JCDecaux

3D EFFECT GUIDE

SUMMARY

"Attention is a reward, not a right."

Consumers' attention spans are in free fall around the world. This is closely linked to the content overload they are exposed to on a daily basis on various communication channels. For brands, the need to master the art of storytelling is more important than ever. Brands need to engage their audience by creating compelling stories and visual experiences.

To do this, creativity plays a key role. And 3D content development in Outdoor Advertising is an incredibly compelling choice, transforming the media into an immersive experience that generates attention and drives organic engagement.

3D content in outdoor advertising undoubtedly opens up a new world of possibilities for brands.

This guide has been designed for all Design, Marketing and Commercial teams who need guidance in developing 3D content on our digital platforms. In this guide, we outline the reasons why it may be relevant for brands to develop 3D campaigns in Outdoor Advertising and provide practical step-by-step guidelines to support you in creating quality 3D content.

Happy reading!

The appeal of 3D campaigns for OOH

In an era of multiple communication platforms, capturing the attention of the public has never been more difficult for brands. Content innovation such as 3D can be a key way for brands to engage audiences. Many brands such as Amazon, Nike, Fortnite and Netflix have taken the plunge and successfully deployed campaigns with 3D content in Outdoor Advertising in recent months.

Here are **5 reasons** why brands should consider 3D content for their next Outdoor campaigns:

Excellent way to build brand awareness.

Greater message impact: the 3D campaign creates a memorable and immersive experience for the audience.

Better message recall and brand attribution.

Very high amplification of the campaign: 3D content is easily shared on social media, thus increasing the coverage of the campaign.

Ease of deployment: the cost and time required to create 3D content continues to decrease significantly.

Cross Shinjuku Vision 3D LED Giant Screen in Tokyo

Advances in 3D content technology are enabling the industry to apply a new creative approach to Outdoor media. But technology is only an enabler. It is creativity that delivers the experience, attracts attention, and generates engagement.

What is the 3D effect?

3.1 - Explanations

The 3D effect is an optical illusion that involves making content on a screen appear to be multi-dimensional and to jump out of the screen frame.
The 3D effect can be observed without special glasses and can be played on any screen, but it only works from one restricted vantage point, to be determined before the content is designed. When the viewer moves away from this chosen location, their view of the content becomes distorted.


The 3D effect is generally used on giant corner screens consisting of 2 sides placed in high-up.

Cross Shinjuku Vision 3D LED Giant Screen in Tokyo
LED area: 155 m2
Image quality: 4K
Pitch: 6mm

But it can also be implemented on standard single-sided screens.

T3 check in Iconic Digital
Sao Paulo Guarulhos Airport
Dimensions: 136 inches W 3m x H 1.7m
Screen area: 5.1m²
Technology: LED
Pitch: 1.5 mm
Resolution: 1920 x 1080 px
Frequency: 60 fps

What is the 3D effect?
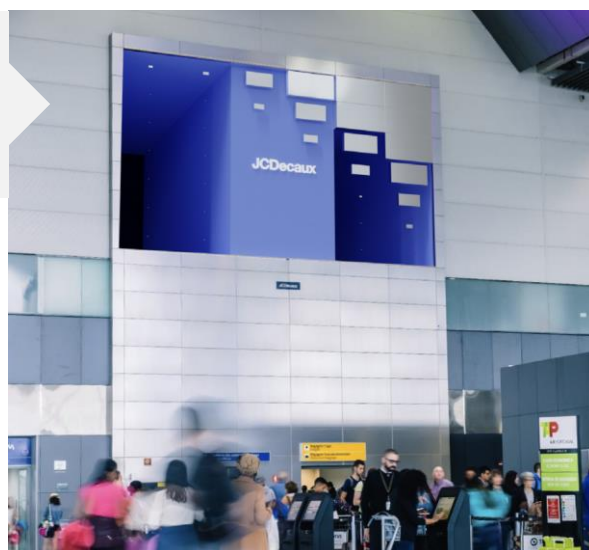
There are 2 main techniques for creating 3D content: forced perspective and anamorphosis.

3.2 - Techniques used: Forced Perspective

Forced Perspective

The pop-out effect comes from the presence of fixed elements (edges of the screen, frame) from which mobile elements can burst out. You must be willing to "lose" some space for content for the effect to be felt.

Pere Borrell del Caso, *Escaping Criticism*, **1874**

Example

## 3.2 - Techniques used: anamorphosis

Anamorphosis:

This is an ancient process of distorting an image, similar to an optical illusion.

It involves transforming distorted images into "normal" images when viewed from a specific vantage point. The content of the giant screens, placed high-up or at an angle, must be anamorphosed to compensate for the natural distortion of perspective and create the illusion of a coherent structure.
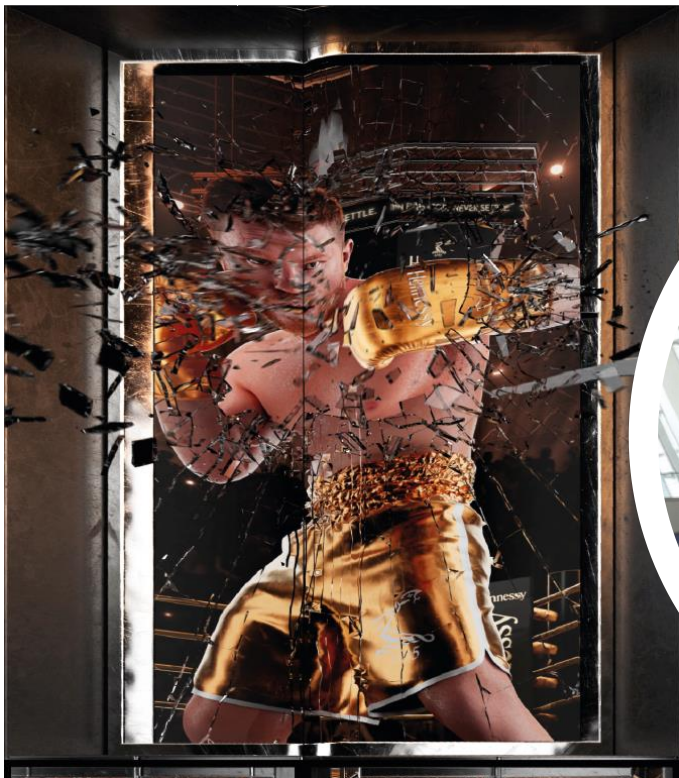

Hans Holbein,
The Ambassadors,
1533
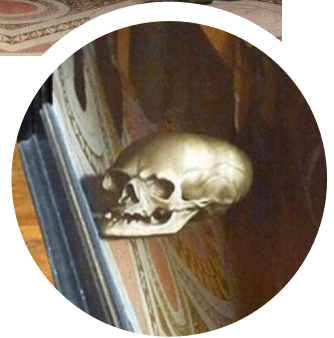
Example   Anamorphosed work file

3D effect illusion on the screen

Preliminary steps for creating 3D content ⌂

Creating 3D content requires prior preparation and consideration of the various factors outlined below:

4.1 - Take the screen's specifications into account

Knowing the specifications of the screen and its player perfectly allows you not only to optimise the quality and type of video file to be delivered for broadcast, but also to design a message suited to the size of the screen. In some cases, for example, it will be necessary to favour full-size content, in others giant or miniature content.

The following information about the screen's specifications must be collected:
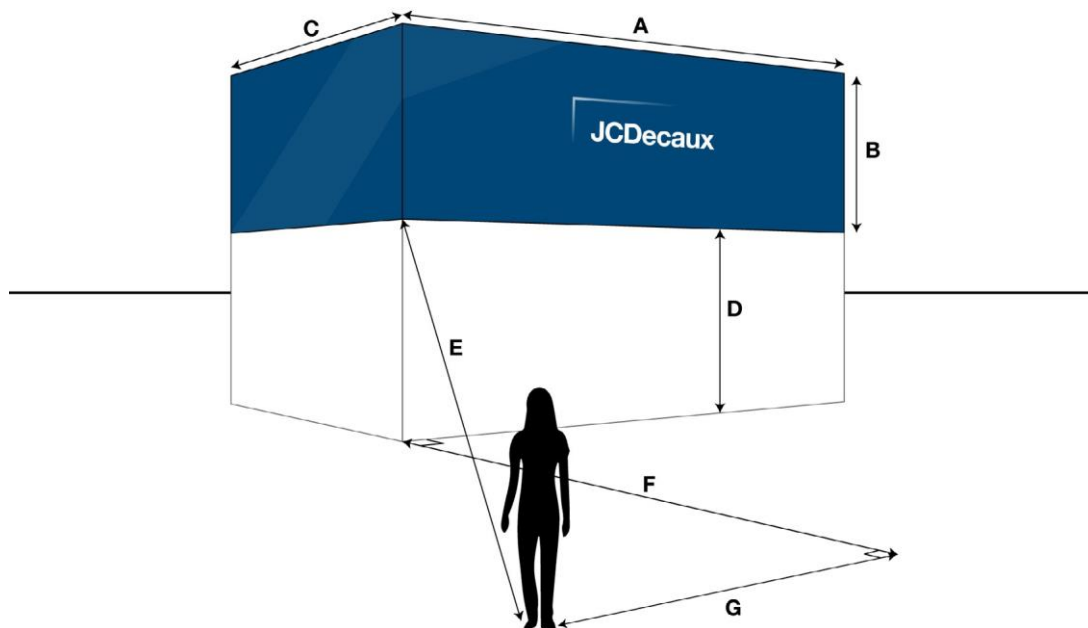
Screen shape:	1 or 2 sided, angled, curved or flat
Dimensions A, B for single-sided screen:	in m
Dimensions A, B and C for double-sided screens:	in m
Screen area:	in m²
Resolution:	in pixels
Position of the screen in space D, E, F and G on the image:	in m
Desired vantage point:	pictures of the screen taken from this vantage point
Screen environment:	isolated or framed by architectural elements
Refresh rate:	in Hz
Possibility of broadcasting or not at 60 fps:	yes or no
Video file format to be broadcast:	file extensions compatible with the screen player
Pitch:	in mm
Brightness:	in nits

4.2 - Take the screen's environment into account

Knowing the environment of the screen perfectly is essential for 4 main reasons:

- It allows you to determine the best vantage point from which the effect should be observed (as a reminder, the 3D effect only works from one vantage point, and the farther away you are from it, the more distorted the image becomes).

- Depending on the type of screen, its size and how it's positioned, the creation to be designed may or may not need to be anamorphosed:
  - When the screen is single-sided and intended to be seen from the front at eye level, no anamorphosis is required, only forced perspective.
  - In all other cases: for single-sided screens viewed from the side, from above or from below, or double-sided corner screens, however they are positioned, anamorphosis is necessary.

- Taking environmental elements (colour, materials, patterns, lighting, etc.) into account is crucial for the screen to blend into its surroundings and to make the 3D effect, and the pop-out effect of the content, look even more realistic.

- Take photos or videos records of the location for reference during content creation.

Creating your 3D content

The groundwork has been done, you have collected all the information about the screen and its environment. You are now ready to create the content.

5.1 - Virtually reproduce the scene

Transfer all the measurements taken on site into 3D modelling software to virtually reproduce a scene that is homothetic to the real one.


To do so, the screen is transformed into a box, inside which content is animated to create effects of perspective and depth.

- In the case of a single-sided screen, the front of this box represents the screen.
- In the case of a double-sided corner screen, the front and one side of this box represent the screen..
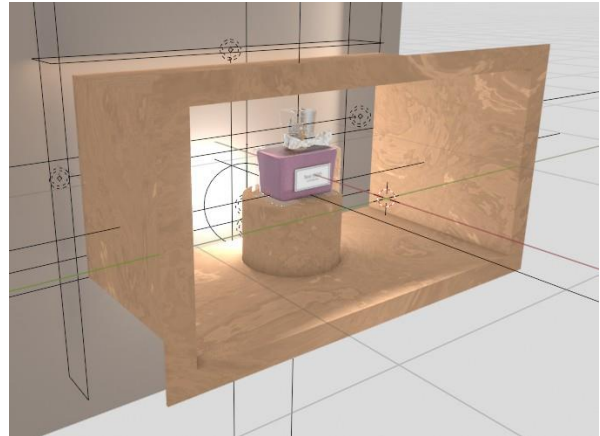
In the 3D scene, **two virtual cameras must be positioned:**

- A first camera (A) located at the vantage point defined for the viewer,
- A second camera (B) located in front of the screen which will be used to make the final rendering.
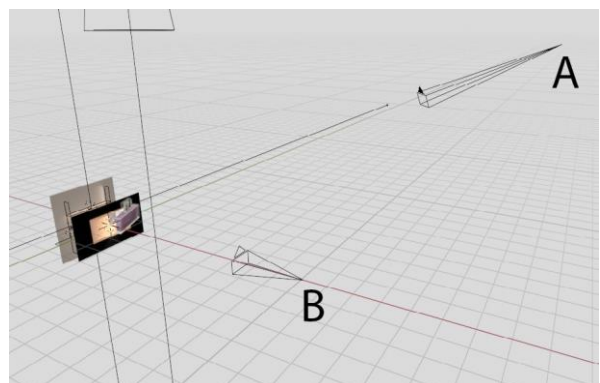
5.2 - Make the 3D animation

Observe the scene from the virtual camera (A) to achieve the desired animation, position the lighting, textures and so on. Design the movement of the content inside the box and the pop-out effect from the box.

Create a rendering from the point of view of camera (A) to obtain a video file that will be used to generate the anamorphosis in a second step.

5.3 - Generate the anamorphosis

Create a shot the size of the screen and apply the video file obtained previously as a texture. Project the UV of this shot from camera (A).
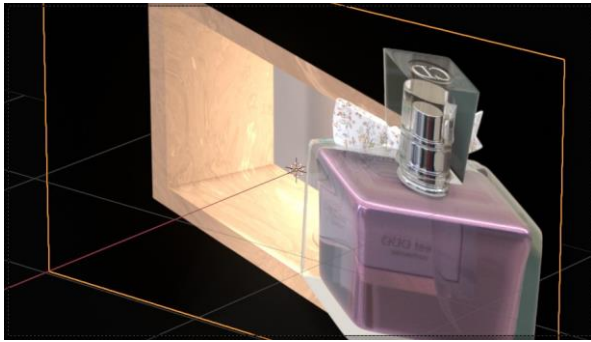
Render the scene from the second virtual camera (B) to obtain the final anamorphic video file to be displayed on the real screen.

Your campaign's video file is ready to be shared on the intended screen. Viewed from the chosen location, the content will be seen in 3D and seemingly jump off the screen

6.1 - Hennessy

LAX Time Tower, Los Angeles International Airport

Hennessy brought boxing superstar Canelo Álvarez to life at Los Angeles International Airport (LAX) ahead of his highly anticipated third fight against Gennady Golovkin last September.

Broadcast on the LAX Time Tower in the centre of the duty-free area of the Tom Bradley International Terminal, the campaign content takes the form of an anamorphic video. It uses 3D animation to present travellers with a larger-than-life image that appears to pop out of the screen. The format is designed to capture the imagination of travellers by providing an immersive advertising experience.

The campaign video is available here: https://www.youtube.com/watch?v=wSLT6Wkdsxc

## 6.2 - Amazon Prime Video

Digital Screen, Oslo Central Station

Prime Video launches the epic fantasy series The Wheel of Time with a 3D campaign with anamorphic effect.

In the illusion, we see an epic battle between the "Light" - Pike Moraine's character – and the "Dark", an evil fade-in commander of the Dark Army as the two seem to break off screen and enter our world to absolutely captivating effect.

The campaign video is available here: https://vimeo.com/646829591

Can I create a 3D campaign on any type of screen?

Yes, the 3D effect can be played on any screen: landscape, portrait, LCD, LED, double-sided, and single-sided and there is no minimum size. Even on screens smaller than 2m² the effect works well. But it should be noted that the larger the screen, the higher its quality in terms of definition, frame rate and colorimetry and the better it is integrated into its environment (as if embedded in a wall), the more striking the effect will be.
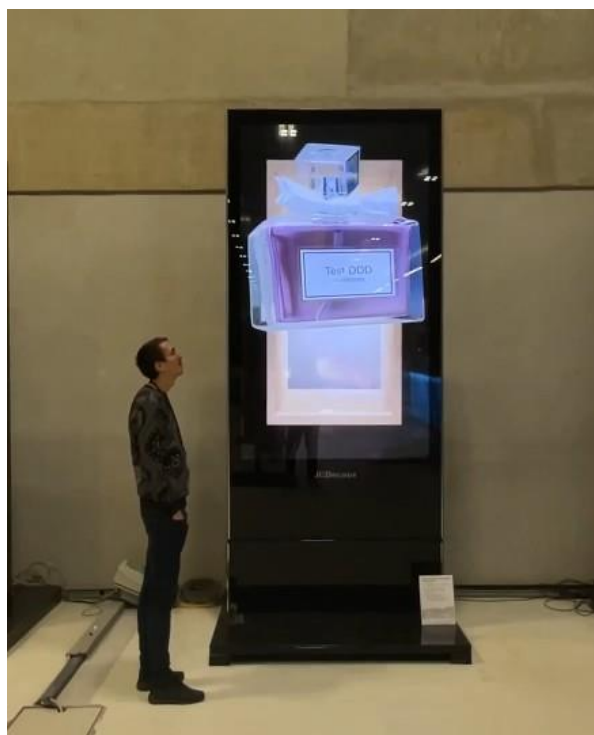
Example on a 98-inch single-sided screen.

Example on a 72-inch single-sided screen.

How long does it take to create 3D content?

There is no standard time frame, as each campaign is unique, and the time taken to produce content varies according to its complexity. Applying anamorphic processing to content to supply the 3D effect adds a few days to classic production (field measurements, development of content specific to the screen and its context, anamorphic processing).

What software should be used to create 3D content?

The content is created using 3D modelling and rendering software such as Maya, Blender, C4D, 3DS Max, etc. Many software programs work.

What is the recommended minimum duration of the spot?

A spot with a 3D effect needs at least 10 seconds to develop a scripted splash action. The ideal duration for big screens is between 15 and 30 seconds.

Is it possible to adapt content created for one screen to another screen? If so, what is the process and what would I need?

It is not possible to work from a video file that has already been exported and anamorphosed because each video file is unique and exclusively suited to the screen and the defined vantage point for which it was designed. Unless it is content intended to be viewed from the front, in which case there is no distortion, and the video file is reusable in the same format or cropable if the format is slightly different.

However, it is possible to recover the 3D source files of the scene in order to adaptthe animation to the new screen's format and generate a new anamorphic deformation adapted to the new vantage point measured on the ground beforehand. The files recovered must be compatible with the desired 3D software.

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