistic three-dimensional result. The pipeline usually follows the same steps — geometry building, texture and material application, silo rendering, and post-production. As for the workflow, it can be adjusted to fit a specific working process.

Need to see how product rendering and modeling can help your business process optimization? Request a demo, and our manager will answer your questions and consult you on how you can benefit from different CGI solutions.



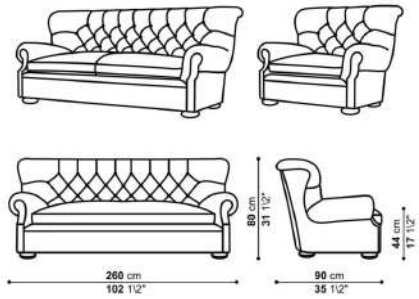


CHAPTER 16

How to Write a Brief for a Product 3D Rendering Project?

The best way to ensure that the 3D rendering company understands everything is to support the brief with visuals. This way, there won't be additional questions like "what exactly do you mean by a Mid-century modern chair? Could you send us a link to the model you'd like to see in the lifestyle rendering?" If there are no definite answers yet, the 3D artists will gladly help figure things out. But if there are exact aesthetics requirements, it's better to convey them through illustrations. A strong reference pack also reduces revisions, keeps the workflow predictable, and helps specialists from product visualisation services match the concept from the start.

Consider adding the following materials to the brief:



1. Sketches, shop and millwork drafts, wireframe model drawings.

They convey the technical information about the product and thus help 3D artists achieve the required accuracy. This data is especially useful when the project includes 3D product modeling, since the team can confirm proportions, construction logic, and key measurements early. CAD drawings are particularly indispensable for bespoke 3D furniture modelling projects where the product has only existed as an idea before — drafts can guide design development and help create visuals even before manufacturing begins.



2. Photos of the furniture item or similar pieces from the same collection.

These may be non-professional, smartphone-made pictures. Their purpose is to help the 3D artists to examine colors, materials, fixtures, seams, and details. Even partial references help when no finished 3D model is available yet, since artists can still recreate the product based on real-world details and build quality. Front, side, and back views will give a better idea of the proportions and form, adding more dimension and detail to a 2D drawing.

Consider adding the following materials to the brief:



3. Description of details and special features.

Every product has its own special features — something that highlights an item among many others on the market. Some hidden features may not be obvious to a 3D artist unless the manufacturer points them out. Sharing close-up photos, drawings, and even written descriptions of special details helps the team build compositions that demonstrate these features thoroughly.

For animation projects, include explanations of how furniture functions work and a scenario for showcasing them — this ensures the team understands what movements or transformations to capture.

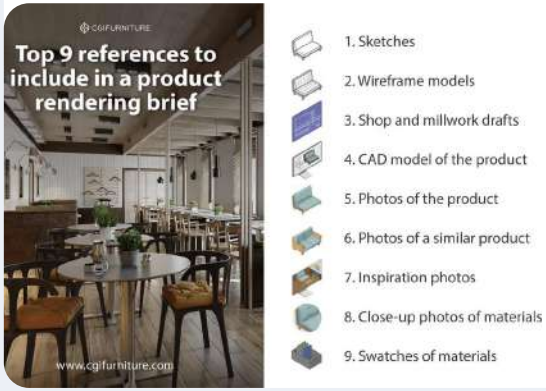


4. Mood references, or inspiration photos.

No words can describe the interior lighting or color so that everyone has the same picture in mind. To make sure that the scene has the right atmosphere, it's easier to send reference photos showing the things that set the mood, like the lighting, colors, decor items, or textiles. As for the interior design, one can use our guide with 35 examples of roomset styles for references or even scenes. For lifestyle rendering, these references also help define the setting type and styling level, which impacts how much environment work is needed beyond the product itself.

Consider adding the following materials to the brief:





5. Close-up photos or swatches of materials.

These are essential for photorealistic product 3D modeling. Photos can be taken with a smartphone, provided that the materials can be read on the screen. This can be achieved with a few basic rules of photographing furniture materials for 3D modeling. If ready texture files exist, they can be added as well, since they speed up material work and reduce color mismatch across the set.

Hardwood or velvet, tinted glass or brushed steel — these words describe thousands of possible colors and tones. The team never knows exactly what kind of veneer or finish a designer has in mind unless they see visual direction. It can be small sample pieces, images with material applied to other products, or links to selected finishes.

These references complete a product 3D rendering brief and help 3D visualizers understand the goal from the first read. This speeds up production and improves accuracy from the earliest stages. It also helps the team plan the right camera angles and number of views, since close ups, eye level shots, and top views require different framing and levels of detail. To avoid rework later, the brief should also define the required output specs, including where the visuals will be used and what technical properties they must meet.

General information about image

Before production starts, define the technical specs of your product visualization. Print assets often need 4K or 5K resolution, while Full HD usually works well for most websites. These small settings affect quality, usability, and how easily your team can deliver final-ready files.

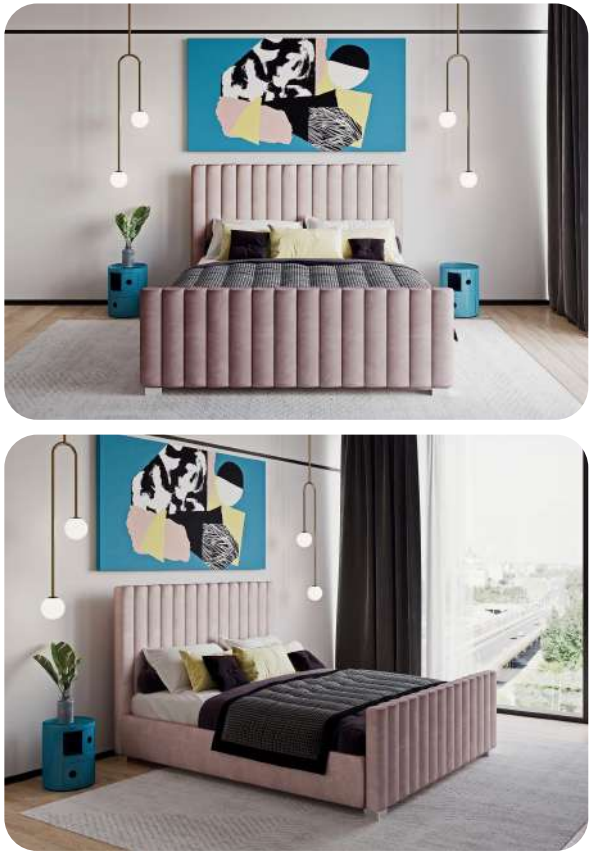
Here is what to confirm upfront:

- **Resolution**
  Choose resolution based on where the visual will be used. Web and print need different levels of detail.

- **DPI (for print)**
  DPI affects print clarity and real-world size. Most brochures and flyers need 300 DPI. Large-format assets use lower DPI. A billboard viewed from around 30 ft can work with about 20 DPI, while posters usually need at least 100 DPI.

- **File format**
  TIFF is easiest to edit but creates large files. JPEG and PNG are common choices for web and can also work for print when prepared correctly.

- **Number of views**
  Confirm how many angles or variations you need for the same product. More views mean more production time and higher cost.



3D lifestyle rendering scene in two camera angles



How to speed up a project with a 3D rendering brief

Cooperating with CGIFurniture includes communication with a team of 3D artists and project managers, file exchange, and financial transactions. All these processes take place on our online CRM platform called Archivizer. In this system, you can store data, interact with the team and monitor the project at any time and place. Archivizer works from both a computer and a smartphone and can be downloaded as an iOS app.

Before starting a project, you have to create a profile in our CRM — it only takes a few minutes — and fill in all the project details. Once it's all done, take the next step!

1. Establish an Effective Decision-Making Process
2. Use Our Standard Technical Assignment
3. Send Us A Detailed Product Rendering Brief
4. Add Other References
5. Try Our 3D Library to Speed Up the Project Even More

So how to speed up a project using a rendering brief? First, create it based on the example of our standard technical assignment, then add as many high-quality visual materials and other references as possible. And last but not least, use ready 3D models and scenes from the CGIFurniture library to make 3D artists' jobs easier and save time for yourself.

How to speed up a project with a 3D rendering brief

A well-prepared brief is one of the easiest ways to get better 3D renders faster. Whether it's a standard catalog shoot or bespoke 3D furniture modelling for a custom piece, clear visual references and confirmed specs help your CGI team meet expectations from day one. That means fewer questions, fewer revisions, and a smoother approval process.

Before you start production, take a few minutes to check that your brief covers both sides of the project. The creative direction, including style and mood. And the technical requirements, including resolution, formats, and number of views. This simple step keeps the workflow clear and predictable. It also helps your CGI team deliver accurate and consistent visuals that are ready for marketing and ecommerce.

Now that we've discussed the procedure, what about the cost? How much do CGI studios charge for 3D projects? Let's check out the main factors influencing the price of CGI.

CGI Furniture Services Catalog

All CGI services in one place: rendering, 360/AR, motion, specs, deliverables



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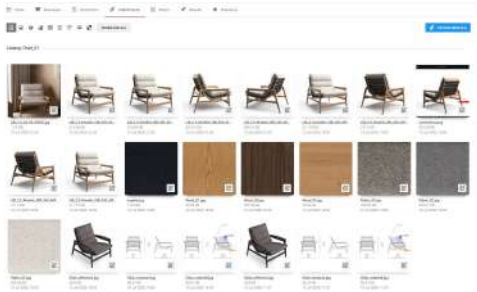
1. Create a 3D Model of a Product
2. Apply Materials and Textures
3. Select a 3D Scene from a Library
4. Adjust the Scene to the Product
5. Choose the Lighting Scheme
6. Set Up the Cameras
7. Start the Rendering Process
8. Finish with Post-Production

CHAPTER 17

Product Rendering Workflow

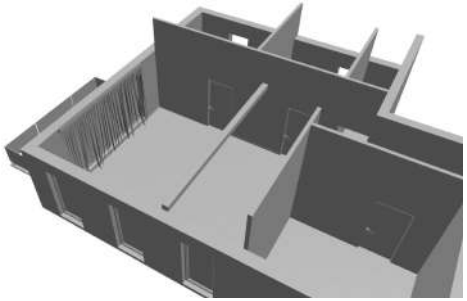
Once you've chosen a 3D rendering agency, it's time to start work. The process may vary from company to company, but the core pillars remain the same.

Let's check out the stages of a typical product rendering workflow at CGIFurniture.



1. Studying the Assignment

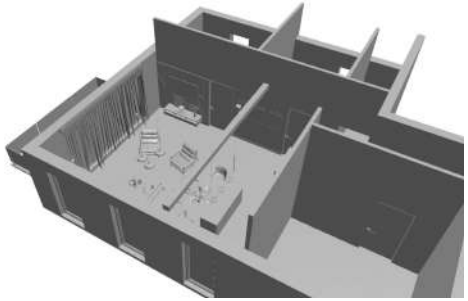
The CGI team examines the task description and documents attached, including references, drawings, CAD models. The more detailed a brief they get, the faster and smoother the project goes.



2. Building the 3D Scene

At this point, it's time to work on the surroundings. When there's a need for a brand-new custom scene for a product lifestyle rendering, we build it from scratch and then fill it with necessary objects.

Alternatively, we can use a ready-made scene from our CGI library. In that case, we'll adjust the scene to fit the project's requirements at later stages.



3. Main Product 3D Modeling

The next stage is 3D product modeling services. CGI specialists build a 3D model of the product and place it into the scene. At this stage, the model only has grayscale geometry, which makes it possible to see the shape and details of the object.



4. Setting Camera Angles

The CG artist chooses angles and composition. The task is to find the most flattering views for the main product and establish framing, symmetry, and other compositional elements.



5. Adjusting the Lighting

Now, it's time to develop and implement the lighting strategy. The 3D artist sets the time of day, chooses light sources, arranges them, pre-renders the image, and looks at the result. If needed, he improves on something and pre-renders the image again and again. The goal is to help make the most of lifestyle rendering services. This means achieving the desired mood, ensuring ultimate realism, and presenting the main product at its best.

6. Applying Materials and Rendering

CG artists can create custom textures based on references or download the ready ones if they find exactly what the client wants. To understand how the materials will look, they set some basic lighting in the 3D rendering scene.

Then, it’s time to choose the resolution, format and click “render”. The duration of the rendering process depends on the settings, complexity of the scene, and the required quality. To speed the rendering up for large-scale projects, 3D artists at CGIFurniture use our studio’s render farm.





7. Post-production

When the product rendering is ready, the 3D artist can decide to enhance its impact. Using Adobe Photoshop, a 3D visualizer can add visual effects, apply filters to the image, adjust contrast, sharpness, brightness, and so on.

All that's left at this point is to send the marketing-ready result to the client. You can learn more about every stage in our article about the product 3D rendering process. And now, let's check out how to fill out the brief to get these amazing results faster.

A product rendering workflow depends on many factors, like a CGI studio's pipeline and the working process of a manufacturing or retail company. Generally, it includes 8 following steps: studying the brief, 3D modeling of the main product, building the lifestyle scene, application of the textures and materials, setting the lighting, camera angles, rendering, and post-production. When all those stages are completed, and the product render fits all the requirements, it can be used for marketing and sales materials.

CHAPTER 18

Product Rendering Cost

The first thing to do before starting a CGI project is to ask for the price. At CGIFurniture, client managers state the cost at the outset, break it down when asked to, and even advise on how to reduce the price. Easy!

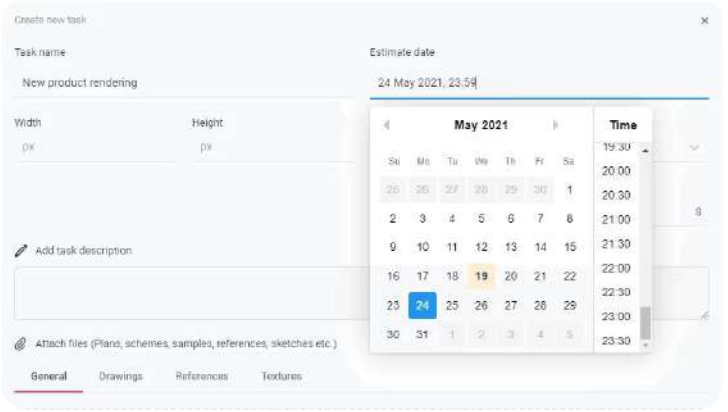
The only thing that can make it easier is to learn what the product rendering cost comprises before contacting a CGI studio. Here are the main criteria client managers take into account for providing a ballpark estimate.





1. CG modeling complexity level

Some 3D models take more time and labor than others because they have more elaborate geometries and difficult textures. As a result, their cost is higher. For instance, simple wooden chairs are much easier to make than wicker ones or stone fireplaces. You can find the description of 4 complexity types in our article about furniture modeling types.



2. Urgency

When on a tight deadline, CG artists may have to work overtime and at weekends. Naturally, working in an emergency mode costs extra. So the best way to reduce the project price is to keep in mind the deadline and always contact the product rendering company beforehand.



3. The number of views

The standard offer includes 1 general view. Therefore, each new view will add to the price. The angles normally cost the same. The cutout, however, requires modeling of the inner structure of the product and is therefore priced higher.



4. Resolution

By default, CGIFurniture provides product 3D renders in FullHD, 1920x1080. If there's a need for a higher resolution, the price will increase.



1. Sketches
2. Wireframe models
3. Shop and millwork drafts
4. CAD model of the product
5. Photos of the product
6. Photos of a similar product
7. Inspiration photos
8. Close-up photos of materials
9. Swatches of materials

How to Reduce Product Rendering Costs

These were the main criteria affecting the product rendering cost, and at least 2 of them can be adjusted. Their defining feature is that these factors are inherent to the project character. But that's not all. In addition, a product manufacturer can reduce the CGI production price through workflow optimization. Here are 3 easy ways to do it.

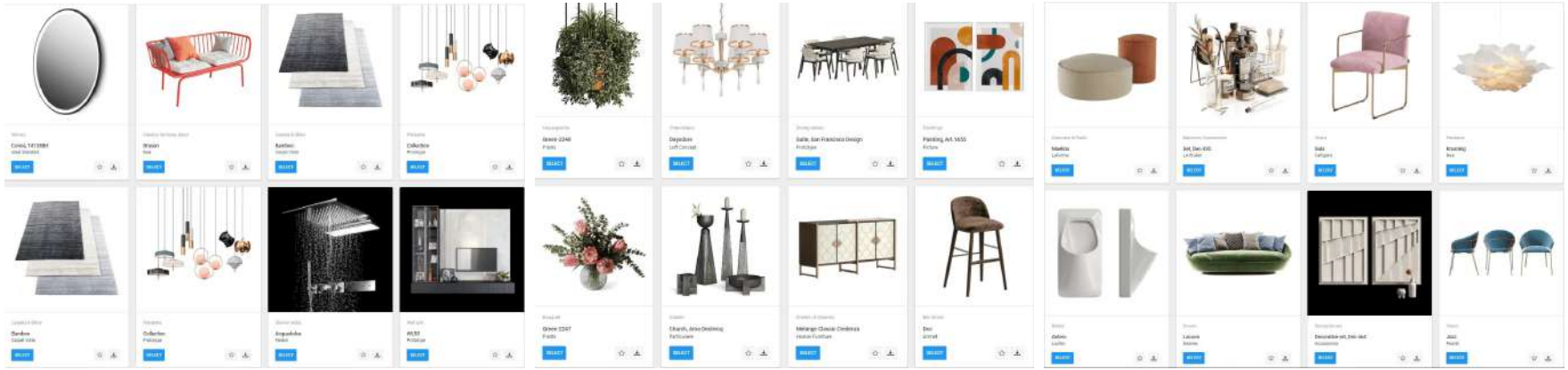
1. Provide a Detailed Scope of Work

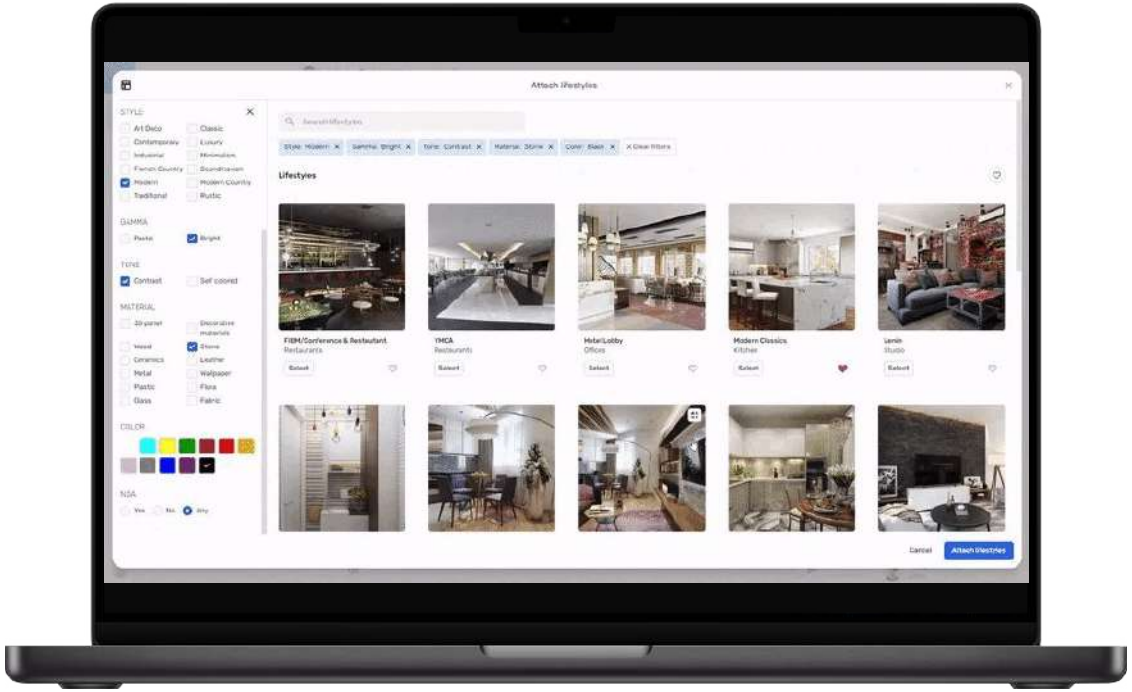
The less research 3D artists need to do, the faster the 3D rendering production goes. As a result, it costs less. So a product manufacturer can help speed up the process by answering all the questions in the brief, specifying the purpose, format, and resolution of the imagery, and attaching all references they can get their hands on. The effort will 100% pay off!

How to Reduce Product Rendering Costs

2. Use Ready 3D Models

Another cost-cutting tip is to ask the product rendering studio upfront if they offer 3D models of props for room sets. Using them will help to avoid paying for modeling every decor and secondary object in the scene. For instance, CGIFURNITURE offers clients free access to a virtual library with more than 47000 items. They are indoor and outdoor furniture 3D models of various styles and brands, lighting fixtures, architectural elements, paintings, sculptures, carpets, etc.





How to Reduce Product Rendering Costs

3. Use Ready 3D Scenes

CG rendering studios can offer CG room sets and outdoor scenes, too. So a manufacturer can pick one, and have it tweaked to fit the concept. As an example, CGIFURNITURE 3D rendering agency gives users free access to 3,913 lifestyle scenes of excellent quality. So product manufacturers can pick one they like, and even ask to adjust details like wall color, flooring material, and decor to fit the concept. This will take the modeling of a new scene off the product rendering cost.

Now, these were the main factors influencing the price of a lifestyle 3D visualization project and a set of tips on how to decrease it. However, these are not the only considerations. Beyond the core factors, there are additional ways to optimize CGI production costs through smarter planning and workflow decisions.

What Affects Product Rendering Cost

Number of revision rounds. The more revision cycles included, the higher the final cost. Unclear feedback or changes after approvals increase production time and budget.

Quality of source materials. Incomplete drawings, outdated CAD files, or missing references require additional preparation and verification, which affects pricing.

Material and surface complexity. Glass, glossy finishes, fabrics, and advanced PBR materials take longer to set up and test, increasing production effort.

Consistency across multiple SKUs. Large product ranges with consistent lighting and camera setups require tighter quality control but may reduce the cost per item when produced in batches.

Batch production. Ordering multiple products, variations, or color options together significantly lowers the cost per render.

Early-stage approvals. Approving models, scenes, and camera angles early helps avoid expensive changes later in the pipeline.

Long-term collaboration. Ongoing partnerships or volume-based projects often allow for more flexible pricing and production planning.

The best way, of course, would be to combine those and ask the client manager for custom advice. For many things would depend on the project. For instance, the company may be willing to offer a discount for a volume order.

Social Media Playbook for Your Brand

Templates and examples for reels, carousels, and 3D motion—tailored to your brand



Download Social Media Guide



CHAPTER 19

Monitoring a CGI Project

Once the price is clear, it’s time to think about the workflow of the product rendering project. How to make sure it’s as fast and effective as possible? Let’s see.

Monitoring a CGI Project

- **Plan ahead.** It's best to arrange for an online meeting and discuss the work with the future CGI team. The manager and 3D artists would answer questions and help develop a project strategy with clear milestones and dates.
- **Keep in touch.** The best way to make sure that the final imagery will be up to and beyond expectations is to check intermediate results at every step of the project. It's much easier to tweak them than to re-render a ready CG lifestyle.
- **Give feedback.** Effective communication and timeliness are everything. It's vital to send the comments as soon as possible, and make sure everyone is on the same page. There are 3 ways of sending feedback: meet online, comment via CGI CRM, and combine the two.

By sticking to these basic rules, marketers and manufacturers can ensure the product 3D renders will be ready on time and look like million dollars. You can find more information on the subject in our articles about accelerating a 3D rendering project workflow and writing a brief for a CGI studio.

CGI Furniture Services Catalog

All CGI services in one place: rendering, 360/AR, motion, specs, deliverables



Download Catalog



CHAPTER 20

Case Studies — Real Results Across Industries

At CGIFurniture, we help product brands speed up time-to-market, boost their eCommerce visuals, and ditch expensive photo shoots in favor of flexible, scalable 3D solutions.

Our case studies don't just talk theory — they show real, measurable results. From smoother content workflows to stronger online sales, these examples demonstrate how our clients are using CGI to gain a competitive edge.

This section offers a handpicked look at projects from different industries. Whether it's a big launch, a fast-moving campaign, or a content push across platforms — 3D is how today's brands keep up.

Explore Real Projects, Workflows, and Results

Want to see CGI in action? Dive into our full case study library and explore the projects, processes, and results behind the scenes.

See how brands:

- **Launch new product lines** with zero physical prototypes
- **Replace photoshoots with scalable**, photoreal visuals
- **Build rich eCommerce galleries** with 360° views and lifestyle imagery
- **Speed up marketing** with ready-to-use visuals for all platforms

From initial brief to final result — our cases show the workflow, tools used, and before/after comparisons.

Here are the most recent ones worth exploring:

- **3D Rendering Product Images** for Ultra LEDs
- **Product lifestyles** for HOMEGA
- **Product 3D animation** and lifestyles for BDI
- **Industrial Product Rendering** for Global Industrial Company
- **3D Product Visualization** for Broan-NuTone Ventilation Systems
- **Fragrance 3D Rendering** for AirScent

Explore all case studies **here**. Visitors can select the product category that best fits their business, such as upholstered furniture, kitchen, bathroom, decor, and more.





Benchmark the 3D Rendering Market

Compare typical rates, project timelines, and deliverables and see where your current vendor stands.



Download Product Rendering Research

Our Clients

CGIFurniture provides 3D rendering and modeling services to a wide range of product categories. **We work with leading brands in furniture, décor, lighting, outdoor and garden furniture, bathrooms, textiles, mattresses, kitchens, office setups, and home accessories.**

Each product category needs a different visual approach. We deliver high-quality 3D renderings, 360° views, and animations that match those needs and work perfectly for any use — online stores, marketing, or presentations.

Who Uses Product Rendering Services?

Product 3D rendering helps thousands of businesses speed up content creation and show their products better online and in marketing. The most frequent clients include:

- **Furniture manufacturers** launching collections or updating catalogs
- **Direct-to-Consumer (D2C) eCommerce brands** seeking high-quality visuals without physical prototypes
- **Lighting, kitchen, and bathroom brands** showcasing complex finishes and materials
- **Home décor and accessories companies** creating lifestyle imagery and packshots
- **Mattress and bedding brands** needing consistent, photoreal visuals across SKUs
- **Outdoor and garden furniture manufacturers** presenting seasonal lines
- **Office furniture suppliers** promoting modular and ergonomic solutions
- **Hardware and fittings companies** requiring clean technical visuals
- **Product design studios** looking to visualize concepts before production
- **OEM and white-label manufacturers** building image libraries for partners and resellers

These businesses use CGI to support eCommerce, print catalogs, social media, advertising campaigns, and internal product development — all without the cost or limitations of traditional photography.





See 3D Model on Our Site

Why Do Brands Order CGI?

Clients come to CGIFurniture with a variety of goals — from launching products to scaling their visual content across platforms. Some of the most common use cases include:

- Preparing visuals for **product launches and trade shows**
- Accelerating **pre-sales before physical production** begins
- Creating **eCommerce content** for platforms like Shopify, Amazon, and Wayfair
- **Replacing costly and time-consuming photoshoots**
- Developing c**atalogs, lifestyle collections, and mood boards**
- Producing **visuals for investors, retail networks, and B2B** partners
- **Running A/B tests** for different product designs, colors, or finishes
- Creating animations and 360° views to **boost engagement and conversion rates**

Looking to speed up launches, improve presentations, or boost marketing visuals? Our **3D rendering services** help brands do it all — quickly and consistently.

Contact Us

Contact us via phone, email or our website's chat - we're available 24/7 and gladly answer all your questions.



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