AE468144

Using 3ds Max with Photography To Hit Deadlines for Advertising Campaigns

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Luxury Visuals

Learning Objectives

- Render preview images on set for instant feedback
- Identify when to use CGI over photography
- Create publication images with 3ds Max
- Save time and meet tight deadlines

Description

Let’s take a look at how we can use 3ds Max in photoshoots for advertising campaigns. I used 3ds Max to help The Sunday Times produce campaigns for Kia Cars and Grundig. 3ds Max helped us meet publication deadlines which wouldn't have been possible with only photography. Sourcing and constructing sets was unfeasible and this is where 3ds Max stepped in. Using interactive rendering alongside a photographer we placed influencers in to their dream kitchens. After putting four influencers into virtual sets, next came a car shoot without the car. The Kia eNiro release was imminent and the car was not in the country. We had a very specific location for the shoot but no car. In this talk, I want to show you how we used CGI to complement photography, used interactive rendering for instant feedback and saved hundreds of hours in production by using 3ds Max.

Speaker

Jake Denham is a CGI artist and mentor from Cambridge, UK. He graduate in Video Game Art and Design and received a Masters in Digital Design from The University for the Creative Arts. This took him to Monaco to work for the yacht designer Palmer Johnson. Jake now creates CGI for some of the world's most exciting designers and brands within architecture, automotive, aircrafts, yachts and advertising. He is an Official V-Ray Mentor and has trained over 10,000 students through Luxury Visuals Academy.

Introduction

This industry talk demonstrates how 3ds Max was used to overcome challenges with traditional photoshoots. The lessons learned from these real-world projects will serve as reference to photographers, studios and artists looking to overcome similar hurdles and implement CGI techniques to complement photography. The benefits of merging physical (photography) and digital (CGI) can be seen in time, money, and feasibility of projects.

The examples are from the world of advertising but will be relevant to fields that are looking to merge CGI and photography workflows. By understanding what is involved creative studios will be better informed to make the decisions on when to integrate CGI into the photography workflow.

The acronym CGI is used throughout this handout to describe any computer-generated image, rendering or virtually produced image.

Throughout this handout two projects will be referenced to discover why merging photography and CGI was beneficial in each case. Each project will highlight challenges and solutions. The key reasons CGI was chosen for these projects were time constraints, volume of work and budget.

CGI can help overcome issues with physical photoshoots. Including the environmental impact of shipping products, the time it takes to construct sets, transporting crew and the man hours it takes to conduct a shoot. The images referenced in this handout could not have been completed in the time frame without CGI.

Case Studies

Both projects were created with Bridge Studio from The Sunday Times. They have been chosen as they represent two common photoshoots. Generally product shots can be full CGI and do not require any photography, whereas ‘lifestyle’ shots include an environment or product that integrates with CGI. Physical meets virtual.

IMAGE CREDIT: BRIDGE STUDIO, BOLDER CREATIVE, GRUNDIG, AMIT LENNON

Throughout this handout we will be referencing two real world campaigns and exploring how CGI made them possible. The first campaign was created for Grundig and The Sunday Times alongside Bridge Studios and Bolder Creative. The project incorporated real world models into a virtual environment.

IMAGE CREDIT: BRIDGE STUDIOS, KIA, MURDO MACLEOD

After looking at merging real into the virtual, we will take a look at merging the virtual into the real world. We will explore this car ad that was created for Kia and Bridge Studios. This is a good example of using a specific real world location without having access to the product.

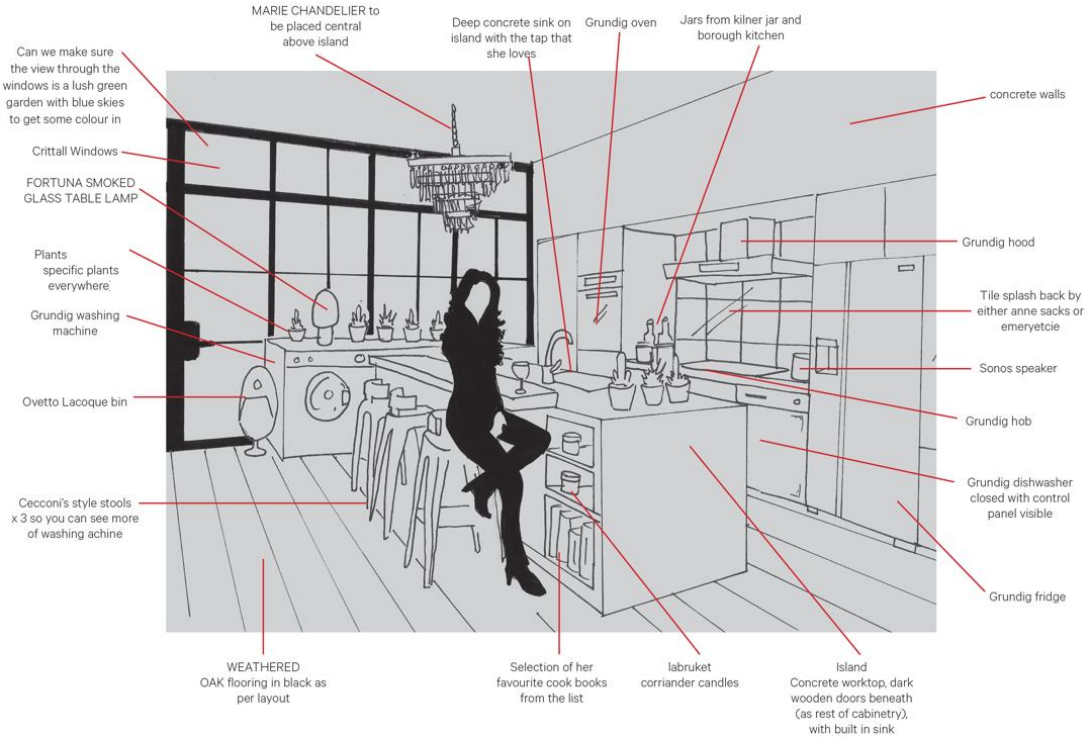
In both projects we will cover these learning objectives.

- Identifying when a project will benefit from using CGI along side photography.
- Getting live feedback on set using interactive rendering.
- Creating publication images with 3ds Max.
- Saving time and meeting tight deadlines.

Identify When To Use CGI Over Photography

CGI can be described as virtual photography. Virtual sets are created and photographed with virtual cameras. Replicating real-world light sources and cameras lead to realistic virtual sets. Virtual and physical photography does not need to be mutually exclusive and the merging of the two can provide huge benefits.

Working alongside Bolder Creative I produced four images and animations for Grundig. Bridge Studios invited influencers from the worlds of interior design, food, fashion and architecture to design their dream kitchen.



EXAMPLE OF A SCAMP FOLLOWING THE INTERVIEW

Why CGI?

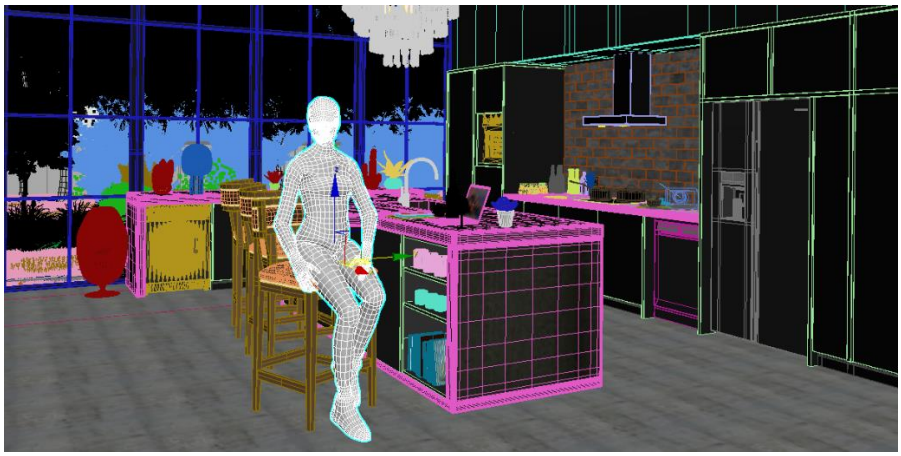
The brief was meticulous, detailing exteriors, window specifications, plants, flooring all the way down to the books on the shelves. To ship assets, including fridges and dish washers was unproductive for the budget, time, resources and the environment.

To find a location that matched the spec would not have been possible and to construct one in the time frame would have taken too long. What proved to be the be a good approach was to build a virtual set and use physical photography.

CGI offers faster turnaround time on creating marketing materials than photoshoots as there is no shipping of products, alterations can be made to the set right up until publication and the products don't even need to exist.

Render Preview Images on Set for Instant Feedback

The virtual sets can be created before the photoshoot. This eliminates any construction time or excess studio time. The benefit of constructing a set pre shoot is the director can work out camera angles. This leads to a much more stream lined photoshoot. Having a CG environment means that products, layouts and materials can be changed all the way up until the publication date. It also gives us the opportunity to pose virtual models and play with lighting before they even arrive on set.



A VIRTUAL SET WITHIN 3DS MAX

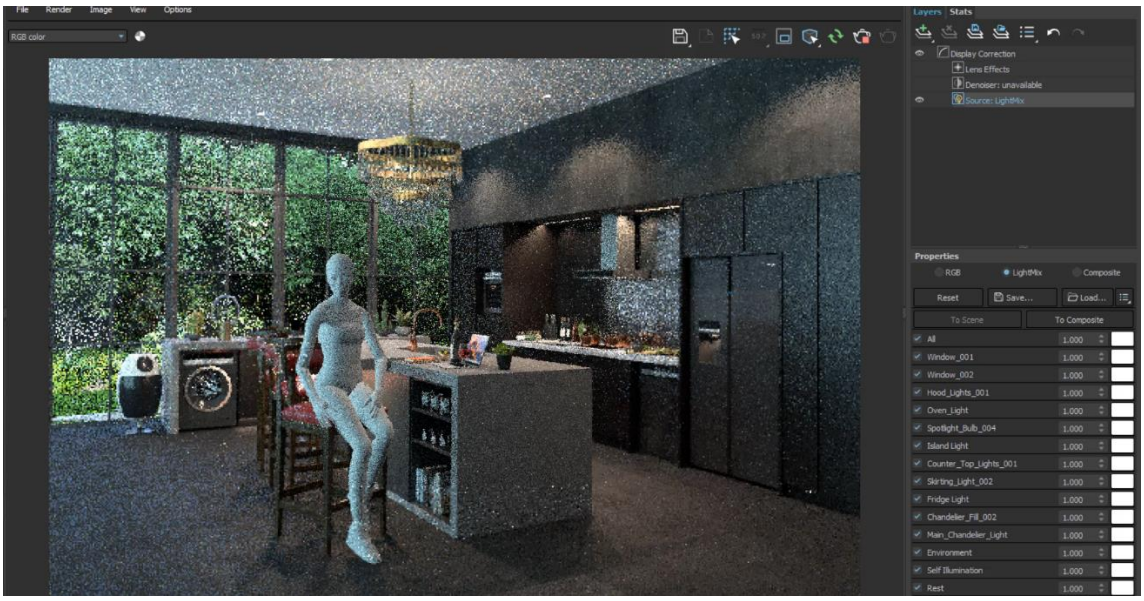
Lighting

The lighting was set up on the physical set to mimic the virtual one. A benefit to pre constructing the virtual set is allowing the photographer to see the lighting set up. This can work both ways with lighting to the photography or matching the photography lighting to the CGI. Another thing with CGI and interactive render is we can play with the lighting live on set. If the photographer would like to change the lighting on the model then it is easily updated in CGI.

STUDIO SET UP ON THE DAY OF OUR SHOOT WITH OLIVER HEATH

Instant Feedback

With tools such as interactive rendering and light mix it was painless to make any updates to the set. With the director on set it was straightforward to demonstrate the direction and of the image.



LIGHT MIX IN THE VFB

Light Mix

Using tools such as light mix also gave us the ability to play with lighting scenarios. There was an idea to try a night shot. This was easy to set up on our side just by switching off a few lights within light mix.

Being onset and seeing things live meant we could pick up on things that we could have missed without the virtual set. A good example of this was the glass in the background. When previewing the night shot we realised that the reflections in the glass windows had become much more prominent.

So for this specific shot we placed a mirror behind our model to catch the reflection. This could then be added to the final image, if the night shot was chosen.

NIGHT SHOT AND PHOTO WITH MIRROR

Materials

Changing fabrics and materials was not a major issue either. Material libraries are a massive time saver on set. V-Ray 5 comes with a built in material library featuring hundreds of high quality ready to use materials.

V-RAY 5'S ASSET BROWSER

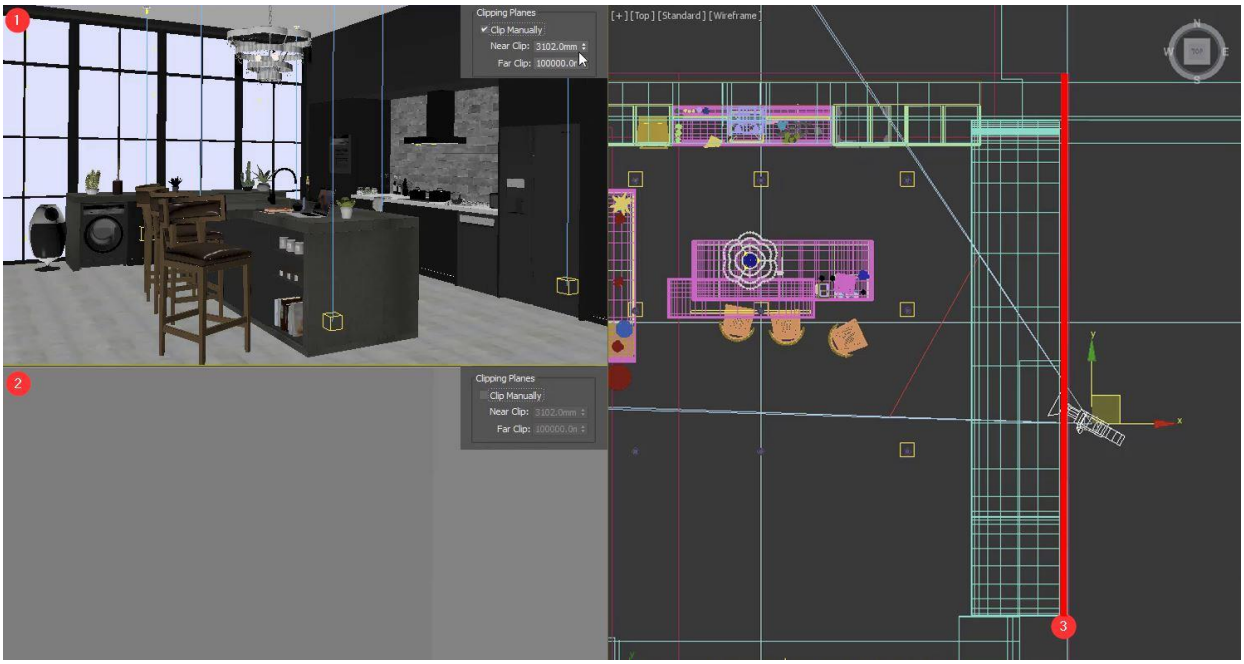
Working in a virtual environment allowed material changes on the fly. Originally the floor in the first kitchen was wood, and the decision was made to change it to concrete. This change was possible very quickly compared to how long it would take on a physical set. Having the virtual set allowed the director to see everything together and test out any other ideas.

EARLY DESIGNS USED WOODEN FLOOR BOARDS

Cameras

Virtual cameras add more creative freedom especially on interior shoots where a photographer can be limited to wide angle lenses dictated by the room dimensions. Camera clipping is a major benefit of virtual sets and allows the exclusion of certain geometry.

An example of this is an interior wall. Camera clipping is preferred as hiding the wall will not produce accurate shadows and reflections.



AN EXAMPLE OF USING A CLIPPING PLANE IN 3DS MAX
1. WITH CLIPPING PLANES ON 2. WITHOUT CLIPPING PLANES
3. TOP VIEW SHOWING CAMERA POSITION AND WALL INDICATED BY RED LINE.

Create Publication Images With 3ds Max

Once we had the models shot we could get the final renders completed and the model integrated into the scene. Merging the model in was fairly straight forward as the lighting of the model and the scene were very closely matched.

For the sitting shot the bar stool was specified. We did manage to source a physical version and we also created a virtual one. This made the integration of the photography and CGI easier.

THE PHYSICAL AND THE VIRTUAL CHAIR

Animations

Another part of the project was to create a making of video. The idea was to have the lights switching on as the image got built up. Before light mix this would have involved rendering every lighting scenario. But by using light mix in post production it was just a matter of rendering the final shot with a material override and saving out the light mix options as single images.

ANIMATING LIGHTS FROM ONE RENDER WITH LIGHT MIX

Save Time And Meet Tight Deadlines

3ds Max and V-Ray ultimately enabled a photoshoot that would have not been otherwise possible. Using these tools allowed us to create the dream kitchens without needing to source a set or products. This meant we saved time and the cost of building the sets as well as on the environmental impact on shipping.

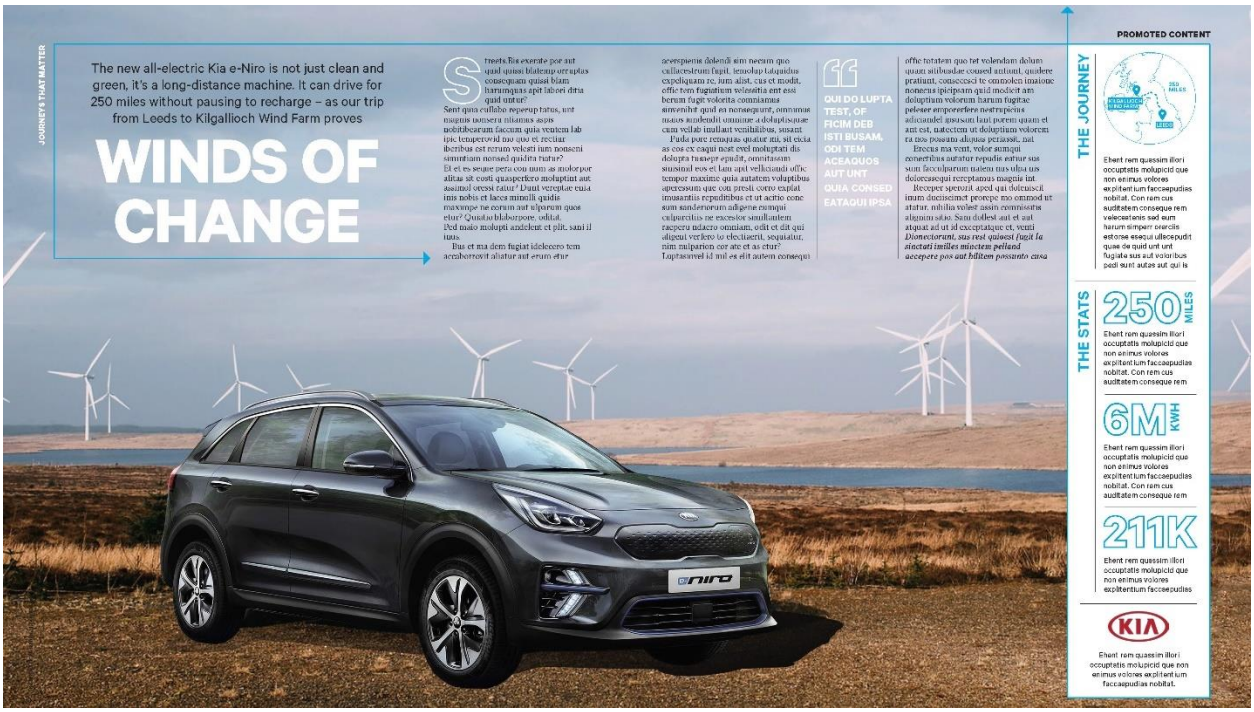
Pre constructing our sets in 3D allowed us to choose our angles and lighting before getting into the studio and it allowed us to develop the look all the way up until the print date.

Finally regarding this project. This was a massive team effort by Bridge Studio, Bolder Creative and the photographer Amit Lennon.

Identify When To Use CGI

Kia e-Niro

Bridge Studios were asked to create a double page spread in the Sunday Times Magazine for the release of Kia's e-Niro. The car was to be located in Whitelee Wind Farm in Scotland. Whitelee is the biggest onshore wind farm in the UK making it the perfect backdrop for Kia's first fully electric crossover utility vehicle.



THE E-NIRO BRIEF FROM BRIDGE STUDIOS

At the time there were very few, if any Kia e-Niro's in the country. This made getting access to the car very difficult. If we did manage to get access to the car we needed to get it to Scotland. We were based in London. If we could get the car to Scotland we would be at the mercy of the weather for the limited time frame we would have. Lining up the car, the weather and access to the location was proving difficult.

The solution was to go ahead with the photoshoot with a digital version of the e-Niro. This meant we did not need to ship the car to the shoot and we could spend as much time as we needed getting the shot we wanted.

CGI over came the logistical challenges of

1. sourcing the product for the shot
2. weather dependency
3. location access
4. time frames

Render Preview Images On Set For Instant Feedback

During the shoot it was important that the team could get feedback with the digital asset in shot. To allow this feedback to be as accurate as possible an exterior environment containing the digital asset, shadow catcher, camera and high dynamic range image (HDRI) was created in 3ds Max.

3DS MAX SET UP

HDRI

HDRI is short for high dynamic range image. They are shot in panoramic, so they are 360 degree images and they can be used in 3d programs to illuminate a scene. I wanted to be able to quickly create a high dynamic range image so I took a Samsung Gear 360 with me. The Samsung Gear 360 could create 360 degree images in one click. This meant I didn't have to worry about stitching photos together into a 360 image on set.

I took 360s at different exposures and these images were combined to create one 32 bit image. This meant we get all the information in the shadows as well as all of the information in the really bright areas.

SOME OF THE EXPOSURES TAKEN WITH THE SAMSUNG GEAR 360

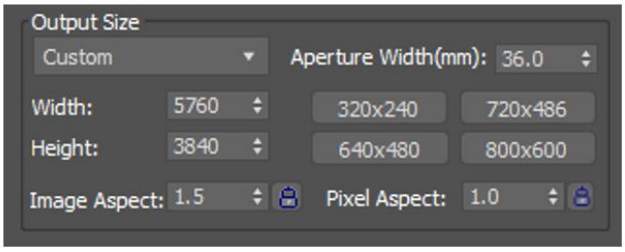
As the photographer shoots the backplates I can then quickly merge the 360 images into a HDRI. Then this .HDR replaces the placeholder within 3ds Max. This helps to produce the lighting, reflections and shadows.

A CHROME BALL DEMONSTRATING THE HDRI IN 3DS MAX

Interactive Rendering

Interactive rendering was again a massive help on this project. With our scene set up in 3ds Max plus interactive rendering, a live photo shoot could take place with art direction and set design in the virtual/physical world.

To get the car and the backplates lined up I used a tool called Perspective Match in 3ds Max. The first thing to do is check the size of the backplate image and make sure to match up the aspect ratio of the image and the render output in the render settings. This will make sure we don't have any distortion.

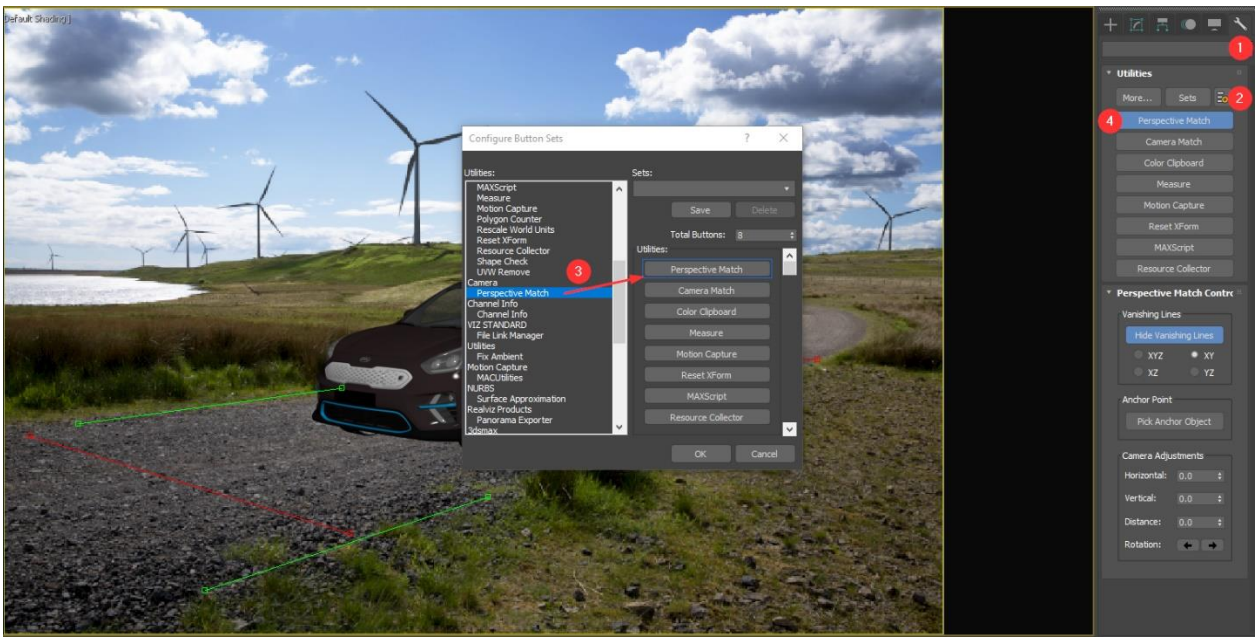


Property	Value
Dimensions	5760 x 3840
Width	5760 pixels
Height	3840 pixels

MATCH THE RENDER OUTPUT TO THE BACKPLATE IMAGE

To add our backplate to the viewport we can open the Viewport Configuration (Alt+B). Turn on Use Files and Match Rendering Output. Then load up our backplate. This will now show our backplate in the viewport.

Then it is just a matter of lining up the car. For this you can use Perspective match, which can be found under the utilities tab. From there you can move the axis to line up with some of the key points on the image.



PERSPECTIVE MATCH

Create Publication Images With 3ds Max

We shot the image with and with out the placeholder car. Although this is not necessary it helped with scale and lighting for the CGI version. It is handy to see where shadows are dropping and where highlights are hitting the car. Once the shot has been decided the final image was worked up with more post effects and consideration for text placement.

IMAGE CREDIT: BRIDGE STUDIO, MURDO MACLEOD, KIA

Save Time And Meet Tight Deadlines

The Kia project demonstrates when a virtual product is placed into a physical environment. Using 3ds Max and V-Ray the process can be fluid and feedback can be seen on set.

CGI was chosen because the product was hard to source. The shot required a specific location and weather conditions.

JOURNEYS WITH THE POWER TO SURPRISE

Together in electric dreams

PROMOTED CONTENT

The all-electric **Kia e-Niro** is not just clean and green, it's a hi-tech long-distance machine. And it can travel 280 miles without a recharge – as Nigel Kendall discovers

Whitelee, around 16 miles southwest of Glasgow, is a Scottish farm with a difference. Here, 215 spinning turbines harvest the wind that whistles over the lochs and the moors, turning it into electricity – enough at peak generation to power just short of 300,000 homes. One day, most of our power may be made this way.

You can arrive at its visitor centre from, say, Leeds in the new all-electric Kia e-Niro, having driven an uninterrupted 225 miles on one single electric charge. The car would still have more than enough juice left to get you to Glasgow for dinner. One day, most of our cars may be powered this way.

The four-hour drive from Yorkshire would have given you plenty of time to get used to driving an all-electric vehicle. In truth, you would be in total sync by the time you reached the Royal Armouries Museum, just two miles into a journey that took you up the spine of England, skirting the Lake District before passing into Scotland at Gretna Green.

This is the great secret of the Kia e-Niro: it is one of the first all-electric cars that feels and behaves like the sort of car you already drive. There is no penalty to pay here for going electric. This car is as loaded with modern technology as many costing twice as much, from the all-electric heated leather front seats to the wireless phone charger, or the on-board touchscreen satnav and entertainment system, complete with eight impressive JBL speakers.

This is a family hatchback which is designed to be fun to live with and fun to drive, capable of zipping to 60mph from rest in just over 7 seconds, and of travelling more than 280 miles on one charge.

The interior of the cabin is spacious, with ample room for five adults and their luggage; and it's quiet – with the roar of an internal combustion engine replaced by the sort of gentle whirr that wouldn't be out of place in an old sci-fi film.

This is a family hatchback that's fun to live with and fun to drive

But even the old sci-fi masters didn't imagine the view from a driver's seat could be like this. Everything is designed to put you in finger-tip control of the car's functions, from changing the radio station or driving mode to adjusting the recharging power to draw from the car's regenerative brakes.

And while much sci-fi presents technology as a threat, the Kia e-Niro is there to help, from front and rear parking sensors and rear reversing camera, to the Lane Keep Assist, designed to help you stay safer on long trips.

One day, all of your journeys may be made this way.

THE JOURNEY

WHITELEE WIND FARM

LEEDS

THE STATS

282
Number of miles a Kia e-Niro can drive on a single charge

75
Number of minutes it takes to recharge a Kia e-Niro to 80% on a 50kw rapid charger. The e-Niro is ready for the new generation of faster 100kw chargers

7.5
Number of seconds it takes to accelerate smoothly from 0-60mph in a Kia e-Niro

100K
Number of miles all Kia cars are guaranteed for, including the e-Niro (or seven years, whichever is sooner)

0
Amount of carbon emitted by a Kia e-Niro in motion

KIA

TO COME quassim illori occuptatis molupicid que non enimus volores explitentium

THE FINAL PUBLICATION

Conclusion

In this talk we have explored how we can merge virtual and physical worlds to overcome some bottlenecks of traditional photo shoots.

Due to the current climate it is becoming tougher to do physical photoshoots, and we are seeing a huge shift from traditional photography and film to CGI. CGI certainly isn't a magic bullet, but I am excited to see the continued merging of these realities.

I hope I have demonstrated to you some ways that CGI and photography can complement each other, saving both time and cost. Leaving you more time to focus on being creative and producing incredible work.

Here is a list of some key benefits of CGI that you can make use of in your own workflow.

- **Digital Products.** You can use whatever locations, props and products you can imagine. As we have seen the product and location doesn't even need to exist. This can be useful for pre selling and marketing before a product is manufactured.

- **Forget Physics.** We are not constrained by the laws of physics. We can drag and drop a car on top of a building with no logistical issues. As demonstrated with camera clipping, we can place cameras in physically impossible positions.

- **Shipping.** Transporting physical objects is no longer an issue. We can duplicate multiple products after making it only once. Shipping products has an environmental impact and this environmental impact is avoided with CGI.

- **Save Time and Budget** - We can achieve effects we just couldn't in real life and at a fraction of the cost. Transporting products and staff costs money and can be a logistical nightmare. As well as renting photography studios, equipment, and a photographer.

- **Changes.** There is no room for error with a traditional photoshoot as you only get one chance to do the shoot. With CGI it is possible to make changes all the way up to the publication of the images. CGI lets you alter product images without needing to reshoot.

If you would like to get in touch with me with any questions or would like to find out more about what I do you can find me online at the links below.

Links:

luxuryvisuals.com
jakedenham.co.uk
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