



# ArtEngine



**AI for 3D  
material creation**

# AI-assisted artistry for example-based design

Unity ArtEngine is a 3D content creation tool harnessing the power of AI and the example-based workflow to automate and accelerate working with photorealistic art assets. The software empowers digital artists by increasing their creative speed to produce stunningly high-quality work. By removing the burden of minutiae material creation work such as photoconversion to PBR materials, up-resing, deblurring, seam removal, unwarping, color matching, and much more, creators can use Unity ArtEngine to work at the speed of thought to achieve their visions.







# Incredible results

## **Authentic, high-res 3D representations of your desired materials**

Create a sense of depth and shape in 3D materials while exercising greater control over microsurfaces and reflectance. Unity ArtEngine enables you to process 2D texture maps that can give the illusion of 3D to an untextured model, mesh or scene while supporting the latest PBR standards.

## **Custom 3D design in a fraction of the time**

Unity ArtEngine takes physical scans of real-world materials and processes them into high-quality textures that are ready for use with 3D models. ArtEngine helps artists design custom finishes and bring assets to life.

# The design process

## Step 1

### Start with the assets you have

Whatever material your design requires – whether it's fabric, leather, synthetics, patterns, or anything else – simply upload the images or scans into Unity ArtEngine. From there, automatically remove seams, correct flaws, up-res, and even create new variations of your textures and materials.





## Step 2

# Radically improve material creation speed

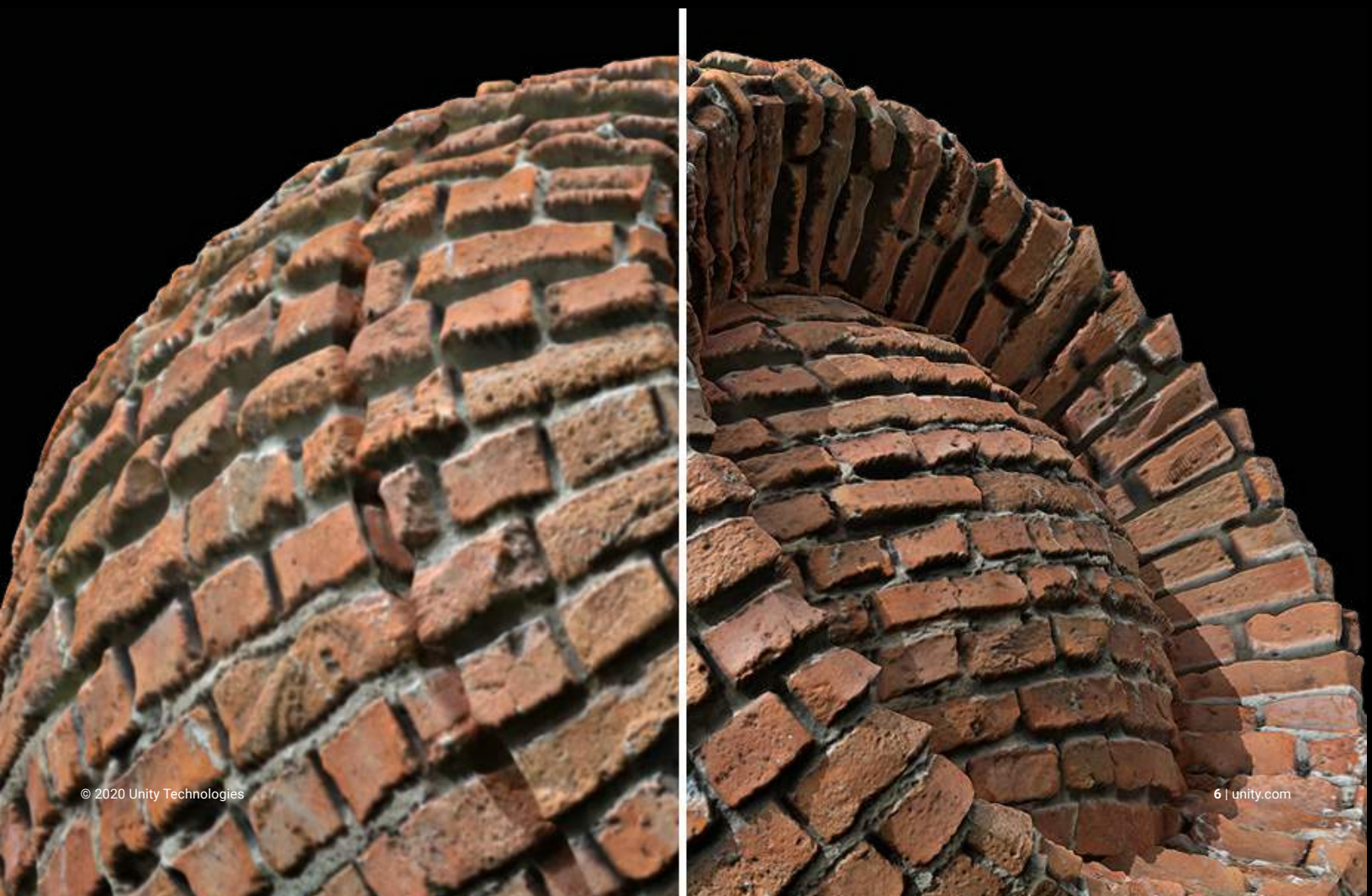
- Make the product material work in 3D environments generate physically realistic maps for your project that react correctly under any lighting condition.
- Remove any defects present in the material across all texture maps, such as scanning issues, unwanted details, or blurs. A simple mask removes all of the content beneath it.
- Enhance the resolution of a material across all maps simultaneously using machine learning algorithms to grow the size without stretching.
- Automatically remove seam artifacts, allowing your textures to seamlessly tile across the meshes in your scene for fast, painless seam removal.
- Mutate your textures to organically grow them to larger sizes and introduce new variations visually inspired by the input sample.
- Works across all texture maps.




# Step 3

## Create high-end 3D representations of your luxury materials

Achieve polished results quickly with ArtEngine's stunning output materials. Apply the automatically seamless material in your scene and tile across meshes for fast, painless seam removal.







“Speaking as a  
texture creator,  
artomatix truly  
is a godsend.”

– Eduard Caliman, 3D Visualization Manager (Architecture)

# Cutting edge

## **Automated example-based workflows**

Instead of building everything from scratch using manual or procedural workflows, start with an example of what you need, and ArtEngine will help to automate its creation.

# Why use Unity ArtEngine

## Guaranteed fidelity and quality

Outputs will consistently meet all the required conditions and bring a level of photorealistic quality that's next to impossible to achieve with any other tools on the market for scanning workflows.

## Fast turnaround time

Unity ArtEngine features are built for speed and can deal with large backlogs of textures efficiently.

## Cost-effective production

This solution represents significant savings compared to doing this work internally or outsourcing. Unity ArtEngine will help you get 80% of the way in 20% of the time.

## Easy to integrate

Designed from the ground up, Unity ArtEngine can be leveraged by experienced 3D professionals as easily as by artists new to the space, making it ideal for smooth adoption across teams.





# Key feature: Seam removal

Artists can automatically remove seams on materials across all maps in a fraction of the time compared to standard procedures. Unity ArtEngine automates this arduous process and enables users to remove seams in seconds. Additionally, it allows users to specify areas to ignore – removing them as well as seams.



Before



After

# Key feature: Up-Res

Using machine learning and neural networks, Unity ArtEngine can increase the resolution of textures with remarkable quality. Unlike traditional methods of adding pixels, this process does not result in blurring or stretching.





# Key feature: Material generation

The material generation function within Unity ArtEngine gives users the ability to generate texture maps from a single diffuse map. These maps add a great semblance of reality, giving depth and shading information to your materials. Rather than handcrafting or using manual workflows, these maps are automatically generated.

