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Ebook edition, see page 4



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Issue 161 • April 2024
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THE NIKON MAGAZINE

EXPERT ADVICE!

Man-made landscapes!

Capture mankind's imprint on nature

- ✓ Castles, buildings & monuments
- ✓ Industrial vistas
- ✓ Quarries & ruins
- ✓ Roads & bridges
- ✓ Scenic features



BIG TEST!

Super-tele primes

10 monster lenses ideal for sports and wildlife rated

PHOTO PROJECTS
6 INSPIRATIONAL IDEAS TO TRY AT HOME TODAY!

NikonSkills

PRO TIPS!

Big city, bright lights!

Our apprentice learns how to shoot the sights of bustling urban streets at night



Brett Florens
"I shoot what people want to buy" **p60**



Viltrox 27mm f/1.2
Pro-grade fast Z DX prime, bargain price tag **p92**



Happy travels
The best Nikon pics from TPOTY **p16**





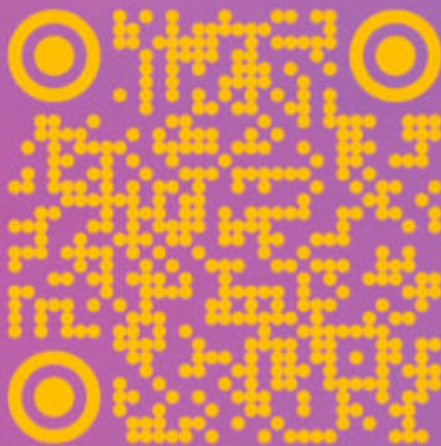
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Used Nikon Z 24-70mm f/4 S

*Average saving, top 700 'Like new' models versus brand-new RRP

NPhoto

This issue's special contributors...



Iain Afshar

PAGE 6

Iain teaches our apprentice to photograph the lights and sights of city streets at night during Bristol's annual Light Festival.



Nigel Forster

PAGE 26

Most of us drive past electricity pylons and sprawling steelworks without a second thought, but to Nigel they're a photo opportunity.



Tom Mason

PAGE 38

'Should I stay or should I go?' muses Tom, knee-deep in a muddy riverbank waiting to see if a family of otters will turn up.



Brett Florens

PAGE 60

Brett tells his unlikely tale of how a stint as a riot policeman led to being one of the world's most in-demand wedding photographers.



John Miskelly

PAGE 68

Landscape photographer John explains why slow is the way to go on a trip to capture the epic scenery of Iceland.



Shawn Spencer

PAGE 84

From dawn to dusk, day to night, *N-Photo* reader Shawn can't get enough of capturing the sweeping majesty of bridges.



Image: © Lily Zhang

Awe-inspiring Nikon images from Travel Photographer of the Year, see page 16.

Welcome to issue 161



From crumbling castles to epic feats of engineering, the human imprint on the landscape is everywhere you look, and in this issue Nigel Forster shows you how to capture scenes that have been transformed – for better or worse – by the stamp of mankind.

Our apprentice heads into the streets to photograph Bristol Light Festival – a once-a-year installation that fills the city with light-themed artworks.

They don't come cheap, but in our Big Test we rate 10 of the best telephoto prime lenses for both F-mount and Z-mount Nikons, which combine epic reach with the optical quality that only a fixed-focal-length lens can deliver, and are the go-to glass for pro sports and wildlife photographers. On the other end of the scale, we bring you our five-star review of the Viltrox 27mm f/1.2 – a fully professional lens for DX mirrorless Nikons that comes with a bargain price tag.

We have projects on shooting spring flowers, starling murmurations, model railways and cyanotypes – an old-school method of exposing chemically coated paper to capture simple shapes, plus our usual Photoshop and Affinity Photo tutorials. Enjoy!

Adam Waring, Editor
adam.waring@futurenet.com

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How to capture everything from lost industries and modern feats of engineering to ancient castles and remnants from the past

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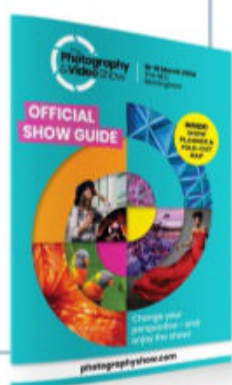
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Free! Photography & Video Show guide

The Photography & Video Show is running 16-19 March at NEC, Birmingham, and this year everyone gets a FREE copy of the Official Show Guide on entry. In the meantime, download the ebook edition to see what treats are in store: www.photographyshow.com/show-guide



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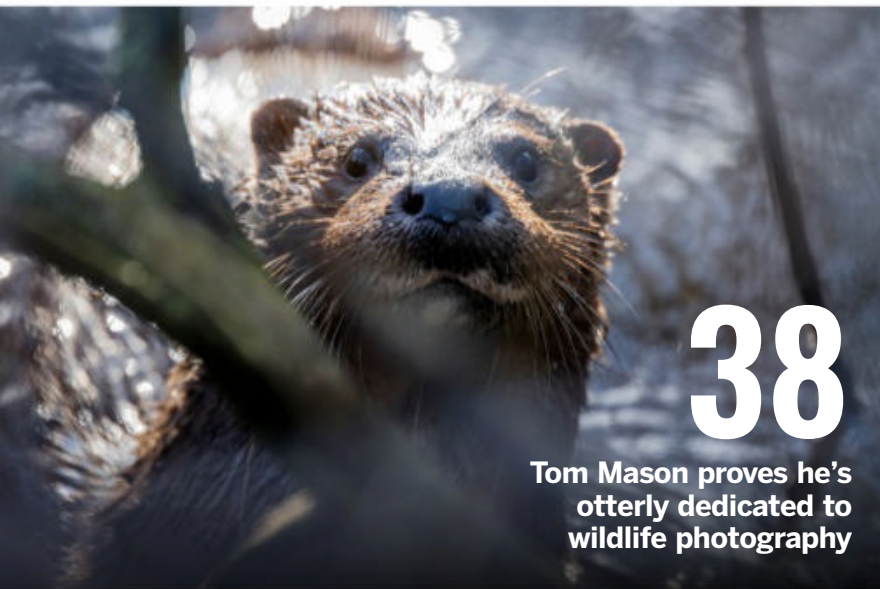
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From riot police officer to wedding, fashion and portrait pro, Brett Florens lifts the lid on an incredible career



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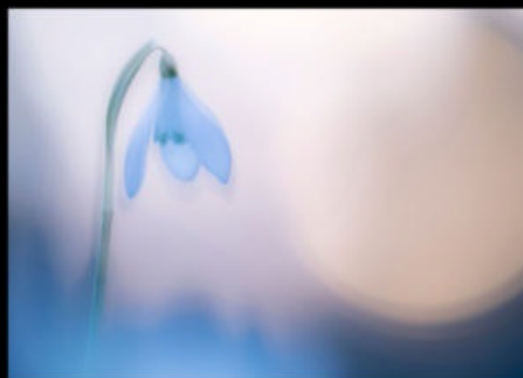
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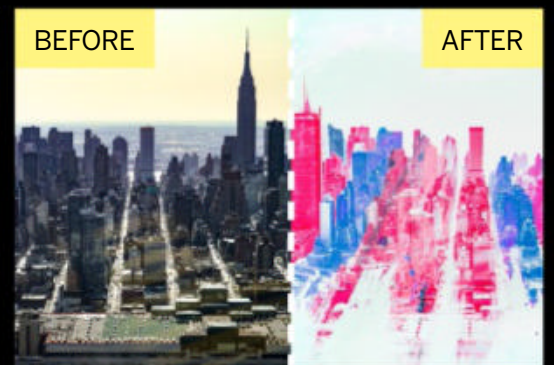


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Whenever you see this logo you'll know there's an accompanying video that you can **watch online**.

The videos and information provided are 100% independent and not endorsed or sponsored by Nikon Corporation or Adobe Systems Incorporated

NPhoto APPRENTICE



THE PRO

NAME: **Iain Afshar**

CAMERA: **Nikon Z 9**

Iain splits his time between photography and adventuring. He runs photography workshops through his business The Photography Project and is the founder of the Adventurous Activity Company. As an International Mountain Leader, his travels allow him to capture some of the most remote places in the world. Low-light image making is a travel photography staple, and from shooting the Milky Way to night-time cityscapes, Iain's done it all. www.thephotographyproject.co.uk

THE APPRENTICE

NAME: **Rhodri Wyn**

CAMERA: **Nikon Z 6II**

Rhodri is a transport planner from south-west Wales. His father was into photography, so it's been on his radar since he was a child, but it wasn't until a friend introduced him to Nikon DSLRs that he decided to invest in a D3500. As he witnessed the rise of mirrorless, he opted to make the jump before amassing a collection of F-mount lenses he might soon decide to upgrade. He now enjoys travelling with his Z 6II and is hoping Iain's low-light tuition will aid his next trip.

Glow how

A rain-drenched **Iain Afshar** illuminates his soggy apprentice's understanding of low-light imagery

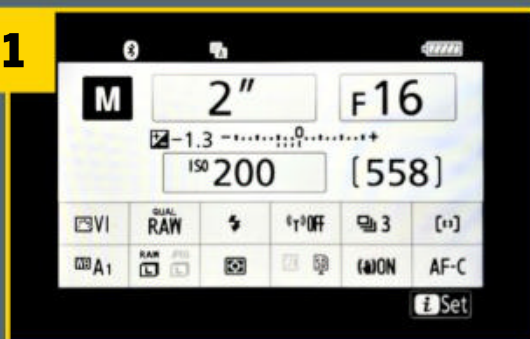
B

ristol Light Festival invites visitors to explore a trail of light installations throughout the city centre during a 10-day exhibition that celebrates the work of a variety of light artists. When Rhodri applied to be an apprentice and

photograph city lights, February's light festival seemed like the perfect opportunity. Bristol resident and pro photography workshop leader Iain has photographed the event every year since its inception in 2020. But what nobody could have anticipated was the weather... →

TECHNIQUE ASSESSMENT

1



TAKE CONTROL

Iain says... I use Manual mode, so I have complete control of my camera settings. I select a shutter speed based on how much movement I want to introduce and will use my aperture and ISO to compensate. I tend to ensure my ISO doesn't go any higher than 800, and I focus using single-point AF.

2



WATCH IT LIVE

Iain says... Mirrorless cameras excel at night-time photography, because you can see a very accurate representation of your exposure via Live View/the EVF. This takes out much of the guesswork you'd have to do on a DSLR. That said, I still use Playback to check the final image is exposed and critically sharp.

3



PLAY IT BACK

Iain says... Taking photos at night requires an awful lot of trial and error, so reviewing your shots on the Playback screen is essential. Make sure you zoom in to evaluate noise and critical sharpness. Also, pay close attention to how your shutter speed has effected any moving lights.



PRO KIT RAINDROPS KEEP FALLIN' ON ME LENS

Iain says... Invest in a good umbrella that won't turn inside out in a mild breeze. Mine has a one-handed opening mechanism – useful when you're holding your camera. The main function of an umbrella isn't to keep *you* dry, but to protect the front element of the lens. I also recommend picking up a decent rain cover. Rhodri's Vanguard Alta Rain Cover fits securely and has a window to protect the rear LCD without obscuring it.

"It's only 4pm and it's already beginning to look dark," said Iain as he took a sip of coffee and looked out upon a bleak street.

"Those clouds do look rather suspect," said Rhodri as he put on his waterproof.

"A little bit of rain isn't actually a bad thing," said Iain. "Reflections enhance city lights, but then again, we certainly don't want it to rain continuously."

The pro explained that the light festival would kick off at 5pm, but he wanted to

head out while there was still daylight, so they could shoot during blue hour. "Not that I think there's going to be much of a blue hour today," he said.

DRIP, DRIP, DROP

When they stepped outside it was spitting and by the time they reached the Bristol Wheel, a permanent fixture in the city centre, the rain was showing no sign of stopping. The pair walked across the river and looked back upon the landmark. "This is a nice shot, with the Ferris wheel across the river. You can line it up with the two abstract horns, either side of the bridge, or compose the wheel to the right and the horns to the left of the frame."

Rhodri locked his Nikon Z 6II and Z 28mm f/2 on his Peak Design tripod, while Iain sensibly pulled a pair of waterproof trousers over his walking trousers. The conditions were beginning to get very wet indeed...

The apprentice captured a couple of shots and showed the pro. "Good. Let's try a slightly longer exposure, as it would be nice to blur the wheel as it spins. Try f/16, since we're already at ISO100, and balance the shutter speed accordingly."

Rhodri was still only able to achieve a shutter speed of one second, which wasn't nearly enough to blur the slow-moving wheel into a seamless spiral. →



SUPER SHOT #1

Camera:	Nikon Z 6II
Lens:	85mm f/1.8
Exposure:	2 secs, f/16, ISO100





SUPER
SHOT #2

Camera:	Nikon Z6II
Lens:	28mm f/2.8
Exposure:	5 secs, f/11, ISO100



The hoods are off! Iain and Rhodri enjoy a *very brief* respite from the weather – that Vanguard rain cover's worth its weight in gold.

"This is where an ND filter would come in handy," said Iain. "But we won't have to wait long and the lighting conditions will warrant much longer exposures. This is a good start, though. I like to get a few standard compositions in the bag, so I know I have a solid image before getting creative." Iain turned around and pointed down the pedestrian street behind them, which was severed by a busy road. "It's at this point that I ask myself; what is everyone else doing and what can I do

that's different? What if we head to the other side of that road and use a longer lens to get some headlight trails in the foreground?"

WET, WET, WET

As they looked back upon the Bristol Wheel from their new vantage point, they did so beneath the shelter of Iain's umbrella. "You'll need a longer focal length here, Rhodri. Maybe it's time to try your Z 85mm f/1.8 S. Changing lenses in the rain is never fun, so go careful."

The apprentice stood in front of the camera to provide extra shelter from the rain as Iain made sure the camera was directly beneath the umbrella. Rhodri quickly detached his 28mm and slotted in the 85mm, before breathing a sigh of relief.

Blue hour was now in full flow. The darker lighting conditions provided a shutter speed of two seconds, which still wasn't long enough to noticeably blur the wheel, but it was long enough to render long streaks of car headlights.

Iain handed Rhodri a remote shutter release, which he attached to his Nikon. "We're going to be here for a while," said the pro as rain cascaded from the edges of the umbrella's canopy. "A lot of things have to work out for you here. You've got pedestrians waiting to cross the road, which can provide nice foreground interest, and light trails. Timing is key."

Rhodri used single-point AF to focus roughly a third of the way into the frame and switched to manual focus to prevent the camera from hunting. He then fired the shutter and waited for the image to appear on the Playback screen. →

EXPERT INSIGHT DO A RECCE

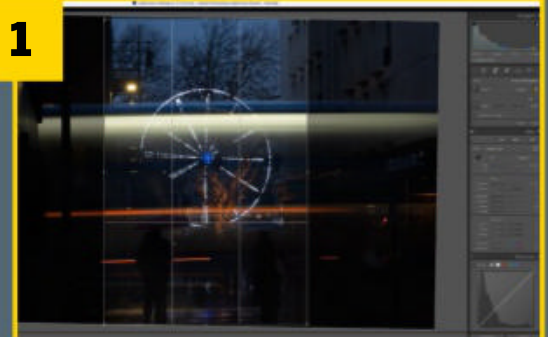
Iain says... Doing a recce in the daytime is vital. When the sun starts to go down and the city lights flicker on, you'll want to make the most of sunset, blue hour and the sociable hours of the night, so it pays to have a plan of action. This means knowing what locations to visit and what vantage points you need to access to get the best compositions.



Iain knew the church behind this exhibit would be lit up because he recced the area.

HOW TO: EDIT NIGHT SHOTS

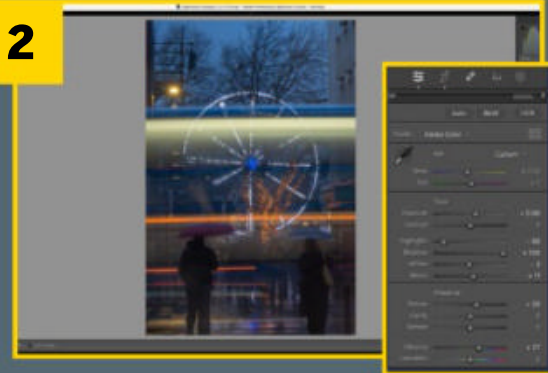
1



CROP 'TIL YOU DROP

Iain says... I begin by cropping. This image was landscape orientation, but works better in portrait, as the Ferris wheel looks great framed between the two buildings. I use this opportunity to straighten the image (if needed). The corner of the building provides a reference point for straightening.

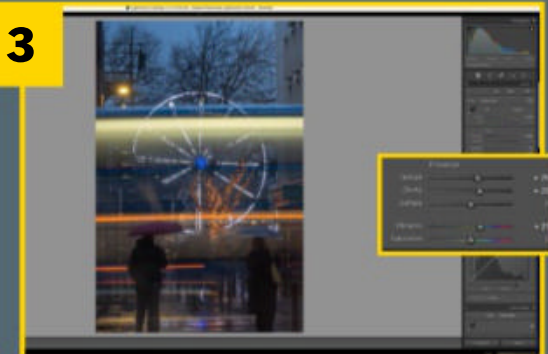
2



BOOST ME UP

Iain says... Although slightly underexposed, this image still had great potential. Shooting in Raw allows for some leeway to increase the brightness using the Exposure slider in Adobe Lightroom. I reduced Highlights, boosted Shadows and added a little Vibrance to help lift the image.

3



ADD A LITTLE PUNCH

Iain says... I like to finish by adding a little bit of contrast by increasing the Clarity slider (+25). This boosts mid-tone contrast, which works especially well with wet night-time street scenes by enhancing the reflections on the ground.



Iain angles his umbrella to help block the onslaught of rain, preventing it from covering Rhodri's front element and ruining the photograph.

"Okay, so that time the car stopped at the crossing, so we've only got light trails part way through the frame. It's going to take a little trial and error to capture the shot right as a car passes through. But if you want to capture a really great shot, you're going to have to wait for a bus."

"Because of the lights on the top deck?" asked Rhodri. "Exactly," responded Iain.



PRO KIT REMOTE WORKING

Iain says... A remote release helps you avoid inadvertently introducing camera shake as you press the shutter button. You could use Exposure Delay Mode instead, but moving lights require precise timing, making a remote release essential. This also allows you to shoot without hunching over your camera; extremely useful if you're shooting at awkward angles.

Thankfully, the crossing was right next to a bus stop, and as is often the case with buses, when one turned up, more followed.

Rhodri spent the next 10 minutes capturing shot after shot, but when two pedestrians with umbrellas stopped at the crossing, equal distance apart, the photographers knew they had an opportunity to capture Super Shot # 1.

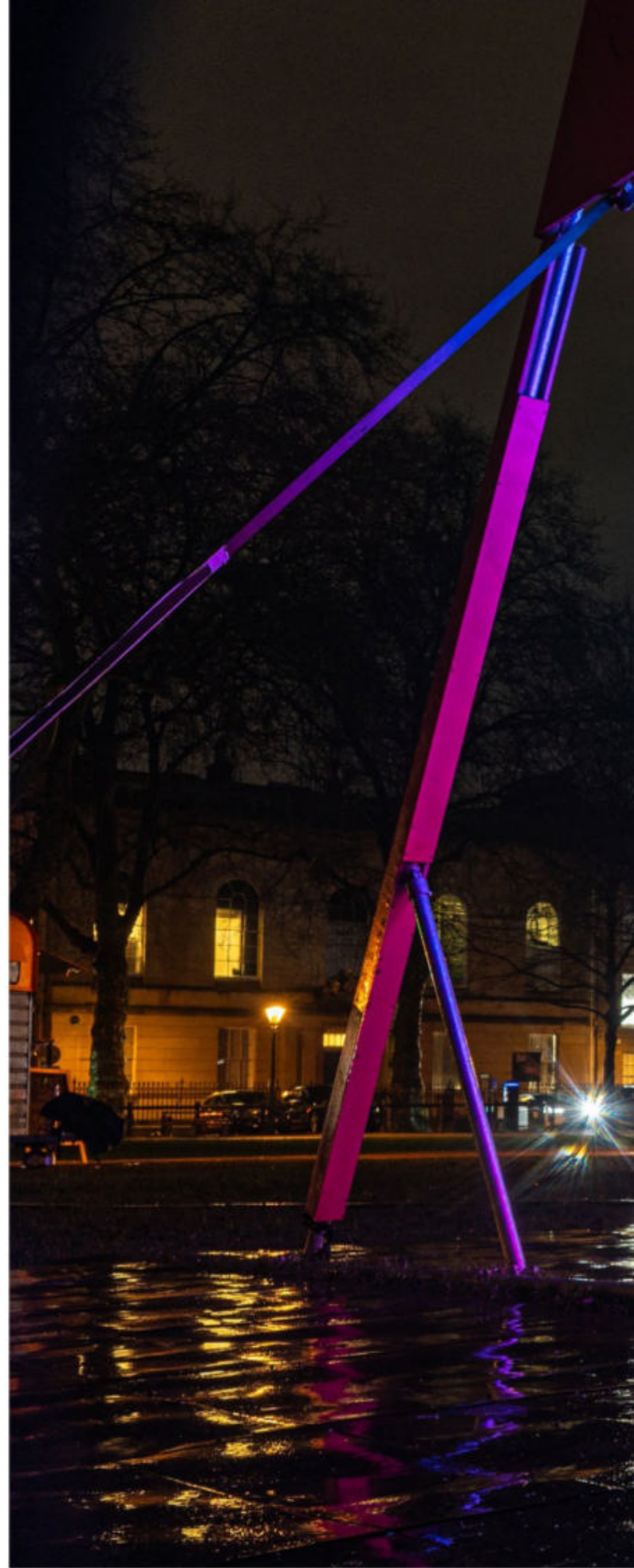
Thankfully, Rhodri didn't crack under pressure and, as a bus passed by, he fired the shutter at the opportune moment.

IT'S RAINING, IT'S POURING

It was 17:15, which meant the Bristol Light Festival exhibits had been illuminated. The first stop was an installation called Pulse by light artist @this_is_loop. For a moment, the photographers forgot about the hammering rain as they stared at a row of 12 illuminated arches that formed a 40-metre-long tunnel.

The 14,000 LED lights that made up the installation flickered and pulsed in time with a futuristic soundtrack, mesmerizing the crowd of onlookers who had braved the adverse weather. "I think this one is on a 20-minute cycle and it changes throughout," said Iain as they circled the installation to find the best angle. "I've stood here for about an hour just watching. After a while you get a feel for how the lights change, but obviously we don't have the time to do that today."

Iain asked Rhodri to set up at one end of the tunnel. "I recommend centring the subject within the composition, so the rings sit perfectly within each other. If you're off, the separation will be uneven and the rings at the far end will overlap."



Once he had attached his Z 28mm f/2.8, Rhodri used the Framing Grid Display to help line up the image, but before he refined his framing completely, Iain interjected: "I would consider using portrait orientation here. The rain has created an incredible reflection beneath the rings; it would be a shame to crop it off."

The apprentice complied and soon had a frame-filling composition of the light installation. Iain gave an approving nod as Rhodri set his aperture to f/11, providing a enough large depth of field to render the entire installation suitably sharp, without risk of noticeable diffraction.

By dialling in ISO100 and exposing for the lights, the apprentice was left with a five-second shutter speed. "Good," said Iain, "let's try that. If it's too long the moving lights will blur together, but we'll need to spend some time continuously shooting here as the lights change."

SUPER
SHOT #3

Camera:	Nikon Z 6II
Lens:	24-120mm f/4
Exposure:	1/2 sec, f/7.1, ISO400

It wasn't just the lighting Rhodri had to contend with. A small crowd had gathered and people were cycling, running, skipping and walking through the lights. "People can add interest," said the pro. "But it's nicer to isolate one or two pedestrians, rather than have thick crowds."

After 30 minutes of shooting, the crowd thinned and Rhodri was able to capture just two people at the far end of the installation. Crucially, all 12 arches were illuminated. Super Shot #2 was in the bag.

I'M SHOOTIN' IN THE RAIN...

The pair visited a couple more installations, before identifying Swing Song (@tired.industries.uk) as a suitable subject. This interactive exhibit invited members of the public to have a go on a set of illuminated swings. How high or low each reveller chose to swing would impact the intensity of the background music.

"Ideally, we want all six swings occupied," said Iain as they set up at a 3/4 angle. "We could also do with a slightly wider composition, so perhaps you'd like to borrow my Z 24-120mm f/4 S?"

While a lengthy, five-second exposure had worked well when shooting Pulse, the speed at which the swings were moving meant the lights were blurring extensively. Ultimately, the pair settled on a faster shutter in order to retain enough form for the viewer to identify the subject.

Rhodri boosted his ISO to 400 and opened his aperture to f/7.1. This allowed for a 1/2 sec shutter speed, which captured much better results – as far as they could tell through the saturated window on Rhodri's rain cover. At this point the weather had become miserable. Both photographers were soaked to the bone, and keeping rain off the front element had become a constant effort. Iain was

invariably hunched over, holding his umbrella at awkward angles in a vain attempt to shield the Z 6II, while Rhodri was continuously wiping the optic's front element with a sodden lens cloth.

"We've little choice but to spray and pray in this weather," said Iain. "As long as you've locked focus somewhere on the front set of swings, you'll be fine at f/7.1. We know the shutter speed is working for us, all you can do is spend a few minutes capturing as many exposures as possible and we'll review them properly in post."

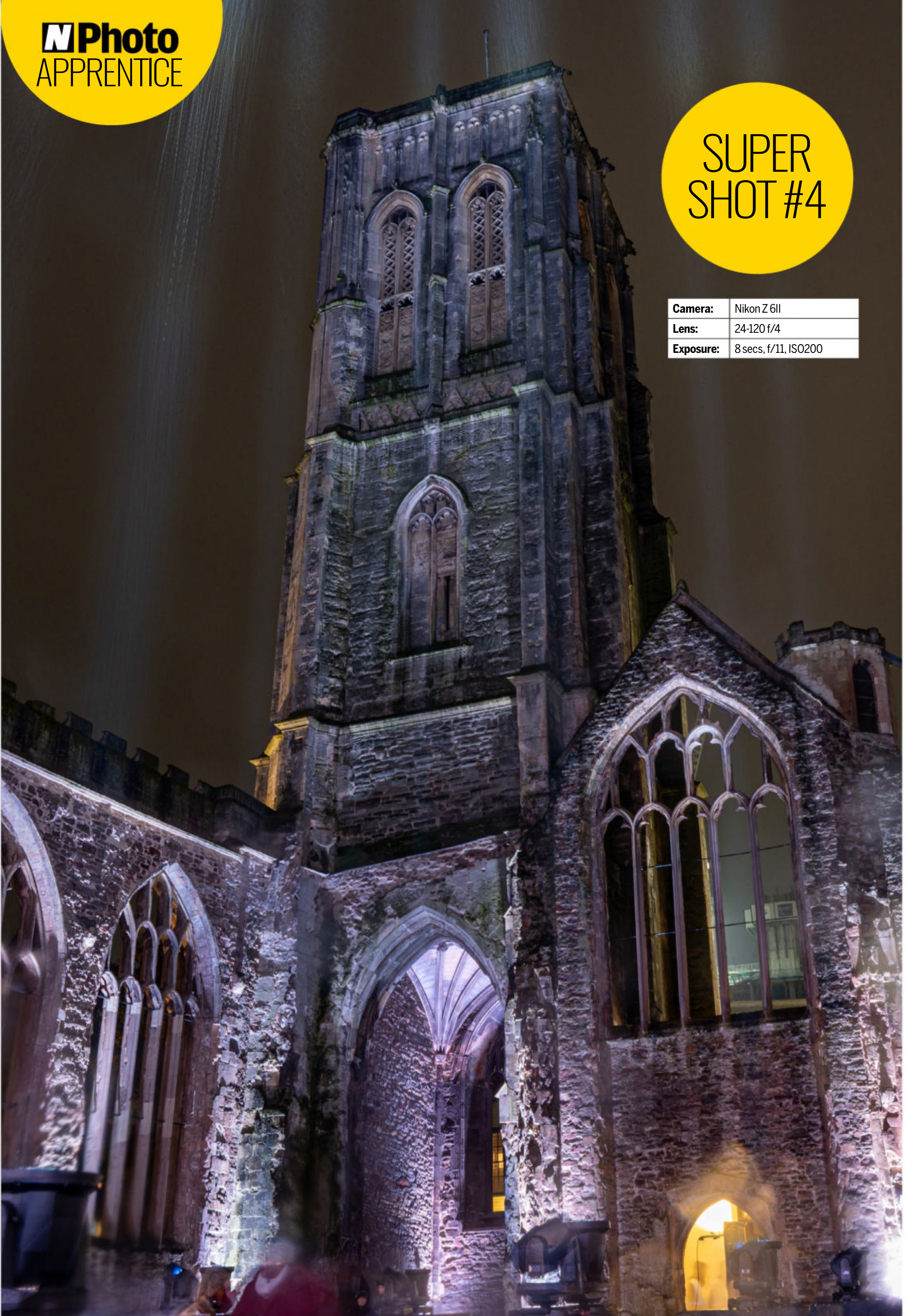
A suitable shot was indeed hiding in the middle of a long sequence. With the majority of swings occupied and a shutter speed delivering the perfect balance between form and motion, the odds had swung in favour of Super Shot #3.

JUST SHOOTIN' IN THE RAIN

Iain had saved his favourite installation →

SUPER
SHOT #4

Camera:	Nikon Z 6II
Lens:	24-120 f/4
Exposure:	8 secs, f/11, ISO200





PRO PORTFOLIO IAIN AFSHAR



ROOM WITH A VIEW

As an expedition leader, I get to travel to some pretty amazing places around the world. An early start ensured I got the best light to capture the dramatic cloud formations over Los Cuernos in the Torres del Paine National Park, Patagonia. This has to be one of the best views from any campsite I've ever stayed in!



FLYING SAUCERS

After a three-hour snowshoe hike out of the valley, I cleared the treeline to see this stunning lenticular cloud formation over the Aiguille du Chardonnet in Chamonix. The cloud was changing quickly so there was only time to capture a few shots before it broke up. This was shortlisted for the Weather Photographer of the Year.



FEEDING TIME

This nectar-filled flower in a pitch-black Costa Rican jungle needed multiple Speedlights controlled by an infra-red trigger. The camera continuously fired two-second exposures, so that every time a bat triggered the flashes, the shutter was open and an image was captured.



Even a lens hood, rain cover and umbrella can't protect an optic that's pointed directly towards falling raindrops...

until last, but as the rain showed no signs of letting up, he wondered just how successful their last Super Shot would be.

The Unfolding (@SLXMedia) was situated within Temple Church, a magnificent late-medieval ruin and English Heritage site. With bright beams of light directed onto the ageing architecture and off into the night sky, Rhodri would need to use a wide lens, angled upwards to capture the illuminated spectacle.

This wouldn't have been a particularly challenging shot to capture, but with rain still battering the hapless photographers, pointing the camera upwards would leave the front element dangerously exposed.

Iain and Rhodri spent a few minutes huddled beneath the umbrella, hoping the rain would subside, even a little, but it was futile. "Well, we've got no choice," said Iain.

"We'll have to work very quickly on this one. I'll use the umbrella as a barrier and once everything's set up I'll take it away at the last moment while you fire the shutter."

The pro looked up at the church tower: "My preference would be to use landscape orientation and tilt the lens right back to frame the tower and the surrounding architecture, but in this weather I think we're better off sacrificing framing in favour of a clean lens. Use portrait orientation to frame the tower; that way we can tilt the lens down a bit, so the lens hood offers a bit more protection."

Rhodri inputted his settings. Iain suggested he use a longer shutter speed to blur the lashings of rain falling through the beams of light. The pro momentarily removed the umbrella so his apprentice could meter for the subject and focus.

When Rhodri was ready, Iain counted to three and moved away the umbrella again.

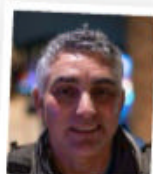
As soon as the image was captured, the umbrella was back in position. In just a few shots, the lens was covered in water but thankfully not before Super Shot #4 had been taken.

All that was remained to do was back up and review the images inside the warmth of a nearby pub; both Iain and Rhodri had certainly earned it!



RHODRI'S COMMENT

That was an experience! Iain's a great teacher and I feel confident tackling low-light situations myself – which is great as I'm off to shoot auroras soon.



IAIN'S VERDICT

Team *N-Photo* says this is the worst weather they've had on an apprentice. Rhodri did a marvellous job capturing great shots in horrendous conditions! **N**

BE OUR NEXT APPRENTICE!

We're looking for future apprentices to accompany *N-Photo* on exciting adventures! So, if you would like to appear on these pages and get top one-to-one professional tuition thrown into the bargain, fill out our Apprentice form at: <https://bit.ly/npapprentice> Please fill out the form in its entirety and be as detailed as possible with your answers. Fingers crossed; the next *N-Photo* apprentice could be you!

LIGHTBOX

Our favourite Nikon images from the Travel Photographer of the Year competition



Submerged Forest

KAZUAKI KOSEKI

Winner: Landscape & Environment

In April, the season of sprouting had arrived in the submerged forest. In the soft light before sunrise, the forest quietly welcomed the morning. I chose to shoot in the bluish pre-dawn light to erase the reality and emphasize the fantastic sight, and set the shutter speed to 30 secs to flatten the water surface.

Camera:	Nikon D4S
Lens:	80-200mm f/2.8
Exposure:	30 secs, f/8, ISO100

TRAVEL PHOTOGRAPHER OF THE YEAR





© Lilly Zhang / Travel Photographer of the Year

One Misty Morning

LILLY ZHANG

Winner: Young TPOTY Age 15-18

It was a crisp autumn morning, and I went to Marsh Creek State Park in Exton, Pennsylvania, hoping to see the mist suspended on the water with the fall colours reflecting on the surface. To my surprise, I also saw a great heron perched on a rock by the shore. It was just amazingly beautiful.

Camera:	Nikon D7200
Lens:	18-140mm f/3.5-5.6
Exposure:	1/125 sec, f/6.3, ISO200

Up in the Air

ARMAND SARLANGUE

Winner: Landscape & Environment

This image was captured from a Cessna light aeroplane and shows a system of rivers crossing the mountain landscape, bringing life to the surrounding lands and life forms.

Camera:	Nikon D850
Lens:	24-70mm f/2.8
Exposure:	1/1250 sec, f/8, ISO500

TRAVEL PHOTOGRAPHER OF THE YEAR





© Andrew Parkinson / Travel Photographer of the Year

What's the Hurry?

ANDREW PARKINSON

Special Mention: Nature, Wildlife & Conservation

A yellow armadillo, in mid-air, comes galloping down a pathway at a secluded lodge in the Southern Pantanal wetlands, Brazil.

Camera:	Nikon Z9
Lens:	400mm f/2.8
Exposure:	1/1000 sec, f/2.8, ISO800



© Roie Galitz / Travel Photographer of the Year

The Last Embrace

ROIE GALITZ

Highly Commended: Nature, Wildlife & Conservation

A young female lioness feeds on a dead female elephant. This is a huge feast for the entire pride that will provide them with nutritional intake while the surrounding environment of Tarangire National Park, in Tanzania, suffers from drought. For predators, each meal is a huge and risky battle.

Camera:	Nikon D850
Lens:	180-400mm f/4
Exposure:	1/200 sec, f/5, ISO1000



A Quieter Life

IGNACIO PALACIOS

Winner: MPB One Shot

A lone figure walks over the sand expanse in La Puna, Argentina, while the huge white dunes that the area is famed for tower above.

Camera:	Nikon D850
Lens:	70-200mm f/2.8
Exposure:	1/1250 sec, f/8, ISO200

© Ignacio Palacios / Travel Photographer of the Year

Standing Alone

ROHAN NEEL SHAH

Winner: People's Choice Award

A young wildebeest stands lost and confused during the madness of the Great Migration, while other wildebeest rush to cross the river.

Camera:	Nikon Z9
Lens:	200-500mm f/5.6
Exposure:	1/6 sec, f/32, ISO64



© Rohan Neel Shah / Travel Photographer of the Year



Travel Photographer of the Year was founded in 2003 and rapidly became one of the world's leading travel photography awards. Amateur and professional photographers from more than 150 countries submitted more than 20,000 images to this year's competition, and the winning shots first go on display at The Photography & Video Show at the NEC, Birmingham, UK from 16-19 March (20% off tickets with code **NPTTPS24** from www.photographyshow.com). For more information, and to view the online Winners' Gallery, visit www.tpoty.com



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How to capture... Man-made landscapes!

Explore the human imprint on our landscape! **Nigel Forster** shows you how to capture everything from lost industries and modern feats of engineering to ancient castles and remnants from the past

W

We are often drawn to features in the landscape, from the ancient to the contemporary. They may sit in isolation, inviting the photographer to capture them in dramatic light, in mist or maybe at night under the stars. Many are deliberately created, either as historic monuments or as part of our infrastructure, such as power, rail or road network, or simply the result of an accident, such as a shipwreck.

Wherever you live, you're never far from photographic opportunities.

But how far can we use our imagination and create images from the unexpected? We're all attracted to coastal castles at sunset or a lighthouse with crashing waves, but these are frequently photographed,

and you'll often find yourself lined up with other photographers. It's difficult to capture anything 'different' in these situations.

Why not try to explore the less obvious and look to produce your own unique images? This can be through exploring a little-known subject itself or the use of photographic techniques such as night photography or long exposures. You can look to take advantage of our ever-changing weather conditions, or use your imagination and look

How to capture... MAN-MADE LANDSCAPES!



Nigel Forster

Nigel is a landscape and architecture photographer based in the Brecon Beacons National Park in Wales. He runs a range of outdoor photography workshops for small groups and individuals throughout the UK. Nigel is at The Photography & Video Show (stand M193), so why not pop by and book a workshop!
www.creativephotographytraining.co.uk

All images: © Nigel Forster



Camera:	Nikon Z 7
Lens:	14-30mm f/4 lens @ 17mm
Exposure:	1/200 sec, f/8, ISO100

A key problem with many historic monuments is that they are photographed ad infinitum

[1] Shooting from a nearby hill with a clear view of Carreg Cennen Castle, West Wales, enabled the low autumn light to pick out the castle, while keeping the foreground in shadow.

[2] Carew Castle with the estuary covered in snow in Pembrokeshire Coast National Park.

[3] Ynys-y-Pandy Slate Mill, Snowdonia National Park, lit with torchlight from the inside, creating a striking feature in an open landscape.

[4] In Rocca Calascio, Italy, I waited until the artificial lighting was strong enough.

[5] Behind-the-scenes shooting Northumberland's Lindisfarne Castle at sunrise: a typical high-contrast image needing careful exposure control.

for strong compositions in familiar man-made landscape features that are often overlooked.

The techniques here are not an exhaustive list, but more an overview of things that I've picked up over the years. You'll also see that the tips are divided under headings defined by the type of man-made feature or landscape. But see these as cross-cutting rather than compartmentalized: this is far from a precise science!

HISTORIC BUILDINGS AND MONUMENTS

Many of Britain's most iconic historic buildings – such as castles, abbeys, churches and ancient monuments – are best captured in isolation and in all their beauty, unobscured by surrounding detail or clutter. They often sit on hilltops, prominent coastal locations, protected ground or nestling in open valleys, enabling them to sit majestically in the landscape. They are also often illuminated at night.

All of these attributes make them ideal photographic subjects. They can be captured day and night from dawn to dusk, often from a wide range of viewpoints. No wonder they are so popular among photographers!

Isolate your subject

Many of our great monuments stand alone in the landscape, often in elevated positions or set in grounds that are clear of other buildings and surrounding vegetation; this makes for ready-made photo opportunities, especially when set, for example, against the night sky or illuminated by dramatic light with a stormy sky backdrop.

On other occasions you may have to be more selective in your composition, either due to competing features interfering with your point of view or limitations with access. Monuments with paid admission may also present a challenge with opening times, particularly with dawn shots!

Other monuments are set in valleys (Tintern Abbey and Llanthony Priory, both in South Wales, are good examples). These are much more difficult to isolate from competing features. With these examples, try getting to an elevated viewpoint with light falling only on your subject.

Capture the unusual

A key problem with many historic monuments is that they are photographed ad infinitum. So how do you make your image stand out from the crowd?

Keep potential subjects in mind and, when an unusual opportunity presents itself, head out to your location. There was snowfall at Carew Castle in Pembrokeshire [2], so I headed there for a winter sunset. Another example that we only occasionally see include the aurora borealis in the south of the UK. If you know of a monument with a clear view to the north behind it, have a shot pre-planned for the rare appearance of the Northern Lights!

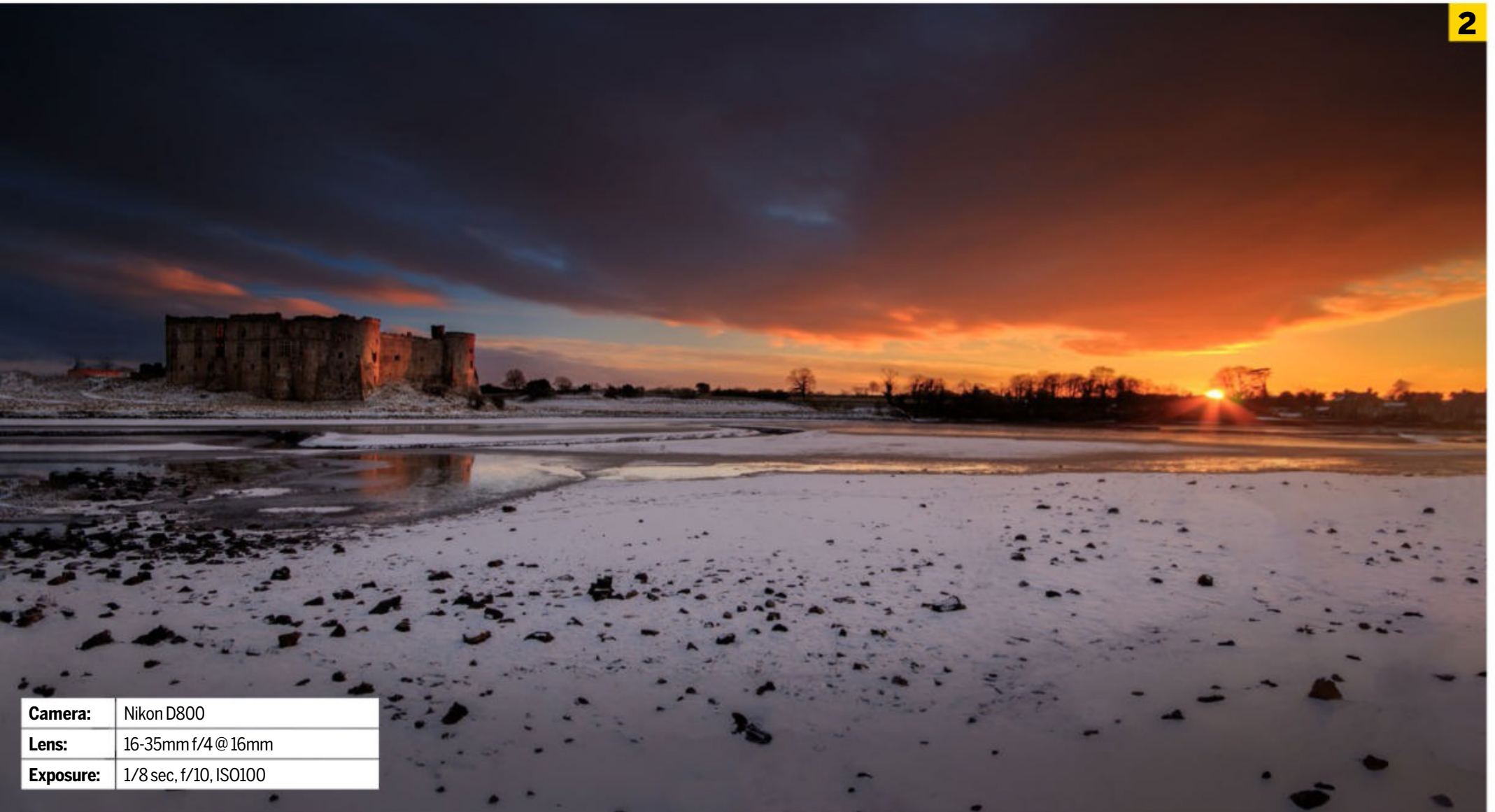
Combine mixed lighting with light painting

On other occasions, your subject may not be lit with artificial lighting. This is particularly true with the buildings or monuments that aren't necessarily tourist attractions (that may be little-known, other than to locals or photographers).

Unless you have a very strong light source, any illumination you are able to provide is will be far less powerful than public lighting. Light painting in these circumstances is, therefore, usually best suited to night shoots where less artificial illumination is required or desirable. With this abandoned slate mill in Snowdonia [3], the exterior was lit by moonlight, while I used two head torches (with white and red lights) to light up the interior.

Use mixed lighting with artificial illumination

Many of our historic monuments are lit from →



2

Camera:	Nikon D800
Lens:	16-35mm f/4 @ 16mm
Exposure:	1/8 sec, f/10, ISO100



3

Camera:	Nikon Z 6
Lens:	14-30mm f/4 @ 16mm
Exposure:	15 secs, f/5, ISO1600



4

Camera:	Nikon Z 6
Lens:	14-30mm f/4 @ 17mm
Exposure:	8 secs, f/18, ISO1600



5

Exposure control

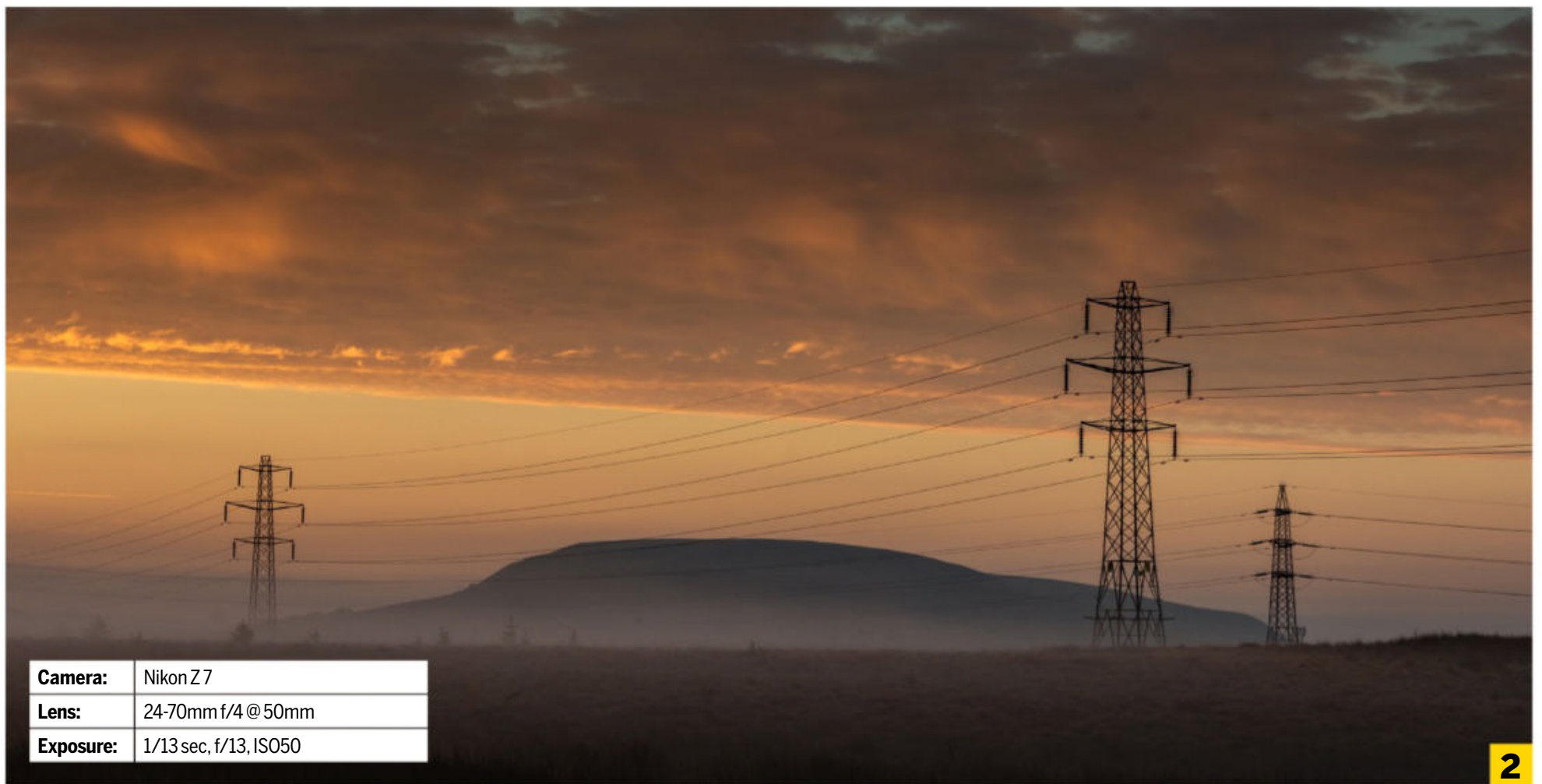
Check your exposure when shooting bright subjects against dark backgrounds, particularly those taken under mixed lighting conditions that have extremes of contrast. The camera is likely to expose the darker areas to a mid-grey, while potentially overexposing the highlights. Either use Manual exposure mode and underexpose the meter by a couple of stops or, if using Aperture Priority or Shutter Priority, dial in around -2 stops of exposure compensation. Review the image and check the histogram afterwards, readjusting as necessary. You may need to lift the shadows in post-processing, but the key thing is to protect the highlights at the shooting stage.

How to capture... MAN-MADE LANDSCAPES!



Camera:	Nikon Z7
Lens:	70-200mm f/2.8@70mm
Exposure:	1/500 sec, f/10, ISO100

1



Camera:	Nikon Z7
Lens:	24-70mm f/4 @50mm
Exposure:	1/13 sec, f/13, ISO50

2

[1] Port Talbot steelworks, South Wales, is shortly to disappear, but in the meantime it provides the perfect backdrop for the setting winter sun and rising moon.

[2] The glow of a winter dawn backlights the pylons of Llangynidr Moor, Ebbw Vale, South Wales.

dusk onwards, and therefore provide opportunities for mixed lighting shots. On a clear day, around 20 minutes after sunset usually provides the optimum balance of ambient and artificial light. Any earlier, the artificial light won't be prominent enough, while any later, it will dominate the scene, with little or no detail in the shadows. With cloudy skies, you'll find that the optimum time is earlier. In any case, arrive early and take plenty of shots as the light changes.

Another thing to take into account is that these monuments do not tend to be lit all night long, with the lighting typically switched off around midnight. So such locations will usually need to be shot in the evening, and are generally not suitable for photographing at dawn.

INDUSTRY IN THE LANDSCAPE

You can find evocative images in the most unlikely places. Much of our traditional heavy industry has disappeared over recent years, with only a few isolated examples remaining, but these industrial monuments had an atmosphere and a gritty character all of their own, and were a key part of a landscape photographer's potential arsenal of images.

The British industrial landscape still provides opportunities, so try tracking down and exploring the remnants of industry, along with infrastructure such as electricity pylons and, more recently, wind turbines. Such features are, of course, something you either love or hate, but leaving aside the



3

environmental aspects, there is no doubt that older and more modern industry continues to provide ample opportunities for photographers.

Make use of heavy industry

Sprawling industrial complexes are rapidly disappearing from our landscape, but heavy industry is still worth seeking out. They often have stark structures, which can be set in isolation against the sky, and form a great foreground for sunrise, sunset or the moon.

Smoke billowing from chimneys can further add to the effect, forming a brightly lit haze with the subject set in silhouette, as in the image of the Port Talbot steelworks [1], captured from an elevated viewpoint across the M4 motorway.

As if to reinforce my observation about the rapid disappearance of these industrial landscapes, the decommissioning of much of this plant had just been announced at the time of writing.

Use misty conditions for pylons

Electricity pylons make wonderful photographic subjects. These simple structures rise from the landscape, their repeating forms show off perspective and the contours of the terrain, while their towering forms enable them to be captured from many different shooting positions, and they look particularly good at sunrise and sunset. Try to find some that are clearly set against the sky, picking out their form and structure. Misty conditions, in particular, add to the evocative nature of these structures; with the pylons gradually receding into the distance.

They are also excellent monochrome subjects, particularly when combined with long-exposure photography; both of which are ideal for picking out their simple shape and form.

Ideas for shooting wind turbines

Wind turbines are effectively the modern version

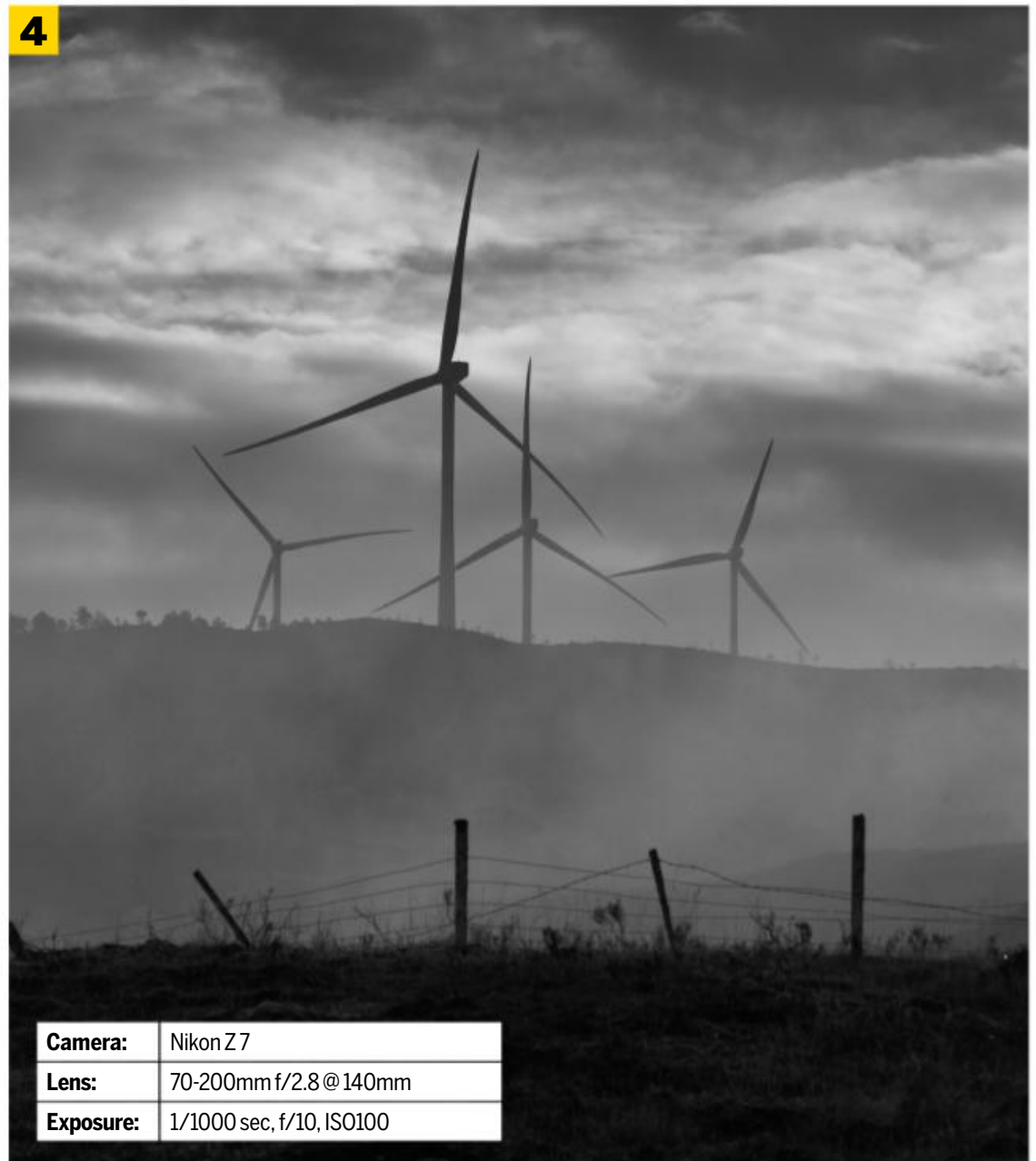


Sprawling industrial complexes are rapidly disappearing from our landscape, but heavy industry is still worth seeking out

[3] The 1/10 sec exposure created blurred blades on these Cornish wind turbines, but avoid overdoing the shutter speed.

Try motion blur

Try using motion blur with industrial images. You may want to smooth out smoke trails or capture the movement of wind turbines, or you might want to set pylons against cloud movement with a long exposure. Typically, cloud movement needs a minute or more, depending on the wind speed or the results that you're looking for. However, wind turbine blade movement needs no more than a second due to the speed of the turbine blades. A too-long shutter speed will remove them from the image (effectively leaving sticks!). You'll usually need a 6-stop ND filter to get shutter speeds of between 1/10 sec and 1 sec in daylight. Experiment with shutter speeds to see how much motion blur works best for your subject.



4

Camera:	Nikon Z7
Lens:	70-200mm f/2.8 @ 140mm
Exposure:	1/1000 sec, f/10, ISO100

[4] This image of wind turbines in Glen Shiel, Scottish Highlands, gives the impression of new industry rising from an old landscape, with the broken barbed wire fence and misty conditions adding to the 'rising from the ashes' feel.

of pylons in the landscape, but in some ways they are more difficult to photograph than pylons, as they don't have the same structure to them, and they tend to be randomly placed rather than in uniform lines. But they do have an imposing presence in the landscape, and often sit prominently on hilltops, making them good silhouette subjects. With this image [4], I juxtaposed the turbines against a barbed wire fence, which, combined with misty conditions, produce an evocative 'old against new' image. →

How to capture... MAN-MADE LANDSCAPES!



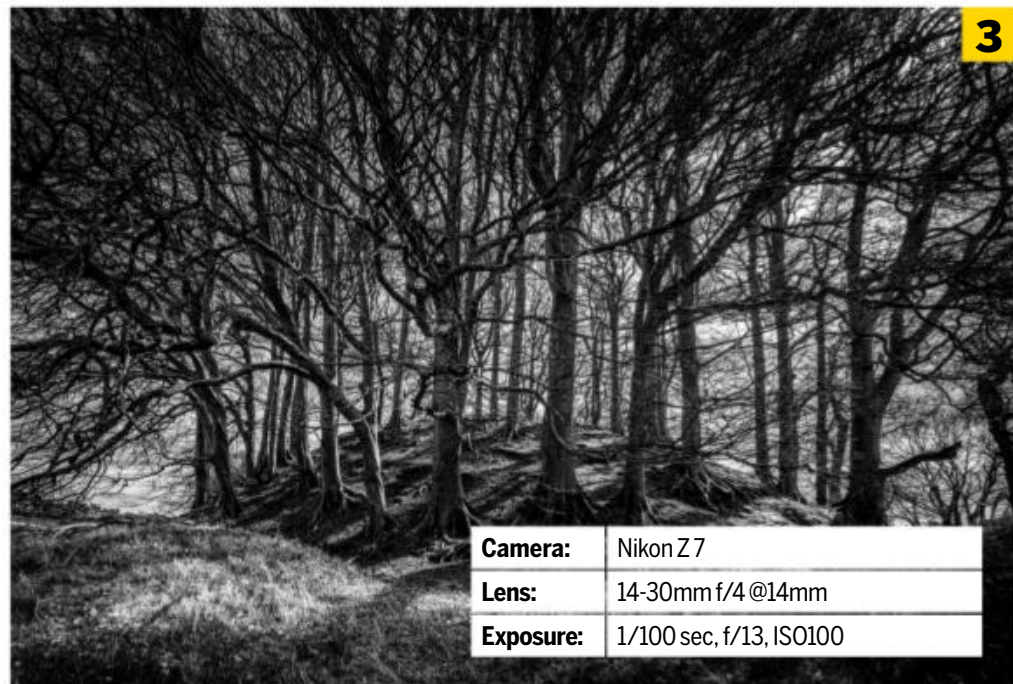
Camera:	Nikon Z7
Lens:	24-70mm f/4 @ 70mm
Exposure:	1/60 sec, f/14, ISO200

1



Camera:	Nikon Z6
Lens:	14-30mm f/4 @ 14mm
Exposure:	1/80 sec, f/13, ISO100

2



Camera:	Nikon Z7
Lens:	14-30mm f/4 @ 14mm
Exposure:	1/100 sec, f/13, ISO100

3

QUARRIES AND ABANDONED LANDSCAPES

We are surrounded by remnants of days gone by, so why not try to capture the scale and fallen grandeur of our industrial and living past by exploring our abandoned landscapes? Many traditional industries weren't just removed and grassed over or replaced by more modern developments, but left to decay and have been gradually reclaimed by nature.

Disused quarries or mines are often located in upland or mountainous areas. Some have been preserved as museums or transformed into modern uses (such as The Eden Project in Cornwall or the Slate Caverns at Blaenau Ffestiniog), but the majority have been simply left to nature.

Spend a day immersing yourself in these great abandoned landscapes and see what you can find. A word of warning; many are dangerous with restrictions on access in place, so always

[1] Abandoned quarry buildings, Cwmorthin Quarry, North Wales.

[2] The deserted ruins of the village of Gessopalena, Italy, in the shadow of slate tips.

[3] The original landform of the Trecastle motte-and-bailey, Brecon Beacons, is still visible and forms the perfect base for a ring of trees.

follow warning signs and do not enter sites where access is marked as prohibited.

Capture the atmosphere

It's always a matter of personal preference, but I try to look for atmospheric conditions when shooting abandoned landscapes, many of which are found hidden away in wooded valleys or on exposed mountainsides, neither of which generally work well in bright, sunny conditions. Look for misty, overcast days adding to the gritty, sombre feel of the surroundings.

Abandoned quarries often had their own water supply, and those that are in sheltered locations, such as the image of Cwmorthin Quarry in Snowdonia [1], offer fantastic opportunities for reflections. With this example, the autumn colour in the vegetation on the hillside added to the image.



Try to pick out a feature that portrays the essence of the monument that you're trying to capture

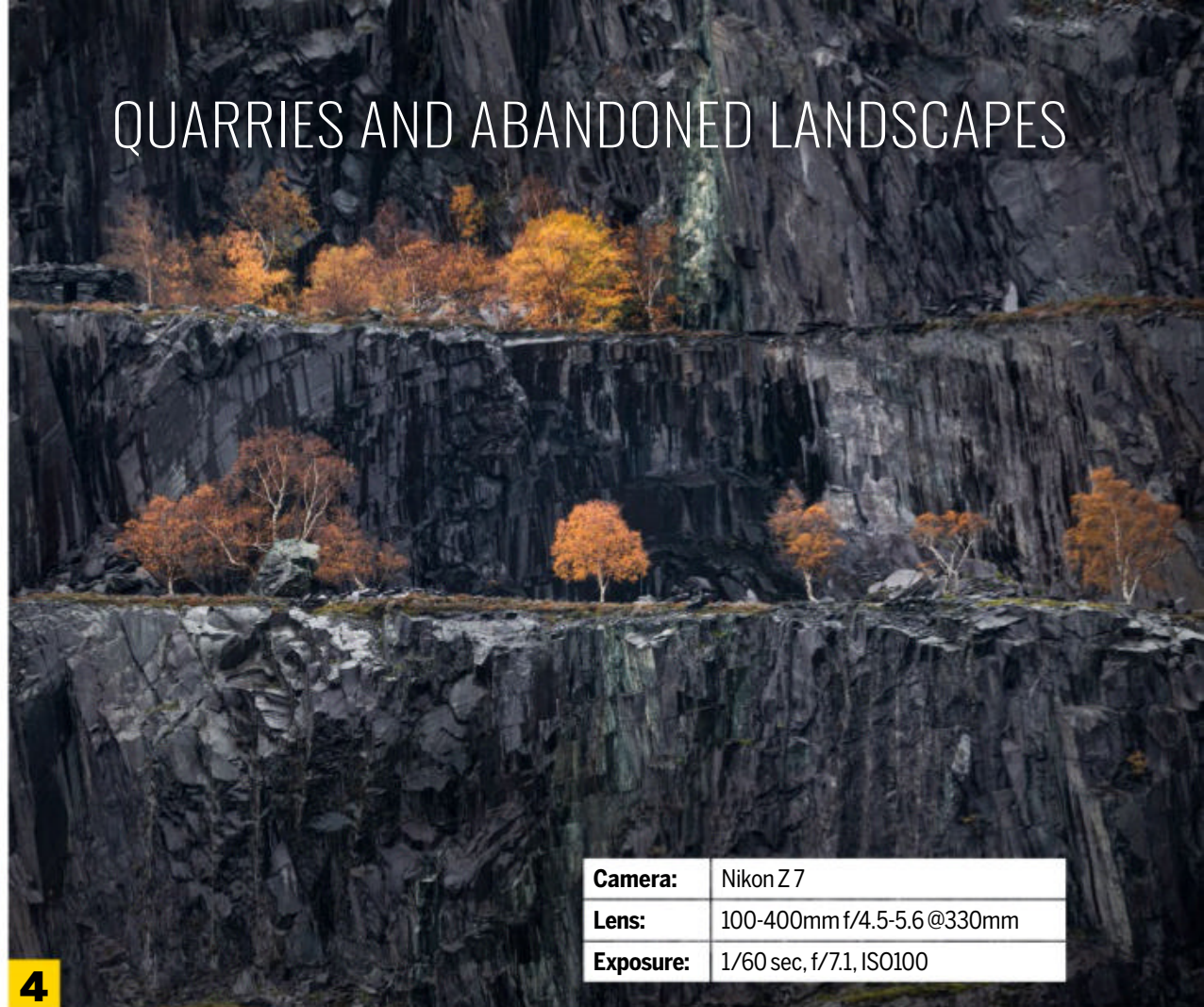
Use a solitary feature

Often less is more: it's easy to try to capture the expanse of an abandoned landscape. However, a remnant of an industrial landscape can convey more of an impression of history. Try to pick out a feature that portrays the essence of the monument that you're trying to capture.

I have many images of the abandoned village of Gessopalena in Italy (which was completely destroyed by the Nazis in World War II) as it's at an extraordinary location, but none convey the feeling of dereliction and decay more than this image of a single remaining corner of a building [2].

Explore ancient landscapes

Many of us might not have monumental, abandoned landscapes nearby, or to others they may be inaccessible. However, you're rarely far from historical remnants wherever you live. Much of our history is visible and forms local or national attractions; more, however, can only be found by doing some local research and may often be on your



Camera:	Nikon Z7
Lens:	100-400mm f/4.5-5.6 @330mm
Exposure:	1/60 sec, f/7.1, ISO100

[4] The Orange Tree, Llanberis Quarry, Snowdonia.

[5] The evening light briefly caught the top of Llanberis Quarry before it went down behind the adjacent mountain.

doorstep. This motte-and-bailey [3] is no more than 30 metres wide, and is located in a small village in the Brecon Beacons. There's just enough of a clear view to reveal the complete landform (which can be a challenge in woodlands). I used backlighting and monochrome to pick out the mound and trees, and to simplify the composition.

Pick out vegetation

Our landscapes will always revert to nature if left untouched, even if, on the face of it, there's no obvious growing medium for plants to establish themselves in. There's no better way to capture the essence of an abandoned landscape than to see new life emerging. Rather than look for a mass of vegetation within a large expanse, I will often look for detail; a single striking tree or area of planting.

Quarry walls provide the perfect backdrop, and here [4] the striking autumn colours contrast perfectly with the subtle greys, greens and purples of the rock face. I placed the most prominent tree in the centre of the frame to maximize its impact.

TRANSPORT AND ENGINEERING

We use our transport infrastructure nearly every single day – as we drive along roads and over bridges – but take a moment to stop and think how you can use the highways and byways to capture images that no one else is likely to have thought of.

Roads and railway lines can be dead straight, leading to a distant point. Others follow the flow and meander through the landscape. Newer roads often cut dramatically through it, with sweeping curves as they traverse bridges, dams and viaducts – all of which are often impressive engineering structures in themselves.

They can be captured in daytime with backlit wet surfaces, caught as prominent lines in a winter landscape, or captured after dark with light trails; the possibilities are endless!

Explore the many ways of photographing our transport infrastructure; all you need to do is pull over in your car and use your imagination to take in your surroundings and capture them. →

Capturing the light in a quarry

Light can often be an issue in deep, enclosed quarries with steep or vertical faces. You'll often either be using flat overcast days or waiting for a precise moment to capture the light, particularly if the quarry is north facing. Equally, a south-facing quarry can have generally flat and often unappealing light, or east and west faces may only get light for a limited period. If you want to try photographing a quarry, look for grey, moody conditions, or in the example here, look for lighting that catches features in the quarry face.



How to capture... MAN-MADE LANDSCAPES!



Camera:	Nikon D800
Lens:	16-35mm f/4 @20mm
Exposure:	1/13 sec, f/13, ISO100

1

[1] An arrow on a wet road in the Lake District provides the perfect leading line.

[2] The moon rising over the Severn Bridge is perfectly positioned behind the suspension cables and its brightness reduced by vehicle pollution.

[3] A blended image taken in Rhondda Valley captures light trails in a winter landscape under a clear sky.

[4] A rural road in Redhill, Surrey. I exposed for the water on the road, which was backlit by the sun.

Road markings and other features

Try picking out a feature on the road and use it as the main subject, with the road and surrounding landscape as a backdrop. With this image [1] taken in Borrowdale in the Lake District, I found a directional arrow sitting perfectly in the centre of the composition. I used a wide-angle lens to emphasize the curve in the arrow leading the eye into the distance.

Most daylight images that feature a road surface need the road to be wet. It's preferable to shoot against the light for contrast; even an overcast sky is usually brighter when shooting towards the sun.

Include the sun and moon

The sun and the moon make a great focal point with structures when using a telephoto lens. Successful images usually involve a bit of planning; generally, the moon requires far more planning than the sun, but apps such as The Photographer's Ephemeris come in useful. A key aspect to remember is that, with the full moon, rise and set times coincide with dawn and dusk (the rising and setting of the sun).

This means that, rather than appearing as an overly bright and difficult-to-expose feature, it will be diluted in a lighter sky. Therefore, in general, a good time to take images of the moon is when it is full.

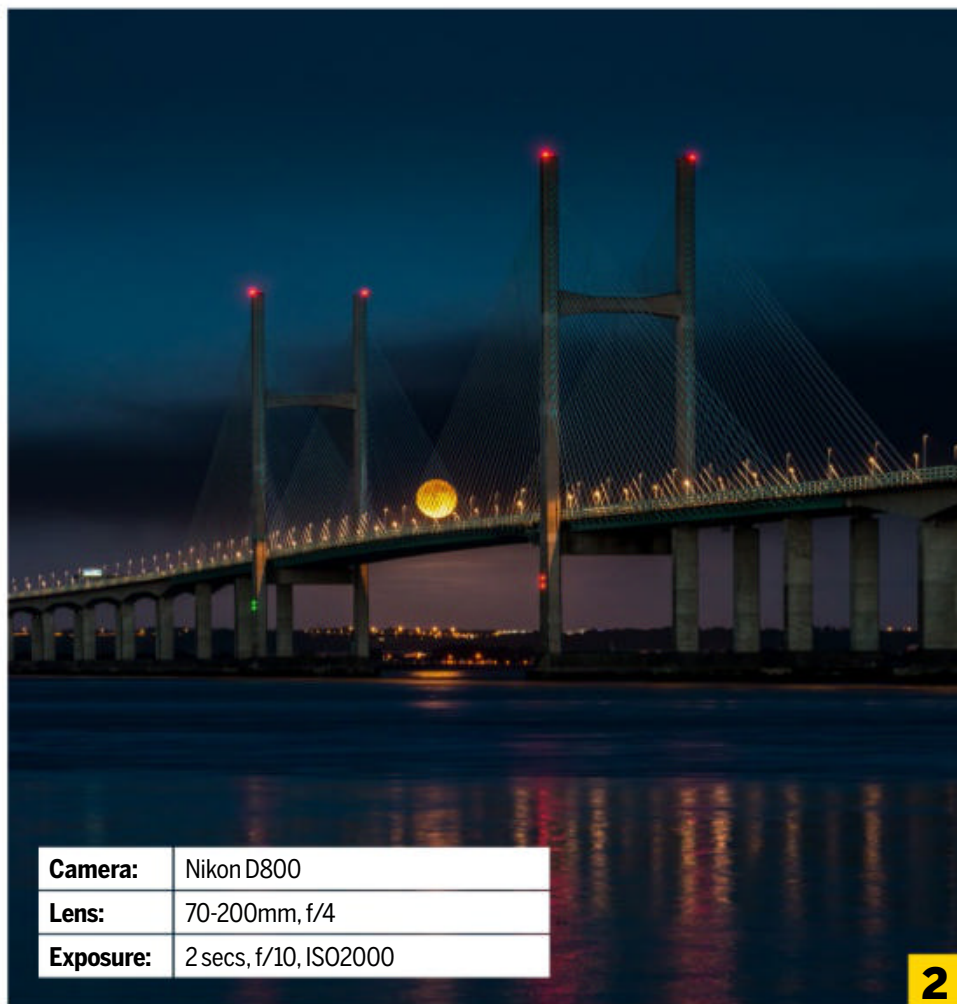
With the sun, you'll generally need a hazy sky; a crystal-clear sky makes the brightness difficult to manage the moment that the sun rises.

Create light trails

This is a great technique at night as the trail of vehicle lights will pick out the line of the road. Try to find a stretch of road with a clear, elevated view (from a bridge, for example). The best roads are



You'll need to have an idea of how long it takes to get from one end of the stretch of road to the other and set your shutter speed accordingly



Camera:	Nikon D800
Lens:	70-200mm, f/4
Exposure:	2 secs, f/10, ISO2000

2



Camera:	Nikon D800
Lens:	16-35mm f/4 @ 16mm
Exposure:	80 secs, f/8, ISO100 (foreground)
Exposure:	20 secs, f/4, ISO3200 (sky)

3



4

Find a stretch of road

Find an interesting section of road and think about how you might use it. The road may be a single curve or perhaps a meandering line or even dead straight. All of these provide a range of photographic opportunities, either during the day or at night-time. A section of road with some sort of geometry can work well; during the day, a wet backlit road can work best, while at night they are ideal for light trails. With a backlit wet road, try monochrome, exposing for the highlights, sending the shadows completely black for a silhouette, as with this example [4].

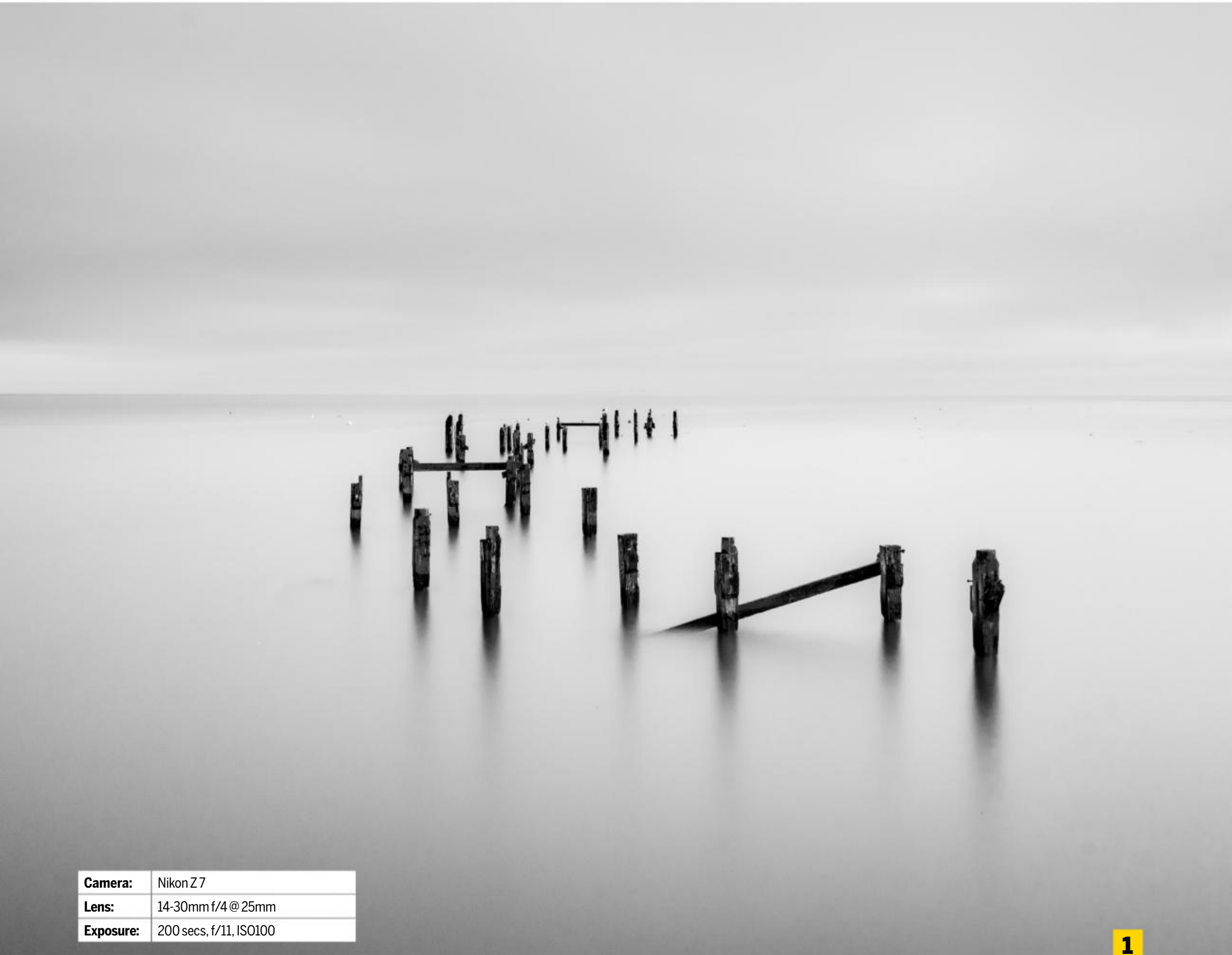
often those with a meandering line or simple curve, or perhaps, for a striking perspective shot, a perfectly straight stretch of road.

With the example here [3], I used an elevated view above a hairpin bend. You'll need to have an idea of how long it takes for a vehicle to get from one end of the stretch of road to the other and set your shutter speed accordingly. In this case, because of the hairpin bend, the car lights changed from white to red (oncoming headlights to receding tail lights). A covering of snow reflected the light, and this is a blended image due to the differing shutter speed needed to expose for the stars.

FEATURES IN THE LANDSCAPE

Man's imprint on the landscape can be found absolutely everywhere, and more of your images may include man-made features than you might think. These include everything from large statues to historic monuments, ancient standing stones to abandoned coastal features, contemporary →

How to capture... MAN-MADE LANDSCAPES!



Camera:	Nikon Z7
Lens:	14-30mm f/4 @ 25mm
Exposure:	200 secs, f/11, ISO100

1

artworks to remnants of the past, or simply feature elements that form part of man's living or working environment. This final section includes examples from each of these to illustrate the range of opportunities in the landscape, but there are countless others to be found.

As you will see from these examples, my tips follow a theme of using composition, lighting conditions or camera technique to isolate your



I went for a high-key approach, with a light background providing greater contrast with the remnants of the old pier

[1] A long exposure, achieved using a 15-stop ND filter, smoothed out the background and isolated the remnants of the Old Pier, Swanage.

[2] The composition exaggerates the curve of the clock tower in Ebbw Vale, South Wales.

[3] The pump tower of the Talybont Reservoir, Brecon Beacons, was centrally positioned to form a static composition.

subject from its surroundings and produce a strong, simple composition. In many cases, a monochrome conversion produces a clear focus on form.

Use long exposures in misty conditions

These conditions both achieve the objective of isolating features against a simple uncluttered background. In the case of long-exposure photography, it serves to smooth out potentially competing detail (usually sky and water) and, in the case of mist, obscuring detail.

With the example of the Old Pier at Swanage [1], I wanted to pick out the remains of the pier against a simple background. This meant smoothing out both the sky and water as much as possible, so I set an exposure of almost four minutes to maximize the smoothing effect. I went for a high-key approach, with a light background providing greater contrast with the remnants of the old pier.



Camera:	Nikon D850
Lens:	16-35mm f/4 @ 24mm
Exposure:	1/40 sec, f/18, ISO100

Shooting up to the sky to isolate a feature

It's often difficult to isolate a man-made feature from its surrounding environment, potentially leading to a cluttered image. Try pointing the camera upwards to frame your subject against the sky for a simple composition. This generally works better with modern sculptures or other features that make strong perspective compositions, rather than historic monuments, which rarely have simple forms. With this example taken at Ebbw Vale [2], I isolated the structure against the sky. A large depth of field is critical for a shot of this type, so make sure that you use a narrow aperture.

Silhouettes and backlighting

Man-made features, whether historic or contemporary, often have simple and recognizable forms, making them ideal for silhouettes. This, of course, means shooting against the light. You may either go for dawn or dusk to get the glow (and potentially colour) in the sky, or, as in the shot of this obelisk [4], look for the sun hidden behind dark cloud lighting up the sky behind, most typically found in a 'sunshine and showers' type of day.

A key decision should be whether you want a backlit or silhouette image. Backlit images have some detail in their shadow areas, while silhouettes are reduced to simply black shapes.

Simple clear features are generally more suitable for silhouettes, while trees, in particular, work well with backlighting, as their translucent leaves glow with colour while the dark shadows cast from the body of the tree create leading lines towards the camera. As always, experimentation is key! 📸



3

[4] This ancient obelisk on Llanddwyn Island, Anglesey, North Wales, was set against the bright part of the sky and exposed as a silhouette.

Try central positioning

Remember that the centre of the frame is the most powerful part of the image, so anything placed there will have a dominant position. You could, perhaps, exploit surrounding features to support this positioning, through cloud movement in long-exposure photography, or through the use of perspective lines leading to the centre.

With the example in this image [3], I used a simple reflection and threw a pebble into the lake water to create ripples and introduce asymmetry.



Camera:	Nikon Z7
Lens:	24-70mm f/4 @ 70mm
Exposure:	1/500 sec, f/14, ISO100



**Tom
Mason
Wild Life**

Pro wildlife photographer and Nikon Europe Ambassador Tom has worked around the globe on assignments to capture photographs of all creatures great and small, from the Falkland Islands to the Amazon Rainforest. www.tommasonphoto.com

Should I stay or should I go?

It has been five hours and that little photography devil is on my shoulder asking if I regret my decision...



Other than a kingfisher flying by, I haven't seen or heard anything worth pointing the camera at. Lugging my 600mm and Z 9 up and down the river has also made my stomach acutely aware of an impending lunchtime, and so, giving into the rumbles, I find a log and sit myself down.

Rewind to this morning and, as I turn the key, the engine falls quiet. It's dark with a good half hour before sunrise, so I treat myself to the last few minutes of my podcast, before I get out into the cold. Opening the door it is a tad chilly, but with a distinct feel of an early spring. The birds are vocal in the trees as I awkwardly tussle with my shoes, switching to my wellies whilst standing on one leg – something that never seems to get any easier! With my bag weighing me down, the lights of my car flash twice as I lock it, and I'm off towards the river.

Photographing otters can be a tough one. Hours of walking, staring down the river watching the ripples for some sudden excitement, only to be fooled into disappointment by a piece of vegetation bouncing about in the flow. Some days can be a trudge as I search out a sighting, but this morning I seem to be in luck as, after a brief 20 minutes, I find my target, not far from where I left them the night before!

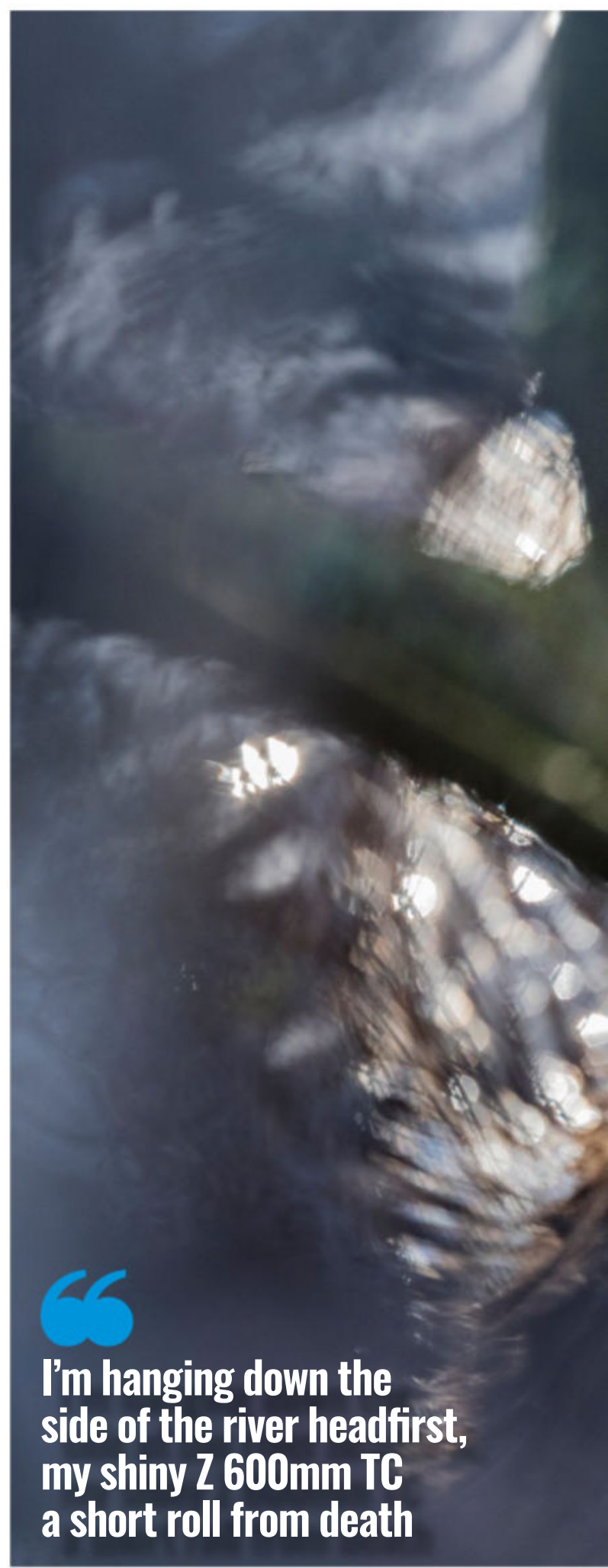
The fallen trees along the bank provide a perfect safe haven for the fish

these otters are hunting. It's still pretty dark so I sit, watching through my binoculars. I'm not one to push into the high ISOs just to get 'a shot', so I'm content just enjoying the view. On the bank somewhere there is a squeak, the sound of what is most likely an otter cub hidden in the flooded undergrowth on the opposite side of the river...

An immediate splash follows and mum is up onto the bank with a fish in her mouth. From experience, a big meal means that I won't be seeing these otters for a while, as they generally seem to lay up for a snooze after landing a big catch. It may be hours before they're back out, so instead I decide to abandon my sure bet and head up river, because I'm hopeful that I will find the male.

A bit too close

It's always a hard choice whether to leave wildlife when you've found it – maybe it's best to stay and wait it out? My judgement is built on many years but largely comes down to asking myself, can I make a decent image here? With the dark foliage and steep banks restricting my ability to get low to the water, I'm not enamoured with the location and, having photographed these otters countless times, I'm willing to take a punt on relocating. Back on my log I'm feeling a little unhopeful – but excited for lunch – when a splash catches my attention. I was really looking forward to my sandwich, but this otter has other ideas. Ducking down, I pull the camera to my eye as the otter reappears



I'm hanging down the side of the river headfirst, my shiny Z 600mm TC a short roll from death

annoyingly close. I'm not used to the 600mm f/4 yet and at about 2.5m away from my position, it's well below my close focus. I stand static until he pops back in the water, hoping he'll reappear at a more practical distance. Seconds later he's back, landing a big catch but not having moved an inch.

Taking tiny steps backwards while he's occupied, I slowly turn and drop to my front, crawling down the bank a little further along, in hopes of getting a view. I'm hanging down the side of the river headfirst, my shiny Z 600mm TC a short roll from death as I turn my feet

Too close! Tom slowly moved backwards, the otter intrigued with his presence, giving him a few seconds to grab a portrait.



to secure my position. With luck he's stayed, munching away and I can hear the crunch of fish bones. He's finally outside my minimum focusing distance, although I'm still just getting headshots, and 15 minutes passes in what feels like an instant. Then he's straight back into the water. Looking up, I can suddenly feel a cold foot and notice my legs have been submerged to give me some stability, something that's become apparent now that I'm no longer fixated on an otter. With that little photography devil silenced by success, it's time to reward my stomach with some lunch. **N**



Photography: © Tom Mason

With one foot in the water and trying to quieten his breathing and not move, Tom spent 15 minutes watching this otter feast on his plundered pike.



URGENT APPEAL



Russia's brutal invasion of Ukraine is not just a humanitarian crisis for the Ukrainian people; it's a child protection emergency.

Up to 100,000 children warehoused in Ukraine's vast orphanage system – a network of over 700 buildings – risk being forgotten. Left to face the dangers of war alone as staff flee. As families are torn apart or forced from their homes, many more children are at risk of being separated from the love and protection they desperately need. Worse still, they are at risk of trafficking, or being placed in overcrowded, understaffed and poorly resourced orphanages in border countries.

We must act now.

Born out of the Balkans conflict 30 years ago, we've championed the vital importance of family and community-based care of children and our teams are on the ground in Ukraine, Moldova and Romania to ensure this war does not rob children of the love and protection they need now more than ever. Across all three countries, we're directly supporting displaced families and unaccompanied children with material and emotional

support. We're working closely with authorities to keep families together when they are at their most vulnerable and to fight for the safe tracking, monitoring and care for children without parental care. And we won't stop when the fighting stops.

Will you help us by donating?

With your help, we can avert a child protection crisis of epic proportions and ensure children are protected and kept in families. Never orphanages.

To help protect vulnerable children, donate online at: www.hopeandhomes.org/donate. Or call **01722 790 111** Monday – Friday 9am - 5pm.

Please quote **FP22 - P&D** when making your donation.

In the event that funds raised exceed what is needed to deliver Hope and Homes for Children immediate and longer-term response to this crisis, we will use donations where the need is greatest.

I would like to make a donation to Hope and Homes for Children:

Name	Address
Tel	Email

I enclose a cheque for £ made payable to Hope and Homes for Children or please debit £

from my credit/debit card (details below)

I would like to donate by debit/credit card

<input type="checkbox"/> Visa	<input type="checkbox"/> Mastercard	<input type="checkbox"/> Maestro	<input type="checkbox"/> CAF card	<small>Maestro only</small>
Card no.	-	-	-	-
Start date	Expiry date	Issue no.	Security no.	<small>on signature strip</small>

Signature	Date
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I want to Gift Aid my donation and any donations I make in the future or have made in the past 4 years to Hope and Homes for Children. I am a UK taxpayer and understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference. Gift Aid will be used to fund Hope and Homes for Children's general work.

Name of taxpayer	Today's date
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Please let us know if you would like to hear from us:

by phone by email
 please tick here if you would NOT like to hear from us by post.

Please make cheques payable to 'Hope and Homes for Children' and send to Hope and Homes for Children, FREEPOST RTKX-TYLS-JHNB, East Clyffe Farm Barn, Salisbury Road, Steeple Langford, Salisbury SP3 4BF.

You can view our privacy policy here www.hopeandhomes.org/privacy.

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Ingenious recipes for stunning shots



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Blend an architectural artwork

Turn a city snap into an incredible artwork using blending and selection skills in Affinity



Whenever you see this logo, it means there's a video to accompany the tutorial, taking you through things step by step. If a tutorial has accompanying project files, there will be an accompanying download link too.



Project one: Model railways

Trackside tips and tricks

Chris Nevard explains how you can capture photo-realistic images of model railways on a budget

My aim is to make model railway photos look as realistic as possible. But the process I use to shoot miniature worlds is very different to the full-sized one, and it has its challenges. You're limited as to where you can angle the camera to avoid the real world beyond, and shooting close-ups means you'll be dealing with very shallow depths of field. Fortunately, you have complete

control of the weather and lighting, and nothing is moving, so you can shoot at slow shutter speeds and take the time to manage your scene. You can also achieve elevated, 'aerial views' without an expensive drone! And finally, expensive kit isn't a necessity – you don't need 20fps bursts or super-fast AF. In fact, I prefer manual focus, so you can even make use of vintage F-mount lenses.

Expert Tip



Avoid framing the edges of the layout or any glimpses of the real world. A good workaround is to obscure such views with a miniature, such as a wagon, or even a piece of terrain. And perhaps most importantly, remove any dust. Even the smallest amount will stand out and test your cloning skills; a sensor dust blower is ideal.

How to shoot a model railway

1 Close-focusing lens

You don't need fancy kit to capture miniatures, just a lens that will focus down to around 25cm. Most modern kit lenses are pretty good in this respect. For the image in this feature, I used a Nikon AF 35mm f/2D. Most of my lenses are F mount, even though I mostly shoot on my Z 5: the reason being, I also like to shoot 35mm film.



2 Making light work

Even though many model railways have lighting, it's not always suitable for photography. Additional lighting is always helpful, with many modern LED panels having variable colour temperature controls, which allows light sources to be matched. If you don't have any lights, you can always take your miniature outside.



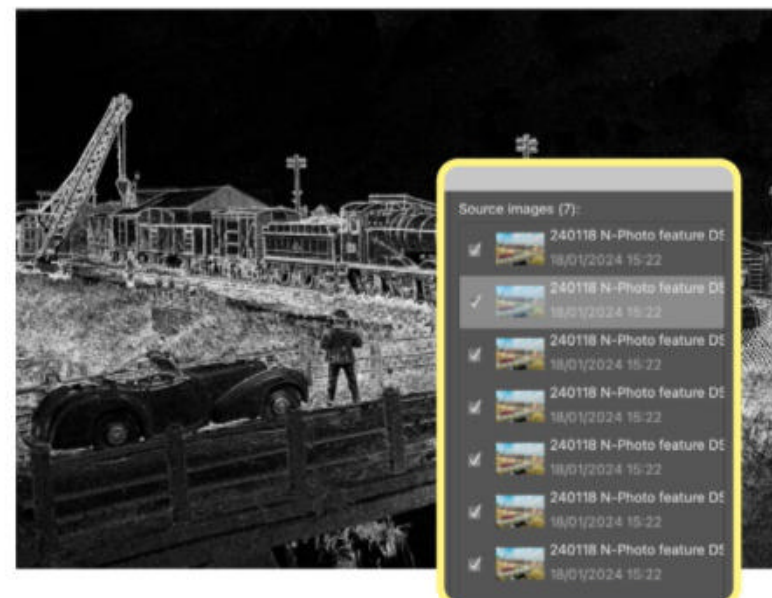
3 Don't be so shallow

Shallow depths of field are exaggerated when shooting close-ups, even at wide angles and narrow apertures. I get around this by 'focus stacking'. An identical composition is taken several times, but each with a different point of focus. I shoot from foreground to background, ensuring the area of focus for each image overlaps.



4 Super sharp

Focus stack can be performed in Adobe Photoshop, but I favour Helicon Focus. Once your chosen frames are loaded, a simple click starts the stacking process. The software then picks out the sharpest sections from each file and automatically merges them together to form an image with a huge depth of field.



Camera:	Nikon Z5
Lens:	35mm f/2
Exposure:	1/2 sec, f/22, ISO100

Above: Chris swears by a sturdy tripod or beanbag to support his camera at slow shutter speeds.

5 Skewed skies

The 45-degree shooting angle made the clouds on the model railway's photographic backdrop look distorted, but Photoshop CC's Sky Replacement made replacing them a 10-second job. This tool comes with a library of stock skies, however, you can also import your own. **N**





Project two: Murmurations

Flock concert

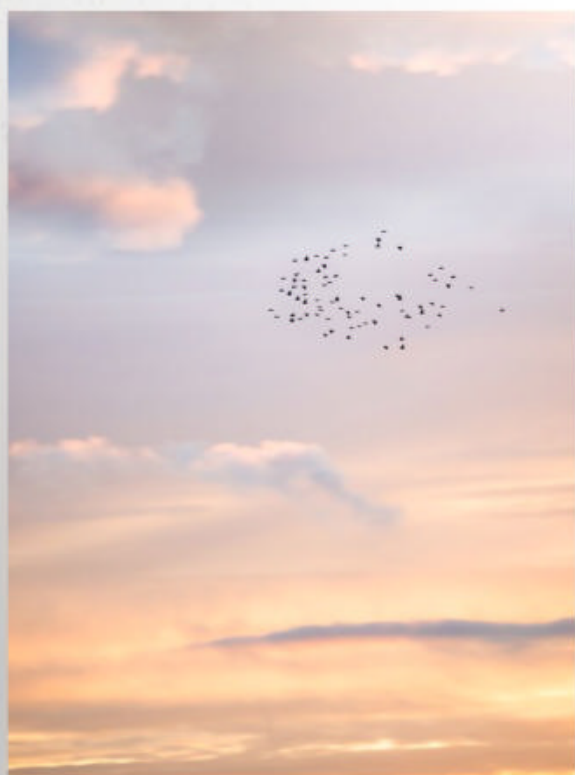
Mike Harris shows you how to capture one of the UK's most incredible wildlife spectacles

Before spring kicks properly into gear and the landscape bursts into a cacophony of vibrant colours and new life, you might just get the chance to witness the tail end of one of winter's greatest wildlife spectacles, the starling murmuration. This incredible event typically happens between October and March, and should be right up there on every wildlife photographer's bucket list.

Around sunset, huge flocks of starlings gather together, and just before they bed down for the night, they murmurate, producing incredible abstract patterns in the sky, which are just begging to be immortalized by a Nikon photographer. The good news is that there's nothing particularly technical about capturing these incredible displays and while fast glass will give you a helping hand, you can capture fantastic murmurations with any Nikon camera and a kit lens. It's the planning and preparation that will make or break your murmuration shots, so make sure you know where you're headed and arrive early. →







Isolation

Before the main murmuration event begins, or after it's finished, you'll find small pockets of early/late starlings arriving, which is a great opportunity to use a telephoto lens to pick out isolated groups. This method can produce some effective minimalist images or allow you to take full advantage of colourful skies, should you witness a fine sunset.



1 Formulate a plan

Planning is the difference between witnessing a starling murmuration and missing one altogether. Murmurations take place roughly around October to March. We visited Somerset's Avalon Marshes, but you'll find murmurations all over the UK. Once you've settled on a location, further research will help you to gauge where the birds might roost. We phoned the Avalon Marshes starling hotline, for example, which informed us where the birds roosted the night before. Arrive well before sunset, so you're set up before the show begins.



2 Lens choice

Murmurations move and change very quickly. Zoom lenses will afford you the most versatility, so you can zoom in and out accordingly. A 24-70mm and 70-200mm (35mm equivalent) will stand you in good stead. Fast f/2.8 lenses are preferred, so you can keep your shutter speed high and your ISO low as the light fades. These lenses are expensive, so a less versatile but still suitably fast alternative would be a prime lens or two, like a 50mm and 85mm f/1.8. That said, you can still use a kit lens, just be prepared to boost your ISO as the sun sets.



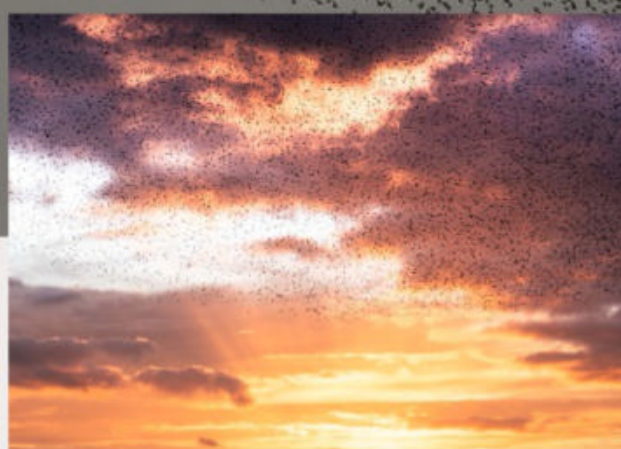
3 Camera settings

Switch to Manual mode and select a wide-open aperture. The shutter speed will depend on your focal length and how fast the birds are moving – we wouldn't recommend dipping below 1/160 sec. Apply the reciprocal rule if your focal length exceeds 160mm, sensors over 24Mp will require much faster shutter speeds to mitigate camera shake. We kept our shutter speed and ISO down by shooting on a tripod with a loosened ball joint to provide extra stability and comfort – there's little downtime once the spectacle begins.



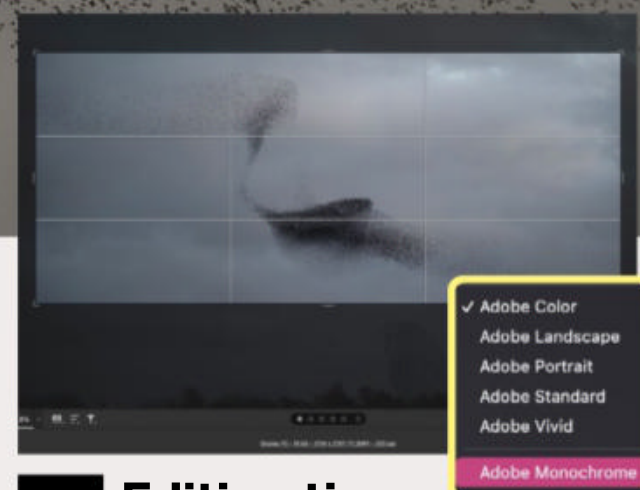
4 The need for speed

The best thing about capturing a murmuration is the incredible abstract shapes that the birds form, but they don't hang about. Stunning patterns are formed and scattered in a split second, so using a fast burst-mode setting is essential. You might not even realize what shapes were made until you review the shots. You can treat the scene like a landscape and focus roughly 1/3 of the way into the frame. But if you're constantly zooming in and out, you may find it easier to use single-point AF or wide-area AF to focus on the murmuration directly.



5 Keep it clean

You can't control where in the sky the starlings will gather, but it's worth knowing that clearer skies tend to reap the best results. Overcast cloud cover or relatively clear sunsets will allow the murmurations to really stand out. But as you can see here, it's easy to lose the tiny starlings against a busy backdrop. The direction of light can impact the intensity of the murmurations too. If the starlings are backlit, they'll be rendered as punchy silhouettes, but if the light is hitting them more head on, they can take on an attractive brown colour.



6 Editing tips

If your skies lack colour then a mono conversion is a great way to go. Using this method, while isolating the murmuration patterns, can create some stunning minimalist compositions. Due to the abstract nature of murmurations, it's worth experimenting with creative crops and aspect ratios. Don't be afraid to try out 1:1, 4:5, 16:9 and even 21:9 aspect ratios. We increased Camera Raw's Contrast, Blacks, Clarity and Texture sliders to increase the contrast of our murmurations, making them really pop against the greyscale sky. **N**



A delicate snowdrop is the perfect subject for creating an ethereal seasonal flower portrait like this.

Camera:	Nikon D850
Lens:	200mm f/4
Exposure:	1/200 sec, f/4, ISO400

Project Three: Winter flowers

Drop shot

Ross Hoddinott explains how he shot this stunning snowdrop portrait against the setting sun

I simply love snowdrops – they are one of the first tell-tale signs of spring. We have a little woodland where I've planted lots of wildflowers, including a little carpet of snowdrops. I captured this photo one February evening. I lay on the ground to capture a low, intimate perspective and carefully aligned my camera with the setting sun to add interest and mood.

1 Backlight is best

Drooping, delicate snowdrops suit all types of light. However, backlighting will really help to highlight the flower's shape. Shoot early or late in the day when the sun is low in the sky. By shooting towards the direction of light, you will capture additional atmosphere and some attractive bokeh. Make sure you attach a lens hood to help prevent lens flare.

2 Background check

Simplicity is often key when shooting flowers. Less is more and a diffused, flattering background will enhance your snowdrop shots. Take the time to explore your flower's surroundings. Alter your shooting position, select a shallow depth of field and carefully remove distracting branches, leaves and debris to produce a clean, attractive backdrop.

3 Stay focused

Depth of field is shallow when photographing wildflower close-ups using a macro lens or close-up attachment. Therefore, focus with care. If your camera's AF is struggling to lock on sharply, switch to manual focus and rely on focus peaking (if your Nikon includes this feature). Regularly review images in Playback and zoom in to scrutinize image sharpness.

4 Get down and dirty

A low angle will often produce a more natural and intimate perspective. Gardens and woodland are typically muddy during late winter so use a groundsheet to prevent you and your kit getting damp and grubby. A beanbag or mini tripod is the best option for low-level photography. If you have a tilting LCD, use it to make focusing and framing more comfortable.

5 Keep it pristine

Close-up images have a nasty habit of highlighting a flower's potential flaws or any damage. Check your subject closely and carefully, and photograph snowdrops that are pristine and perfect. Consider the weather too. Frost or a dusting of snow will add a seasonal feel to your shots, while raindrops will add interest and sparkle. **N**

Expert Tip



Many Nikons have a multiple exposure mode. This can be used to produce creative results. Try taking one sharp shot and then overlaying it in-camera with a second defocused image – a technique known as the 'Orton Effect'. Results will have a soft-focus, dreamy glow, which really suits white, delicate flowers like snowdrops. It's a technique that isn't for everyone and can be hit and miss, so be prepared to experiment. Take a series of shots to capture a result you like.

BEFORE



AFTER



Project four: Affinity Photo

Manhattan makeover

James Paterson transforms a cityscape into striking art with a mix of blending and selection skills in Affinity Photo

www.bit.ly/np161city



With their angular lines and bold shapes, architectural photos and cityscapes are the perfect subject for a creative makeover in Affinity Photo. In this project we explain how to transform the iconic New York skyline into a bold array of painterly splashes and drips. This involves a cunning combination of selection skills and layer blending tricks.

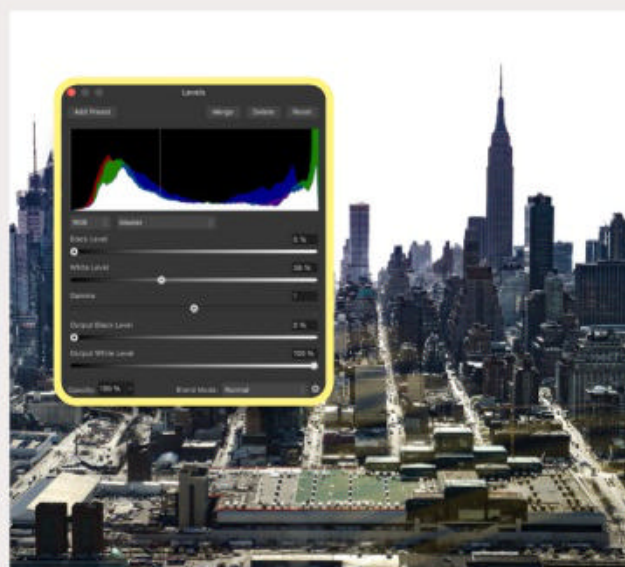
We begin by preparing our photo of the city, converting it to black and white and

boosting contrast so that we have a bold foundation to work with. Once done, we use the Pen tool to isolate each vertical street, so that we can apply different colours to each. This helps to tailor the painterly effect to the image, as the streaks of paint we add will match up with the shapes we create for each street.

You can find lots of free photos of paint streaks online, but there's something to be said for making your own. Here, we painted

a few colourful streaks of watercolour paint on a piece of white paper. We kept the streaks in loose, vertical lines then photographed the paper at a low angle. This way, the streaks of paint could match up with the straight lines of the New York streets in our photograph.

From here, we can finesse the effect with simple layer skills, adjusting colours and positioning each piece in the puzzle until everything fits together perfectly.



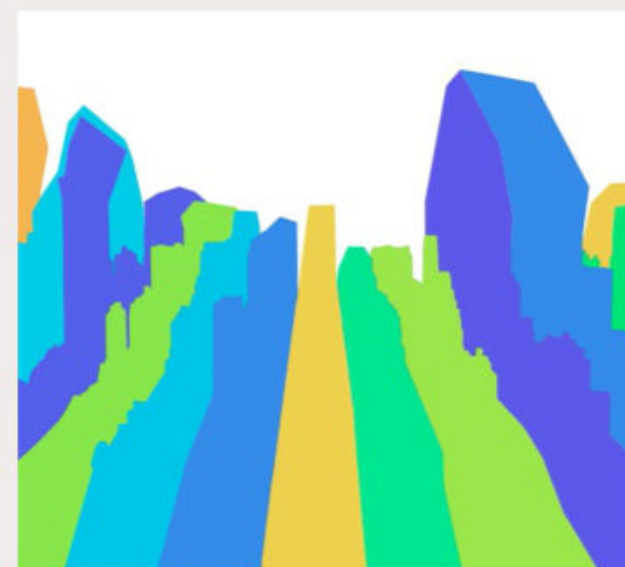
1 Blow out the sky

Open the image then grab the Selection Brush. Check Snap to Edges then paint the sky and background details. Click Refine and increase the Border to improve the selection edge. Hit OK then click the Adjustment icon and pick Levels. Drag in the White Level to blow it out.



2 Trace around a street

Add a Black and White Adjustment. Next zoom in close and grab the Pen tool. Click to add anchor points and make a path that follows the shape of one of the streets, including the tops of the buildings, then complete the path. Click the Fill option and give it a random colour.



3 Make street shapes

Right-click the layer and choose Rasterize. Trace around the next street with the Pen tool and complete it within the other street shape. Fill and Rasterize then Cmd/Ctrl-click on the street shape to load a selection and hit Delete to match edges. Repeat for the rest of the streets.

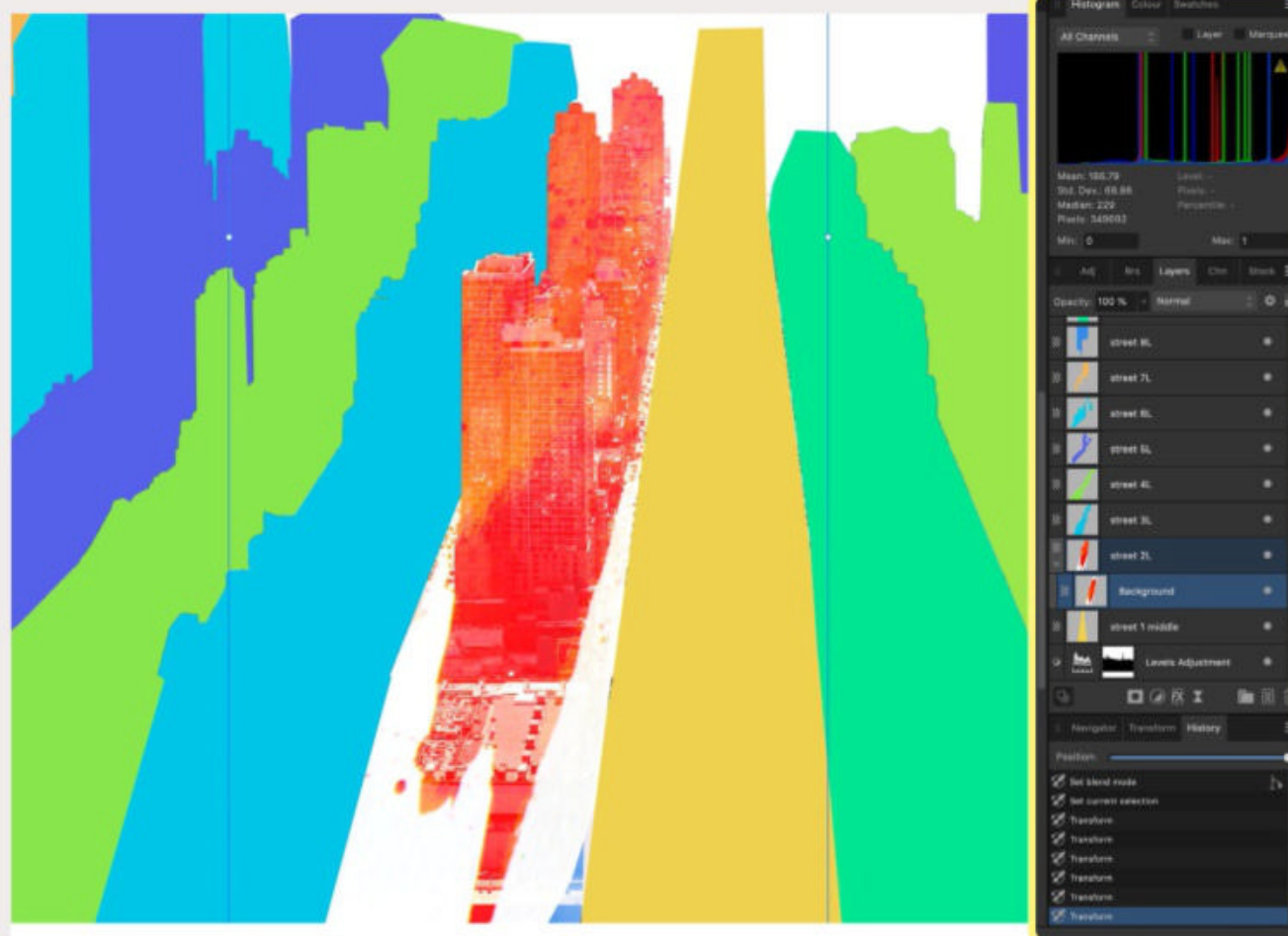
4 Blend the paints

Open the paint image supplied (or create your own). Grab the Lasso tool and make a rough selection around one of the streaks. Copy (Cmd/Ctrl+C) and Paste (Cmd/Ctrl+V) it into the main image, then drag the layer onto the layer name of one of the shapes. Set the blend mode of the shape layer to Screen.



5 Fill the scene

Click the arrow in the layer thumbnail to expand the layer, grab the Move tool and position the paint streak to fit over the street. Hit Cmd/Ctrl+U and adjust the colours. Repeat by copying in another paint streak and placing it over the next street. Complete all the streets.



6 Perfect the colours

Hide all the layers except the bottom three, then hit Cmd/Ctrl+Shift+Alt+E to merge a copy. Drag it to the top of the stack, then set the blend mode to Screen. Fine-tune the colours and try blending textures to finish. **N**

Expert Tip



We've finished by blending a subtle paint texture using the Darken blend mode. Try blending your own painted textures with your photos, and experiment with layer blend modes and opacity. Useful blend modes to try are Lighten, Screen, Multiply, Darken, Overlay and Soft Light. You can also use colour look-up tables (LUTs) to transform or unify the colours.



BEFORE



AFTER

Project five: Adobe CC

Master dodging and burning

James Paterson explains these essential tools for old-school image enhancements

The Dodge and Burn tools are ideal for selective lightening and darkening in Photoshop. There are lots of other tools that do a similar job, but there's something about these two options that will keep you coming back to them, time and time again!

Perhaps it's the darkroom connection. In the darkroom, areas of a print would be 'dodged' by shading some of the light from the enlarger bulb. A small disc on a piece of wire would often be used, an implement echoed in the Photoshop Dodge tool icon. By contrast, parts could be 'burned' by focusing extra light from

the enlarger onto specific areas, resulting in darker tones. An 'OK' hand shape could be used for this, the hole between thumb and finger channelling a thin sliver of light onto the print, hence the hand-shaped icon for Photoshop's Burn tool.

Of course, all this had to be done in the dark without any feedback until the print was developed. It took patience, tremendous skill and a good deal of trial and error to get right. Thankfully, it's much easier now. But there's still great skill in knowing where to dodge or burn, and how far to push it if you're going to achieve your best results.

VIEW THE



VIDEO

www.bit.ly/np161burn

Expert Tip



There are other ways to lighten or darken parts of a photo. Perhaps the best are the masking tools in Camera Raw and Lightroom, these let you isolate areas to alter brightness, contrast and colour. Another great Photoshop technique is to make a new empty layer and set the blend mode to Soft Light. Paint with white or black on the layer to lighten or darken it respectively.

1 Brush basics

The Dodge and Burn tools work like brushes, allowing you to paint over areas to lighten or darken them. As such you can use the usual Photoshop brush shortcuts. The] and [keys let you resize the brush tip, and Shift+] or [alters hardness. Clicking once, holding Shift and clicking again lets you make a straight line (useful for dodging things like sun rays). With either tool you can hold Alt to temporarily switch tools.

2 Set the exposure

The Exposure amount sets the strength of the tool. Keep this low, around 5-10%, and build up your brush strokes. You can use your keyboard 1-9 to set the Exposure strength to 10%, 20% and so on, and hitting 0 sets it to 100%. The Protect Tones checkbox nearby can help to prevent highlights or shadows being clipped to black or white, and also somewhat guards against colour shifts while dodging or burning.

3 Make quick selections

The Object Selection tool can make dodging and burning quicker and more accurate. It lets you click on objects to select them. Once an area is selected you can only brush inside of it, so you don't need to be so precise with your brush strokes. Here we quickly isolate the rock, which then allows us to dodge the highlights in the snow to separate the rock from the backdrop. Once done, hit Cmd/Ctrl+D to deselect.



4 Choose a range

Range controls are key to getting the most out of the Dodge and Burn tools, and perhaps the main reason to opt to use them. They let you target a part of the tonal range. It's usually best to Dodge either midtones or highlights and Burn either midtones or shadows. Target the midtones for general lightening or darkening and switch to the shadows or highlights to accentuate certain features or boost contrast.

5 Make a grey layer

The Dodge and Burn tools are destructive, so make a duplicate of your 'Background' layer (hit Cmd/Ctrl+J). You can also make a dedicated dodge and burn 50% grey layer. Hold Alt and click New Layer in the Layers panel, set Mode: Overlay and check the 'Fill' box. You can dodge and burn on this layer to affect layers below. We used a duplicate layer for fine details and a grey layer for more general shifts in brightness.

6 Prevent colour shifts

Colours can sometimes go awry, especially when dodging highlights. If dodging on a duplicate layer, simply set the layer blend mode to Luminosity (you can use the same trick when boosting contrast with a Curves layer). Alternatively, if you have used a few different layers for your dodging and burning, duplicate the original 'Background' layer, drag it to the top of the stack and set the blend mode to Color. **N**



Hard-edged shadows help to create more definition in your prints.

Project six: The big project

Craft your own cyanotypes

James Paterson discovers this analogue process for detailed Prussian-blue prints of found objects and digital photos

The cyanotype process is one of the earliest photographic techniques that remains popular to this day. Paper is coated with the cyanotype solution then exposed to ultraviolet light. Objects placed on top of the paper – whether natural things like plants, man-made items or negative film – is reproduced on the paper in stark monochrome, the silhouetted details held back to white while the exposed areas bloom into shades of Prussian blue. In the past its simplicity made it especially useful for reproducing documents of building designs, hence the term 'blueprint'.

These days you can even use the technique to physically print your digital Nikon photos by first converting them into negatives in Photoshop and printing them onto a sheet of transparency film, before overlaying the physical transparency onto your coated cyanotype paper and exposing it. The process is inexpensive and easy. You'll need cyanotype chemicals that can be ordered for under £20 – ready-coated paper exists, but coating the paper yourself is easy enough, works out cheaper and allows you to create lovely brushed borders at the edges. Cyanotypes are exposed via daylight or UV light like a black light or UV torch.

Relatively slow exposure times allow us to fine-tune the composition of objects and experiment with movement. With a UV light, we can also finesse our exposure by 'burning' areas that need more light, or vignetting the edges of the print. After washing and drying, we're left with a beautiful piece of analogue art ready to display. →



www.bit.ly/np161blue

The set-up: creative cyanotypes

GET PREPARED FOR CYANOTYPE PRINTING AT HOME WITH A UV LIGHT

1 UV light

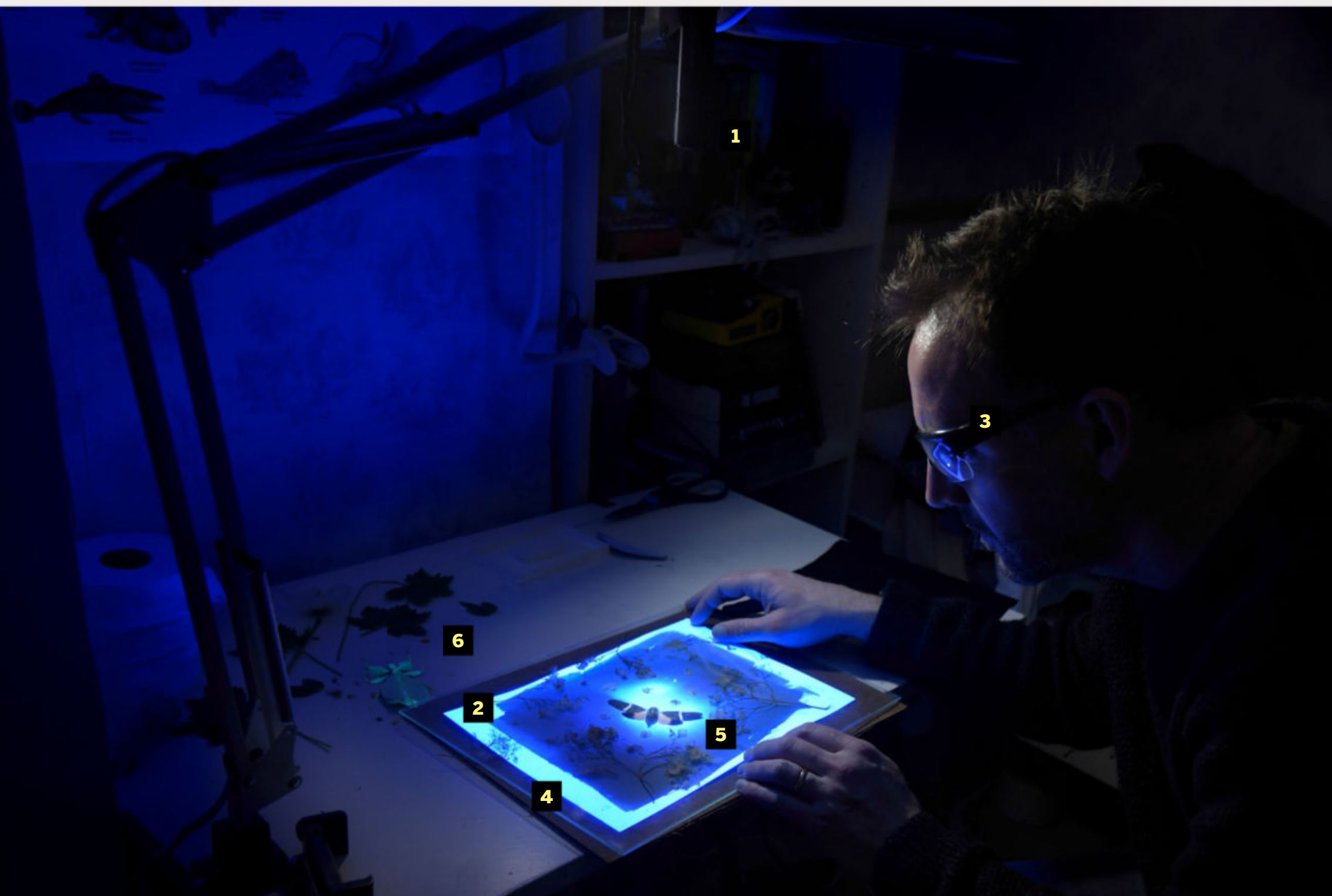
The cyanotype paper is sensitive to ultraviolet light. It can be exposed either using daylight or with a UV light source (such as a Convoy S2+ UV torch) suspended above the print. A small source of light like the torch creates hard-edged shadows, which can help to create more definition in the print.

2 Coated paper

Coat some paper in the cyanotype solution, then leave the paper to dry in a dark place and store it in a light-proof bag until you're ready to use it. When the paper is exposed to UV light the solution goes dark. Any items placed on top of the paper block the light and show as white silhouettes.

3 Safety glasses

When using a strong source of UV light, such as the torch here, we should always wear safety goggles, as UV light can permanently damage eyes. Simple, plastic safety glasses will provide protection. But be aware that even with the glasses on, you should keep your time under the UV light to a minimum.



4 Acrylic sheet

A sheet of glass or clear acrylic is helpful for keeping the items flat against the coated paper. In any places where the items aren't flat, they will come out softer as the light can seep around the edges of the item. Weigh the sheet down with heavy objects or use clips to keep the objects flat.

5 Semi-translucency

We gathered a few items from the garden, along with some dried bugs we ordered online. Any items with interesting shapes will work. Remember, objects will come out in silhouette as a photogram. Semi-transparent objects, like the decaying leaves here, can be great as some light will filter through the object.

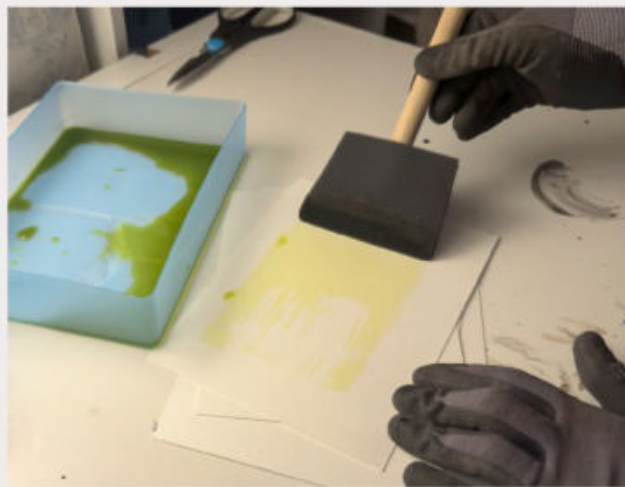
6 Dim environment

As soon as the paper is in light the exposure will begin, so if you're arranging items on top of it, like this, then don't take too long. It helps to plan out your composition in advance and arrange things under dim tungsten light, then, when you're ready, turn on your UV light or carefully take the paper outside to expose it.

Top tips for the cyanotype process

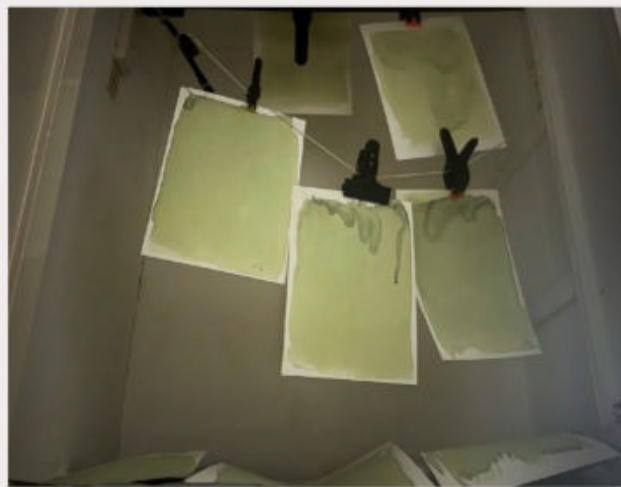
1 Combine the chemicals

The cyanotype solution is made by mixing potassium ferricyanide and ferric ammonium citrate – often simply labelled as Part A and Part B when sold in kit form. We used a Silverprint Cyanotype kit, but you can find lots of other options online, as well as ready-made coated paper.



2 Coat the paper

You can coat lots of surfaces with cyanotype solution, including textiles and natural objects. For paper, it's best to use a heavy, acid-free cartridge or watercolour paper. Wearing protective gloves, use a foam brush to coat the paper. You should aim for a thin, even coating and try to avoid pooling.



3 Leave to dry

Coat several pieces of paper and leave to dry in a dark place for a couple of hours, or overnight ideally (you can use a hairdryer to speed up the drying). When hanging you might find the solution is uneven, so rotate the paper occasionally. Once dry, store the paper in a light-proof bag until you're ready to expose a sheet.



4 Compose your shot

Arrange objects on the paper into a pleasing composition. This is the time to experiment. You can achieve interesting sharp/blurred results by having some plants pressed flat under glass and others loose on top. You can also create more depth and exposure effects by moving objects during the exposure.



5 Expose to UV light

You can use daylight or a UV lamp to expose the print. Optimum exposure times will vary depending on the strength of the daylight or your UV light source. Under direct sunlight you may need 30 seconds or so, but if it's cloudy you're likely to need several minutes. When the paper goes dark blue, then it usually means it's ready.

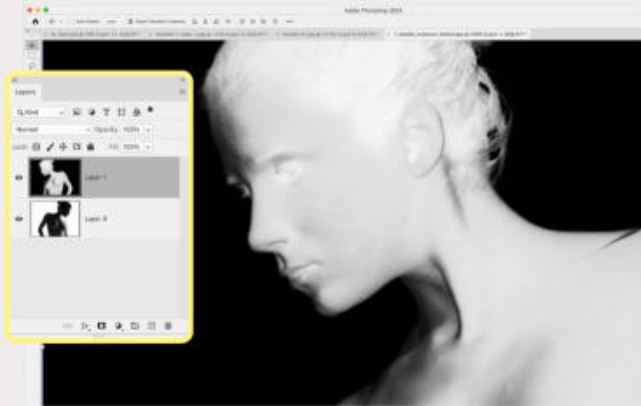


6 Wash and dry print

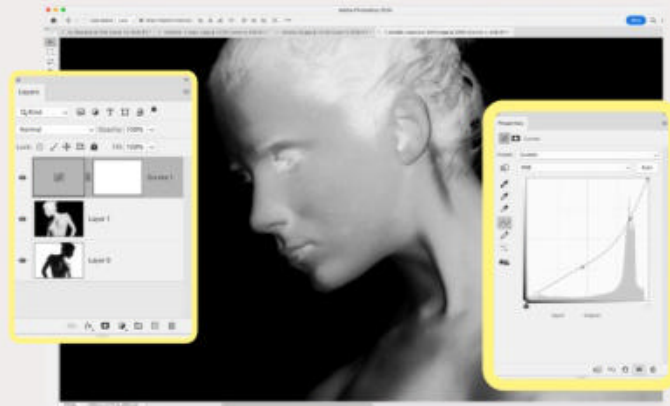
Once exposed we need to wash off all the light-sensitive solution. Hold under running water in the sink or bath for at least a minute. A little vinegar mixed in with the water can help to develop the print. Once washed, leave the print on a piece of scrap cardboard in a dark place until completely dry. →

How to print a Nikon negative

HERE'S HOW TO PREPARE AND PRINT YOUR NIKON NEGATIVES AS CYANOTYPE PHOTOGRAPHS



1 Desaturate/invert You can also turn your Nikon images into negative transparencies, which you can then print on an inkjet printer. You'll need a sheet of transparency film. Desaturate, invert and flip the image in Photoshop. Hit Cmd/Ctrl+Shift+U to desaturate, Cmd/Ctrl+I to invert then Edit > Transform > Flip Horizontal.



2 Brightness/contrast You might need to reduce the contrast of the image, as flatter photos tend to work better when making cyanotypes from negative transparencies. Use Curves or a tonal tool of your choice to reduce the contrast and fine-tune the brightness. Try producing several test versions with varying contrast.



3 Print to transparency Use an inkjet printer to print it on a sheet of transparency film. Set the media type to transparency and quality to maximum. Place the transparency on your coated cyanotype paper, emulsion side down. Use clips or glass to keep paper and film flat and expose it with sunlight or a UV light.

Get creative with cyanotype exposures

COMBINE NIKON NEGATIVES WITH THE PHOTOGRAM TECHNIQUE FOR STUNNING DOUBLE-EXPOSURE RESULTS

Once you've cracked the basics of cyanotype printing, there are all sorts of ways to get creative with your exposures. For instance, why not try combining a negative transparency with the photogram technique? To do so, begin by printing out a photo onto a sheet of transparency (see above) then place this on top of your coated cyanotype paper and add other objects on top. This gives you an effect similar to a double exposure. For the best results, use a silhouette image with strong contrast or a simple, bold shape. Here, we combined a silhouette figure with fern leaves, then exposed it under a UV light for about five minutes. Halfway through the exposure we added a few more leaves, so that some of the plant shapes came out semi-transparent. **N**



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Cycling

WEEKLY

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Brett Florens

Becoming a photographer was the last thing on **Brett Florens's** mind when he was conscripted as a policeman in South Africa. Now he's a leading wedding photographer. Keith Wilson hears his story of bullets and lucky breaks...

All images: Brett Florens



Brett Florens Profile

- Born and raised in South Africa, Brett has been an accomplished wedding, fashion and portrait photographer for more than 20 years.
- Now based in Amsterdam, he has been a Nikon Ambassador since 2008, and represents other imaging brands, including Elinchrom, Lowepro and Adobe.
- Brett is a renowned motivational speaker and presenter, with a goal to inspire other photographers to live their best lives and run profitable, sustainable careers.
- He is the author of four books about wedding photography, including *Modern Bridal Photography*, *One Wedding Destination Dubai* and *A Shot in the Dark*.
- Brett runs regular tutorials, webcasts, masterclasses and mentoring schemes through his online coaching and mentoring courses at www.thefocallounge.com

www.brettflorens.com

L

Less than a minute into our interview, Brett Florens detects my Australian accent and gleefully reminds me of my home nation's poor

showing in last year's Rugby World Cup: "What was Eddie Jones thinking?" he exclaims. Of course, Brett can afford to barrack and gloat – he's from South Africa. I could remind him that Australia won the Cricket World Cup, but I bite my lip and remember the purpose of our meeting: to hear his insights and stories as one of the world's leading wedding photographers. I wonder how many of his peers have taken such a dangerous and unorthodox path to this most traditional of genres.

Back in 1990, during the last years of the apartheid era, the rugby-mad 18-year-old from Durban was conscripted into the military as a riot unit policeman. Nelson Mandela had just been released from prison and South Africa's first free elections were set for 1994, but the years in between were mired by bloody clashes between rival black political groups across the country.

"There were more people murdered per capita than killed in the war that was going on in Bosnia-Herzegovina at the time," says Brett. "The most violence was in our area in the province of Kwazulu-Natal."

The bloodshed and violence was so great in the early 1990s that police forensic photographers started refusing to go into the townships to photograph crime scenes, so the police formed a photographic unit within Brett's riot unit. However, no one stepped forward to volunteer, not even Brett.

"I had zero interest in anything creative or photographic," he recalls. "Then they said, 'you get your own police car', and I thought, 'that's pretty cool', so I signed up for it!"

You were very young for such a role and very naïve, dare I say it?

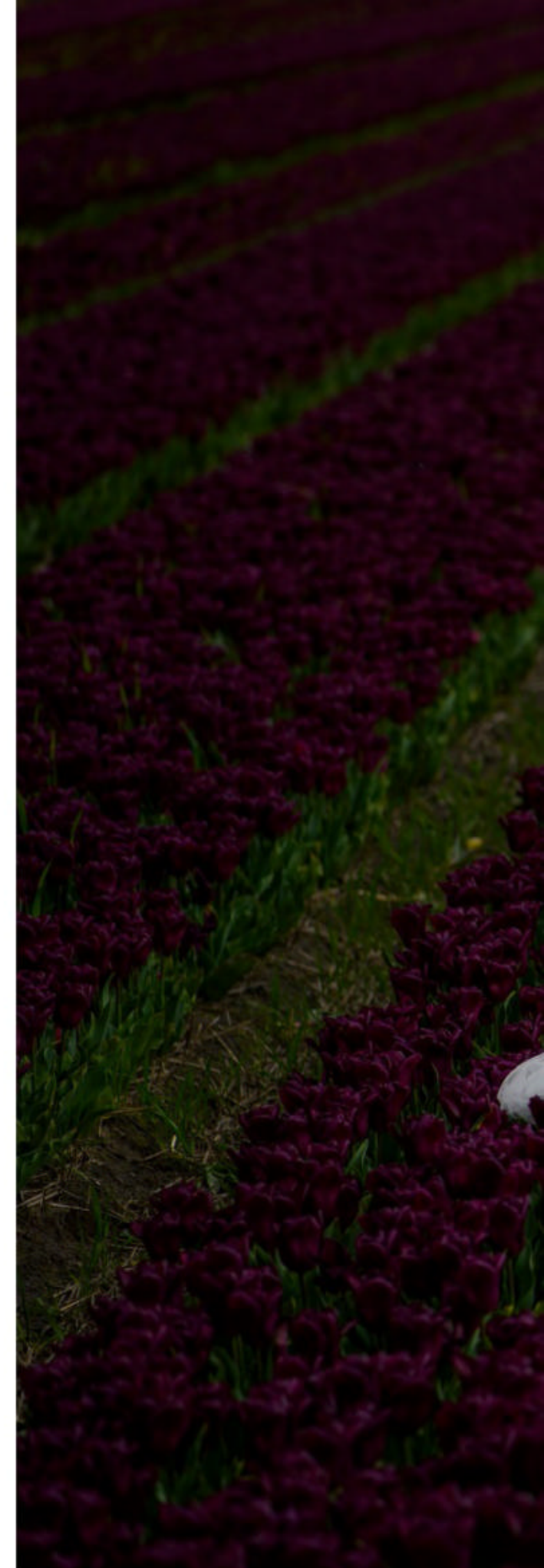
Yes, well you grow up very quickly in those environments when bullets are flying. I was 18 years old when I was conscripted and you witness the



I'm not emotionally attached to my work. I shoot what people want to buy

Previous page: This image was created at a wedding workshop specifically aimed at that audience.

Below: The golden light of the Dubai desert in winter is an exotic wedding location, says Brett, who picked up Destination Photographer of the Year with this image.



most horrific things imaginable. One of the first things I saw was a woman being burnt alive: they called it 'necklacing', where they put a rubber car tyre over you with petrol inside and they set it alight. There were 20 or 30 people attacking this one person. It's like a kangaroo court.

As you say, you grow up very fast in such environments.

You grow up very quickly. I went on a six-week course on how to capture evidence with forensic photography. I was doing forensic photography for probably six months or a year and, as it got closer to the elections, there was a huge international press influx into South Africa – Associated Press, Reuters, Newsweek, AFP, loads of



others – to document the change, so I would see the same people at crime scenes over and over again. Journalists are very clever at recruiting people to be informants for them because they need inside information to get to crime scenes.

Do they need tip-offs about what's going on in the townships?

We had these little pagers and I would let my contacts know, and then go to the scene because they don't clear away the bodies until I've finished photographing. I would take my time and make sure my journalist mates got to the scene on time to get some sort of content. It was then that I started to realize that information was valuable.

Above: The spectacular tulip fields in the Netherlands last for only a few weeks – they are always a magnificent backdrop to showcase beautiful bridal gowns.

*** LIFE THROUGH A LENS**

SINCE BEING GIFTED A NIKON F3 WITH 55MM AND 135MM LENSES, BRETT HAS STUCK WITH NIKON EVER SINCE...

Have you still got the same equipment from your early days?

I've still got the body and the lenses. The 55mm is in my camera bag and I take it on every single job I go on because when I open the camera bag I must remember my roots and I must remember where it all started. I can't get all big-headed about whatever I've achieved in this world because, honestly, I'm just a photographer. When you see so many egos in this industry it's too ridiculous because you're just a photographer, mate. So, I make sure that I stay grounded every single time I open my camera bag by taking a look at this 55mm. And it works now on the Z 9!



Nikon F3 image: JamesPFisherIII

THE N-PHOTO INTERVIEW

With that sort of experience, why was it that you didn't go into conflict photography?

Well I wanted to. Because I was conscripted as a policeman, I was looking for a way out, so my goal was to be a press photographer for the newspapers, hired as a full-time photographer, but I wouldn't have access to all the information I had as a policeman, and without that it's impossible. And it's not that I enjoyed it, I didn't care about photography. It was literally a way to make money.

Okay then, how did you first get into wedding photography?

I've known a lot of people go down this route. Because your friends, colleagues and family know you're a photographer, you start to get requests to photograph weddings, families and personal events. But if you're shooting for friends and family it's not the right place to start.

Why isn't it the best place to start?

Because your friends and family are very similar to you, it means they don't have any money either! So, they are not the right place to start in terms of target market.

Were you photographing weddings while still working for the police?

Yes, I started shooting weddings for friends and family, and the bizarre life I was leading meant at three o'clock in the morning I would be shooting a crime scene where there's 10 people dead in a room, blood everywhere. I'd come home, leave my bloody boots outside the front door and have three hours' sleep, then rush to the newspapers to get my pictures into the papers. That would be *my* roll of film, but then I'd still have *another* roll of film in the camera from the government issue...

The forensic pictures?

Yes, and I would literally have rolls of film where I've got the negatives where it's dead body, dead body, dead body – bride getting ready – all on the same roll of film!

And when were you able to devote yourself full-time to photography?

After seven years in the police, I hadn't taken any holiday and I had accrued seven months' leave, so I opened up a photographic studio of 12 square metres but all I could



do was headshots. I would shoot weddings on the weekends and I started photographing for estate agents and did headshots for the local community. In the evenings, I walked around the neighbourhood putting pamphlets in postboxes.

If I wasn't shooting a wedding on a Saturday morning, I went to the local school to shoot sport, rushed off to the local one-hour lab, and sold prints to the parents. I realized that I needed to target communities with more disposable income if I was going to make money out of this, so would go and shoot in more affluent areas, and that elevated my target market demographic and enabled me to leave the police force.

What led you becoming a top wedding photographer?

One day, an estate agent came up to me and said, 'I like your service, I like the way you shoot for me, I like the pictures. Do you shoot clothing catalogues?' I said of course I shoot



Treat every single customer as if they are the most important customer you've ever had

Above left: Hydrangeas are one of Brett's favourite flowers and he always ensures that the florist receives images that showcase the bouquets.

Above right: Brett was inspired by a Mario Testino shoot in India and created this very fashion-inspired image.

Above far right: He shot this in the late afternoon while the cherry blossoms were in full bloom.

Right: When clients get married in country settings, the beauty of the bride and the horse always makes for a striking image.

Far right: Brett says his wedding photography is influenced by his interest in fashion and the images of Nick Knight, Annie Leibovitz and other masters.

clothing catalogues, even though I didn't know what a clothing catalogue was! He said, 'My wife works for a company called Island Style, which is a surf wear brand, and they're looking for a photographer.' She contacted me and I started shooting for Island Style.

That was a great bit of luck!

Yeah, but to some people luck is an art! They loved what I did. Thankfully, I found out how to shoot a clothing catalogue and I nailed it, and the brand started gaining a lot of momentum because of the imagery. Then another label, Quicksilver, contacted me and asked, 'Do you want to shoot for us?' So, I started shooting for Quicksilver, and because they and Roxy are brother and sister brands, I started shooting for Roxy. I started shooting for other well-known brands – Salomon, Puma, Under Armour – and then I got another phone call: 'Are you the guy who shoots bikinis for Roxy? Would you like to shoot lingerie for Wonderbra?' I ended up being the official Wonderbra photographer in South Africa for 11 years!

That's a lot of bras...

Yeah. I was still shooting a lot of weddings at the time and as I was dealing with models and makeup artists and fashion, my wedding work became influenced by the →





fashion side of things. All the posing was very fashion-inspired and because of that I gained momentum.

So, you were shooting fashion-inspired wedding photography?

That's when the penny dropped and I realized there was an appetite for people who liked that type of photography. It also helped me to understand that what I thought was the right thing to sell wasn't necessarily what people wanted to buy. I think beginning my photographic career the way that I did was a benefit because I'm not emotionally attached to my work. I shoot what people want to buy.

Would you say fashion helped develop your style?

I'd say that instead of looking at other

wedding photographers for ideas, I started following fashion photographers and then copy what they were doing but as a wedding photographer, which meant I was a year behind fashion trends, but five years ahead of wedding trends.

Wedding trends take a very long time to change. I was shooting with off-camera flash, I was doing loads of poses that were stylized, editorial, and because of that I was creating



I ended up being the official Wonderbra photographer for 11 years!

Above: Seaside destinations offer a wealth of possibilities for the day-after shoot. Waiting for just the right moment, Brett captured this dramatic image.

images that no other wedding photographer was creating.

You're now a major influencer for other photographers, but what photographers influenced you?

Definitely the fashion photographers, the mainstream commercial type, so Nick Knight, Mario Testino, Patrick Demarchelier and Annie Leibovitz.

That's four great names...

But it's not like super-edgy stuff. I can't do a fashion picture that's dark for me. I'm not dark. I'm super-boring if you look at my life right now: I don't drink, I don't smoke, I love my wife, I go to bed at 10 o'clock at night, I wake up at 7 o'clock in the morning and go for a run. My wife says boring. I say stable and dependable! It depends upon your perspective.

* TAKING THE PLUNGE

BRETT ENJOYS TAKING THE BEACH WEDDING A STEP FURTHER THAN MOST PHOTOGRAPHERS – AND SOMETIMES EVEN BENEATH THE CRASHING WAVES...

This bride and groom in the surf – was it the last picture of the wedding day shoot?

They loved that, mate! It's usually the day after for a photo like that. I've done this a few times where the bride and groom will have their wedding and then go off on honeymoon and you say, 'This is great, but you know what would just make it perfect is if we do another shoot on another day when you get all dressed up again.' Essentially, what you're doing is you're extending the fairy tale of the wedding and she's going to absolutely love it. Plus you're going to make more money as a photographer, so you can either do it the day after the wedding or after they come back from honeymoon – some couples can't wait to do the underwater shots, and in South Africa, everyone can swim!



to be spending my money on government jobs.' He said to me, 'No, you can't be shooting with that. Here, this is for you', and he gave me his Nikon F3 with a 55mm macro lens and a 135mm lens.

So, you've been using Nikon equipment all your working life?

Absolutely. I had the F3 with those two lenses and then I bought a secondhand F4 and then I bought my first 80-200mm f/2.8. When I left the police and set up my studio, I was shooting with the F4.

What was your first DSLR?

Well, something happened when, by chance, I photographed Prince Harry's girlfriend at the time. The images ended up in the *News of the World* and they contacted me for some more pictures, so I sold images to them. They were really nice pictures of her so I didn't feel it

Next Month
Landscape
and fine art
photographer
John Miskelly

was a bad thing to be selling pictures behind someone's back, and with that money I bought the Nikon D2X and that started my journey on the digital side of things. That would have been 2002 or 2003.

Animals come up a lot in your wedding pictures, mostly horses, even the odd camel?

Well, rich people have horses, mate! It's all about targeting the market and following the money. People who are into horses have got bucket loads of money. So, of course, I'm going to go down that route. As for the photos with the camels? Well, the groom was a camel vet, so obviously that was pertinent to them, Suddenly I'm the photographer who shoots weddings in the desert with camels.

Weddings are a very competitive market. Are there other niches that you have in mind to pursue?

When I talk to people about that, I say you need to look at other genres for inspiration. Wedding photography can be boring. It's the same thing week after week after week, and if you're not inspired by imagery that's outside of wedding photography you're going to be stagnant.

What advice would you give to aspiring photographers?

My advice to any photographer is to treat every single customer as if they are the most important customer you've ever had because you never know the influence that they might have. Just by the way you treat someone can literally change your life. It all takes me back to that one estate agent who gave me the lead for his wife and the clothing catalogue. So, I treat everyone the same: I've shot Mandela, I've shot De Klerk, I've shot Elton John. I've done the most amazing things that would never have happened if it wasn't for that estate agent. **N**

Brett Florens is one of the headline speakers at The Photography & Video Show, 16-19 March 2024, at The NEC, Birmingham. Don't miss his free talk, Behind the Scenes to Boost Business, at 4pm on Monday, 18 March on the Photo Studio stage. For more information, and to get tickets, visit www.photographyshow.com

Speaking of dependable, what was your first Nikon equipment?

It wasn't my very first camera. The police force in South Africa didn't have the budget so they said, 'You're the photographer but you have to go and buy your camera.' So, I went and bought a 35mm point-and-shoot Ricoh camera.

To do forensic photography?

Yes! I shot with that for six months. The international press would tag along with us for protection in the townships and one day I was out photographing a crazy scene with a *Newsweek* photographer called Mark Peters, and he turned to me and said, 'What camera are you shooting with? What the hell is this?' I had my little Ricoh and said, 'Well mate, it is what it is and I'm not going



The long game



Professional landscape photographer **John Miskelly** explains his obsession with long exposures and wild weather

In terms of kit, I like to keep it relatively simple and light, preferring to use a couple of lenses that I know really well and know how they'll perform. I use a Nikon Z 7, often paired with the Z 24-70mm f/4 S zoom and a PC-E 24mm f/3.5 tilt shift lens, which I absolutely love for its optical quality. I also use the Z 14-24mm f/2.8 S ultra-wide zoom when I need something wider as it's also fabulous. The weather-sealing is top class, it's never let me down over all the years I've used it, along with my previous Nikon gear. When this setup is paired with my LEE filters, I'm able to capture my signature long-exposure images.

I think this is one of those series that won't be finished for quite some time, as it's not every day you get the right combination of weather, tides and light. Of course, this is part of the attraction in going for something that is both challenging to achieve and very satisfying when you get the feeling that you've captured something a bit special. ■

Don't miss John's FREE talk 'How to perfect long exposure landscapes' on the Behind the Lens stage at The Photography & Video Show, 1pm, 18 March (www.photographyshow.com). Follow John on Instagram @john_miskelly, Facebook @john.miskelly1 and his website www.johnmiskelly.co.uk



I had to sleep in the back of the car and cooked dinner in the nearby gents' toilets

While I'm very fortunate to work as a professional landscape photographer, it's also really important to challenge yourself and find those personal projects that get your creative juices flowing. Being able to combine my photography with my love of being in wild and remote places,

whether that be on a beach or in the mountains, is my perfect combination. With that in mind, I've been working on a series of images over the past couple of years that represent these wild places, where the weather often becomes an integral part of the image and contributes to the emotion that I felt whilst being there.

Most of the images in this series are long exposures, ranging from 30 seconds to eight minutes. I use long exposure to remove unnecessary detail from the water and the sky. That allows me to create strong, simple compositions free of distractions. These images were all taken in challenging weather conditions, whether that was a blizzard in Senja, storms in

Lofoten or gale-force winds in Iceland, while the image from Harris in the Outer Hebrides was taken on a much more 'normal' Scottish day, which was simply cold and wet! As you can see, I'm drawn to those colder and more rugged locations.

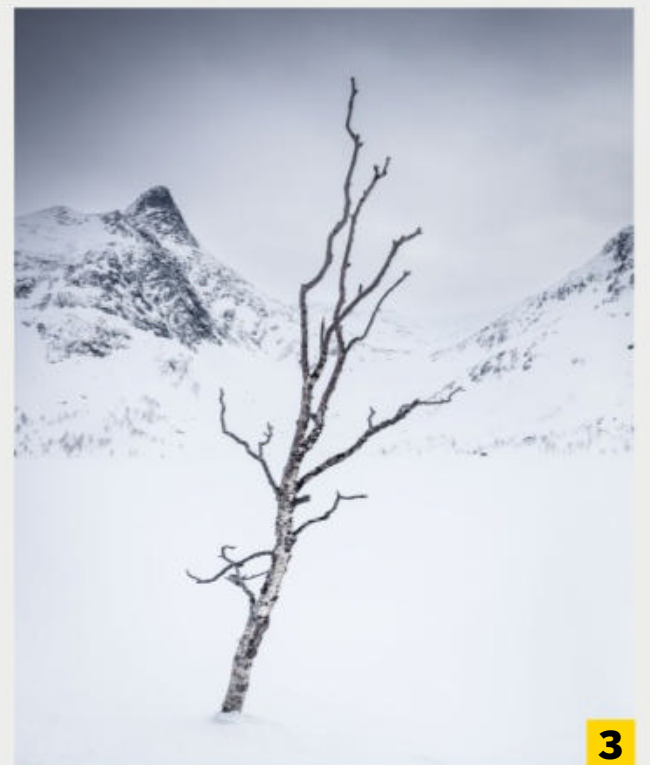
The biggest challenge in a project like this is keeping the gear as dry as possible, particularly the front of the filters that I almost always use, along with ensuring my own safety, especially when balancing on the rocks with big waves coming in with the storm, as they did in Uttakleiv in Lofoten.

Rock 'n roll

When I was in Iceland recently, the main road that runs around the country, called Route One, had been closed for a 200km section for nearly two days due to gale-force winds. After being stuck for 36 hours at Vestrahorn, I managed to get to Diamond Beach, and I was the only person there. I had to sleep in the back of the car as it rocked and rolled, and I cooked my dinner in the nearby gents' toilets. But the dawn light was amazing and it was a true privilege to experience the rawness of nature.



2



3



4



5



6

[1] Storvika across Stein fjord at last light in Senja, Norway.

[2] Tungeneset in Senja looking towards the Okshornan Mountains, better known as the Devil's Teeth.

[3] A lone tree near Botnvatnet Lake, Senja.

[4] Uttakleiv Strand in Lofoten, Norway, during a storm.

[5] From Nisabost Beach looking towards Ceapabhal, Isle of Harris, Outer Hebrides.

[6] The Diamond Beach, near Jökulsárlón glacier lagoon on the south coast of Iceland.

NIKOPEDIA

The only camera manual you'll ever need...

70 Nikon Know-How All you could ever want to know metering modes

74 Ask Matthew Can I stop buildings 'leaning', and other burning questions



NIKON KNOW-HOW

Nikon metering patterns

What are Matrix, Centre-weighted and Spot, and when should you use them?

The light metering system built into your Nikon is complex and sophisticated, but it's still not foolproof. That's why your Nikon has a choice of metering patterns.

By default, Nikon digital cameras use so-called 'Matrix' metering. This splits the scene into different zones that are measured individually. The camera then builds up a picture of the distribution of light in the scene and checks this against an internal 'database' to try to work out what kind of subject you're shooting and the exposure that will give the best result.

It sounds really clever – and it is – but ultimately the camera can only guess at

your intentions. If you're just starting out in photography, Matrix metering will probably deliver better results than you could work out for yourself, but as you gain experience you will encounter more and more situations where you need to take control.

METERING OPTIONS

That's why your Nikon camera also has Centre-weighted and Spot metering modes. These are less sophisticated than Matrix mode, but they make it much easier to interpret the light readings that the camera is giving you. These are explained in the diagrams opposite.

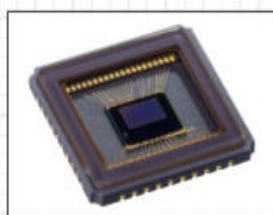
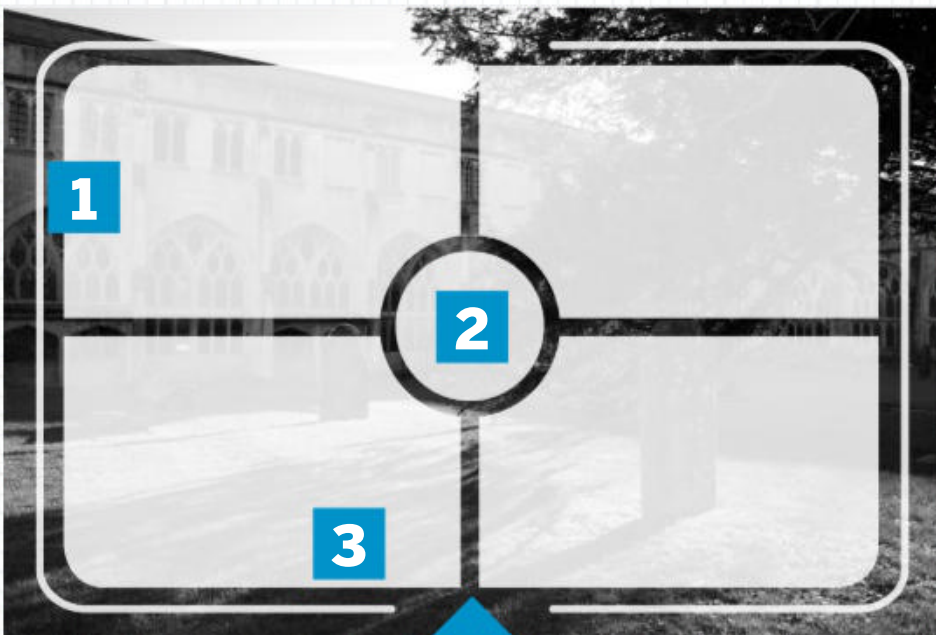
All Nikons give you this choice of metering modes, and over the next three pages we explain how they work and when you might use them. More recent Nikons also offer Highlight-weighted metering and most cameras offer further customization.

We can show you how your Nikon's metering system works, but in the end there are no 'right' and 'wrong' ways to use your camera's meter. The secret is to find a method that works well for you, one where you can easily understand and interpret the readings that the camera is giving you and anticipate the shooting situations where you may need to take over. **N** →

METERING MODES

What are you measuring?

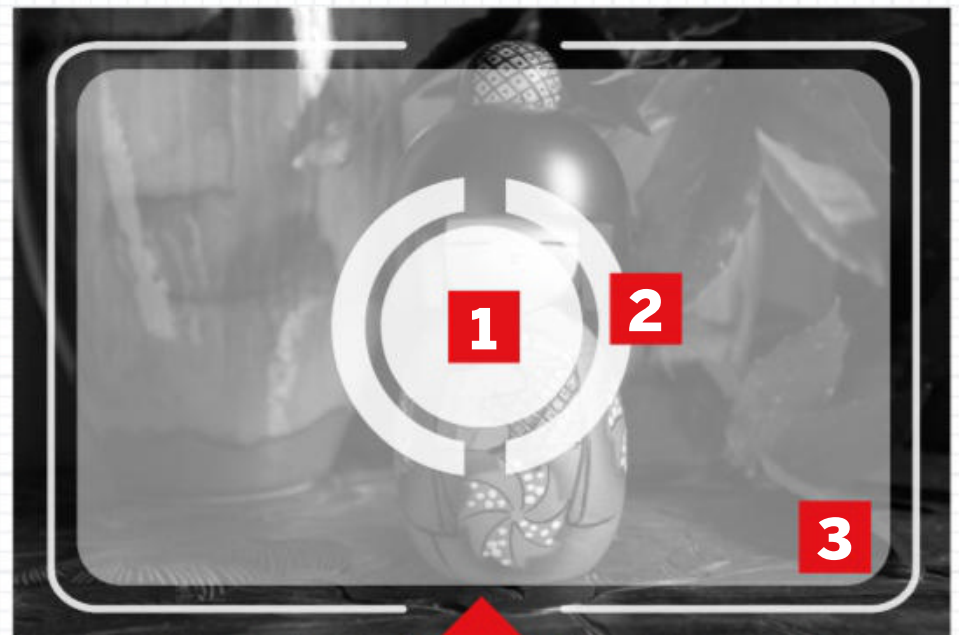
Nikon's metering patterns measure the light in the scene in very different ways



In Nikon DSLRs, the light meter is actually an RGB sensor – the resolution depends on the model.

3D COLOUR MATRIX

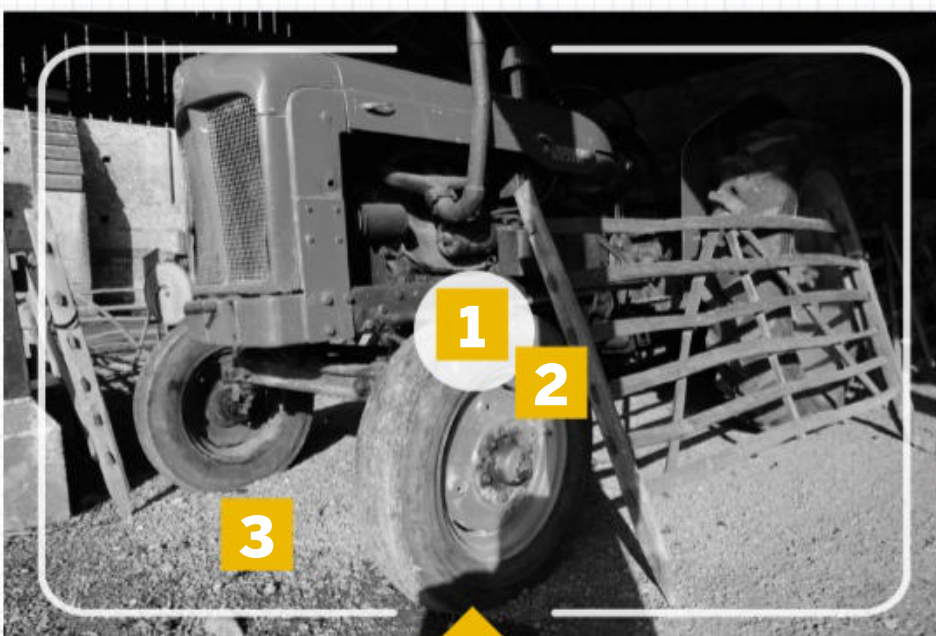
- 1 This is just a representation of the zones in Matrix mode. In reality, the scene may be split into hundreds, even thousands of zones.
- 2 The central area will not necessarily get priority – it depends on the light distribution across the rest of the scene.
- 3 Matrix mode will often give priority to darker areas to prevent underexposure.



Centre-weighted metering takes a reading from across the frame with a bias towards the centre.

CENTRE-WEIGHTED

- 1 This relatively small central area plays the biggest part in the exposure measurement.
- 2 On more advanced Nikon cameras you can change the size of this central area to suit your technique.
- 3 The outer areas play a smaller part in the exposure measurement, but they are still taken into account.



Spot metering measures a precise area of the scene, but it's not always in the centre.

SPOT METERING

- 1 Spot metering measures a very small area of the scene, but needs to be used with care.
- 2 On amateur models the spot zone is slightly larger to allow more leeway for errors.
- 3 The spot is not always in the centre of the frame. It's linked to your manually selected AF point, making it possible to meter off-centre subjects. Keep this in mind when metering.



Highlight-weighted metering is found on all Z-series mirrorless cameras, as well as more recent DSLRs.

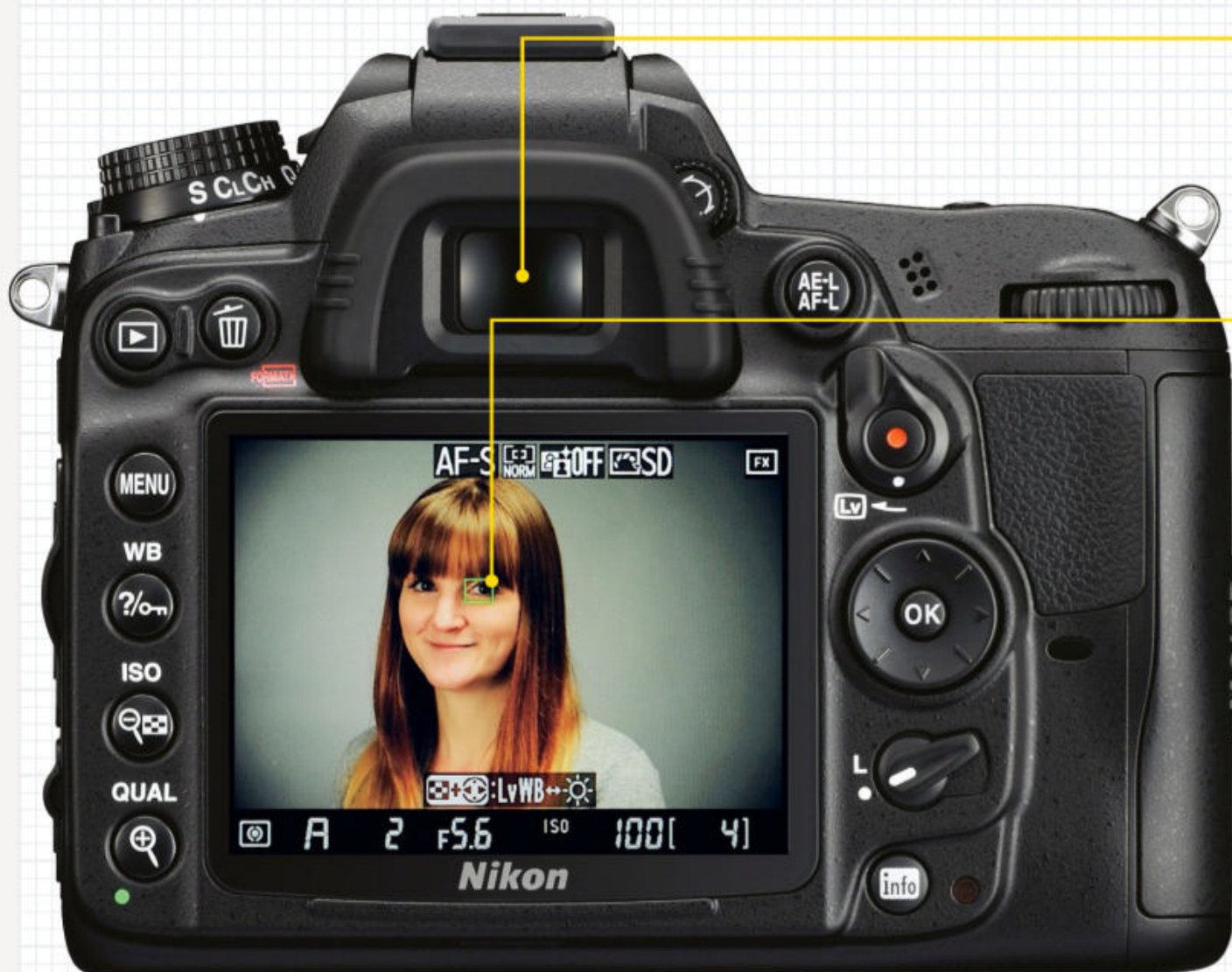
HIGHLIGHT-WEIGHTED

- 1 Highlight-weighted metering automatically detects and meters for highlights, for optimal exposure with less washout.
- 2 It also takes the colour of the light source into account to prevent overexposure, even when highlights have a strong colour cast.
- 3 A relatively recent addition to the metering options, older Nikon DSLRs won't have this.

NIKON KNOW-HOW – CONTINUED

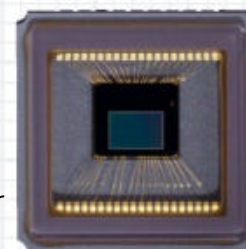
Exposure metering in Live View and mirrorless

The options appear to be the same, but you may discover some subtle differences in the results



VIEWFINDER METERING

With viewfinder photography you're using the standard 3D Color Matrix sensor.



LIVE VIEW METERING

In Live View, the standard metering sensor is no longer used. Instead, the camera measures the exposure using the imaging sensor itself.



HISTOGRAM DISPLAY

All Z-series cameras, and many DSLRs, can display an exposure histogram 'live' to check exposure as you shoot.

MATRIX METERING

The standard metering sensor does not cover the frame's full area, but Live View does, so you may see exposure variations.

CENTRE-WEIGHTED

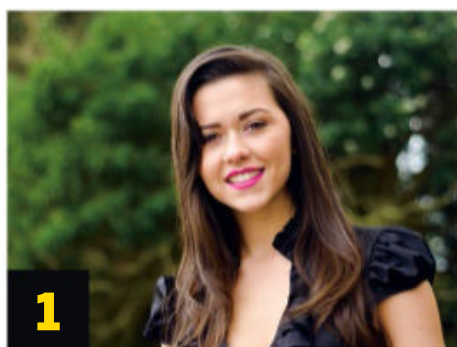
Differences in coverage mean that you may see exposure variations between viewfinder and Live View exposures.

SPOT METERING

In Live View mode, you can move the AF point, and hence the spot metering area, right up to the edges of the frame.

Step by step Coping with awkward subjects

There's no 'right' way to use your camera's exposure system, but here are some strategies...



1

Dark backgrounds

Subjects stand out against dark backdrops but this may confuse the meter. Centre-weighted or Spot mode may give a more reliable result than Matrix.



2

Overexposed skies

Matrix metering can leave skies above landscapes overexposed. If that happens, tilt the camera slightly upwards, lock the exposure, reframe and shoot.



3

Grey snow and ice

This isn't the camera's fault – it doesn't know snow is meant to be white! The solution is to apply an EV compensation adjustment of +1 to +1.7EV.



4

Pools of light

The most interesting lighting is often the trickiest for meter readings. But where the illumination is constant, you can take a spot reading in M mode.

The effect of metering on exposure modes

Info from the selected metering mode is used to adjust one (or more) of the exposure controls...

- 1 Aperture Priority mode:** In this mode, you select the aperture and the camera will use the information from the metering system to change the shutter speed.
- 2 Shutter Priority mode:** Here, you set the shutter speed and the camera will choose a matching aperture setting.
- 3 Program AE mode:** Metering data is used to set the shutter speed and aperture, however you can change its initial settings via the control dial – the camera will increase the aperture while decreasing the shutter speed (or vice versa).
- 4 Auto & Scene modes:** The camera will set the aperture, shutter speed and ISO, depending on the mode selected. For example, in Portrait mode it will prioritize a wide aperture for a shallow depth of field, then set a shutter speed to match, while in Sports mode it will set a fast shutter speed and may increase ISO to ensure a suitable aperture can be used.
- 5 Manual mode:** The camera won't alter any settings (unless you're using Auto ISO, see below), however the metering system will still suggest an exposure to guide you; an exposure level indicator display is marked with a scale that shows whether the camera thinks you have a 'correct' exposure (0) or whether the scene is overexposed (+ readings) or underexposed (- readings).
- 6 Auto ISO:** With Auto ISO activated when using Manual mode, the camera adjusts the ISO to produce correct exposure according to the aperture and shutter speed you select. You can even apply exposure compensation.



5

Shooting at night

Don't try to measure the exposure when shooting scenes with bright lights as part of the composition – just switch to Manual and use trial and error.



6

Silhouettes

The camera doesn't know you want a silhouette, so will increase exposure to bring out the shadows. Take a Spot meter reading from the background.

PUTTING IT INTO PRACTICE

FIX THE EXPOSURE

Your Nikon won't always get the correct exposure – here are three ways to take control

Exposure is always open to interpretation! The camera can try to anticipate the kind of picture you want, and this is what Nikon's Matrix metering and Scene Recognition System are designed for, but so much depends on the scene, contrast range, which part of the picture is the subject, and, above all, how you want it to look – so you can't always rely on the camera to guess correctly. There is another issue with light meters in cameras. They can only measure the light reflected from the subject, so they will be fooled by unusually dark or light-toned subjects. Sometimes you may need to take over.

- 1 MANUAL MODE**
In auto-exposure modes, the camera will re-evaluate the exposure for each shot. But there are many situations, such as in a studio, where you know the lighting won't change and you don't want the camera continually 're-interpreting' it. If you already know the correct exposure, you can use Manual (M) mode instead. This is quicker than trying to override the camera's auto mode.



Manual mode puts you in complete control of the shutter speed and aperture settings.

- 2 AE-L BUTTON**
Sometimes it's quicker to frame the shot in a certain way to measure the exposure, then reframe the picture to take the shot. That's what the AE-L button on the back of the camera is for. For a sunset silhouette, say, you could point the camera at the sky, press and hold the AE-L/AF-L button to lock the exposure, and then reframe to shoot. The exposure will still be fixed for the sky.



The AE-L button lets you lock the exposure measurement while you reframe the picture.

- 3 EV COMPENSATION**
The light meters in cameras work by measuring the light reflected by your subject, and some reflect more light than others. The camera, however, has to assume everything has a medium grey tone. This means that you have to increase the exposure for intrinsically light-toned subjects and reduce it for intrinsically dark ones to stop the camera from trying to 'neutralize' them.



You may need to apply the exposure (EV) compensation control to preserve intrinsically light or dark subjects.



Ask Matthew...

Our resident Nikon expert Matthew Richards answers your questions and solves your problems. If you have a Nikon-related question, email it to mail@nphotomag.com



Taken with the camera level rather than tilting it upwards, the walls of this building appear vertical rather than leaning inwards towards the top; the foreground can always be cropped.

Q I've been trying my hand at architectural photography but have encountered a repeating problem. How can I stop buildings looking like that they are leaning inwards towards the top?

Marion Davies

A It's all about perspective. If you're shooting from nearby at ground level, the top of a tall building is much further away from your viewpoint than its base. If you point the camera upwards to get the whole building into the image frame, the walls appear to slant inwards towards the top. The issue is most

noticeable when you're shooting from fairly close with a wide-angle lens.

Professional architectural photographers often favour a 'Perspective Correction' (tilt-shift) lens like the Nikon PC-E 45mm f/2.8D ED, but it's very pricey at around £1899/\$2047. For the rest of us, the trick is to keep your distance and, if you can, find some higher ground to shoot from. Ensure that your camera is as level as possible rather than tilting it upwards, and crop out any excess foreground area afterwards, when you are working in post.

Q For a while now I've been producing a weekly vlog using my mobile phone. Which Nikon camera and lens combination would

you recommend for better quality video results, without overspending on the project?

John McGrath

A I would look no further than the Nikon Z 30 mirrorless camera body (£699/\$607), which has been designed with vlogging firmly in mind. A telltale sign is that it has no viewfinder, which is superfluous for vlogging and also makes the Z 30 more compact and inexpensive to buy. I would couple it with the Nikon Z DX 12-28mm f/3.5-5.6 PZ VR 'power zoom' lens (£379/\$357).

This Z DX lens is similarly ideal for vlogging. First up, its zoom range enables wide viewing angles, giving the option of expansive coverage so that you can present to camera while including your surroundings, to set the scene. Secondly, it has a motorized zoom facility with 11 choices of speed, perfect for smooth zooming transitions when shooting video. I'd also add the Nikon ML-L7 wireless Bluetooth remote controller.



The Nikon ML-L7 Bluetooth remote (£45/\$43) works well with the Z 30 and Z DX 12-28mm, as shown here, including remote control of the motorized zoom.

Secondhand superstar

Q I'm after a downsized DSLR with good battery life to use as a travel camera. Which model would you recommend?

Barry Miller

A **Matthew recommends...** I'd go for the Nikon D5600. Although now discontinued, it was the last in a long line of highly accomplished yet comparatively compact and travel-friendly Nikon DSLRs.



Nikon D5600

THIS DSLR PUNCHES WELL ABOVE ITS WEIGHT, WITH HIGH-END FEATURES IN A COMPACT BUILD

RELEASED: 2016

PRICE NEW: £499/\$597

SECONDHAND PRICE:

'Excellent' £399/\$430

'Good' £384/\$400

Built for the road, the D5600 is only marginally larger than the Z 50 mirrorless camera, and is very lightweight for a DSLR, at just 465g. Another travel-friendly bonus for when you want to put yourself in the picture is that it features an articulated touchscreen, rather than just a tilt facility, so it can be front-facing. In regular viewfinder-mode, the D5600 benefits from a high-performance 39-point autofocus system, including nine cross-type points, able to resolve detail in both vertical and horizontal planes. The advanced autofocus system is well able to track moving objects, too.

Key points

1. Sensor and processor

It has a 24.2Mp sensor and EXPEED 4 processor.

2. Optical viewfinder

It uses a pentamirror rather than pentaprism viewfinder.

3. Battery life

It can manage almost 1000 shots on a single charge.

Sensor: 24.2Mp CMOS

Processor: EXPEED 4

AF points: 39-point

(9 cross-type)

Shutter speeds: 1/4000

to 30 sec, Bulb

ISO range: ISO100-25,600

Viewfinder: Pentamirror,

0.82x, 95%

Rear screen: 3.2in, 1037k,

vari-angle touchscreen

Memory: 1x SD/HC/XC

Size: 124x97x70mm

Weight: 465g

Battery life: EN-EL14a,

970 shots



I have a Leitz Summicron-R 1:2/50 vintage manual lens – adapted to F-mount for DSLRs – but it's much easier to use on a mirrorless Z camera.

Q I have a fully manual F-mount lens with no electronics. Which digital camera is it compatible with and how can I get the best out of it?

Michael Bailey

A As it's a fully manual lens you'll need to adjust the aperture as well as the focus distance via the respective control rings on the lens, rather than from the camera body. You can use it on any Nikon DSLR but the viewfinder will be dark when using narrow apertures and accurate focusing can be tricky. You can get around those issues by using Live View mode, as featured in recent DSLRs.

I actually much prefer using this type of lens on my Nikon Z-system mirrorless cameras. With live exposure preview, you get a relatively bright viewfinder display even at narrow apertures, while focusing aids like 'focus peaking' and magnified preview can be really helpful. On full-frame Z-system cameras, you can also enable in-body stabilization with manual lenses, by entering their focal length and aperture rating as 'Non-CPU lens data' in the setup menu.

Q I read the very positive reviews of the latest Z-mount teleconverters in your last issue (*N-Photo* 160). But I wondered how the

F-mount teleconverters fare in comparison?

Graham Gillion

A That's a timely question. Not only are super-telephoto lenses the subject of this month's Big Test, but I've also just been testing the latest Nikon AF-S TC-14E III (£479/\$497) and Nikon AF-S TC-20E III (£529/\$497) teleconverters. Although 10 years old, they still perform really well. The 1.4x version is only an inch thick and very lightweight at 190g, whereas the larger 2x edition is still very manageable at just 330g and was actually the world's first teleconverter to feature an aspherical element. Both have a tough, weather-sealed construction but are incompatible with older 'AF' lenses that require a mechanical screw-drive for autofocus.

I found that with 'fast' f/2.8 telephoto prime and zoom lenses, autofocus speed remained very quick when using either teleconverter, and VR was largely unaffected. There's a slight drop in sharpness but it really is slight, much the same as with the newer Z-mount teleconverters. **N**



This highly detailed shot of a 1:12 scale model was taken on a Nikon D780 with an AF-S 400mm f/2.8E FL ED VR and AF-S TC-20E III 2x teleconverter attached.



The search for the **world's best Nikon photographer of 2024** continues! Each issue the monthly *N-Photo* POTY 2024 photo contest's top 10 images are selected by the *N-Photo* team. This issue's competition has the theme of **portrait photography**...

NPOTY is powered by  Photocrowd



2

1. Girl in the Window

BY GEORGE ROBERTSON

This month's winning image is bursting with character. The little girl is looking out of the window of a tram. We like how the condensation and raindrops are used to funnel the viewer towards her eyes, as well as the fun and very natural pose of her clutching her teddy. The soft light prevents harsh shadows across the face, too. Overall, this is a charming portrait.

Camera:	Nikon Z 7II
Lens:	24-120mm f/4
Exposure:	1/640, f/4, ISO400

2. Sunflower Sisters

BY KURAZH

The sunflowers have been used to create a frame within a frame, guiding the viewer towards the focal point of the image. Colour is also a huge component of this image, with yellow flowers, dresses and lighting complementing the greens – yellow and green are analogous colours, side by side on the colour wheel. Both children are given something to do, so their poses feel natural.

Camera:	Nikon D610
Lens:	135mm f/2
Exposure:	1/500 sec, f/2.2, ISO250

1



WIN! A WhiteWall Photo Lab voucher Worth £100! WHITE WALL

Witness your work as a glorious gallery-quality print from award-winning online photo laboratory WhiteWall. The winner, as judged by the *N-Photo* team, will receive a £100 WhiteWall voucher to have their entry printed in a range of stylish options including acrylic, aluminium, giclée and canvas in a huge array of sizes. See www.whitewall.com/uk

SECTION HEAD



3

3. Dance for Me

BY MARK O'LEARY

This four-image composite is extremely busy, but this fits with the fun subject matter. It's an excellent example of layer-based editing, with the harlequin, ballerina and smoky skulls added as separate layers and combined to form a seamless image. Not only does an image like this require impressive editing skills, but it also requires the foresight to come up with such a creative concept.

Camera:	Nikon D750
Lens:	24-70mm f/2.8
Exposure:	1/160 sec, f/9, ISO100

4. The Dark Knight

BY NIGEL WOOD

Replicas of movie costumes often don't hold up to scrutiny. The choice to photograph this Batman costume in low-key lighting not only fits with the dark, brooding nature of the character, but also serves to hide potential imperfections on the costume itself. The smoke adds texture to the background and the blue lighting creates a cool hue, often seen in Batman movies and comics.

Camera:	Nikon Z 6II
Lens:	28-75mm f/2.8
Exposure:	1/200 sec, f/8, ISO100

4



5. Thalia Off-centre

BY EDISON LUCAS
CAETANO DE SOUZA

This creative portrait breaks with convention, resulting in a striking fine-art look. Cropping off the subject's shoulder creates tension, while the harsh lighting creates a strong, graphic-art style.

Camera:	Nikon Df
Lens:	85mm f/1.8
Exposure:	1/400 sec, f/1.8, ISO80

6. Luis Gerardo

BY ALBERTO SANDOVAL

The musician and lighting sells this image as being on stage, but it was taken in a studio. We like how the guitar headstock isn't cropped off and the mono conversion neutralizes any clashing colours.

Camera:	Nikon D7100
Lens:	50mm f/1.8
Exposure:	1/250 sec, f/6.7, ISO100

7. Water Portrait

BY MARC OLLIVIER PHOTOGRAPHY

The wide aperture and shallow depth of field has blurred the hand, directing the viewer towards the subject's sharp eyes. Crucially, the hand doesn't obscure any essential facial features. →

Camera:	Nikon Z9
Lens:	24-70mm f/2.8
Exposure:	1/160 sec, f/2.8, ISO100



5



6



7



8



9

8. Mom

BY ANNAFRANCA

The woman's face lines up perfectly with the younger photo and both expressions are identical. Converting this image to mono was crucial, because the skin tones between the woman's face and the printout wouldn't have matched.

Camera:	Nikon D750
Lens:	105mm f/2.8
Exposure:	1/100 sec, f/4.5, ISO640

9. Veteran Drinker

BY STEVE JAMES

The 50mm focal length was a great choice, wide enough to frame plenty of context, without distorting the subject. We like how the re-enactor was directed to sit by the window to take full advantage of the flattering natural light.

Camera:	Nikon D850
Lens:	24-70mm f/2.8
Exposure:	1/5 sec, f/5.6, ISO80

10. John & His Cadillac

BY BOB

We like how the main subject is gazing wistfully beyond the frame, while the passenger smiles directly into the camera – a fantastic moment.

Camera:	Nikon Z9
Lens:	17-28mm f/2.8
Exposure:	1/100 sec, f/8, ISO640



10



WIN! A Nikon Z f

The overall winner of *N-Photo's* Photographer of the Year 2024 will receive the grand prize of a Nikon Z f!

When we reviewed the Nikon Z f, we called it 'Nikon's best-looking camera since 1982!' And now, together with Nikon UK, we're giving *you* the chance to win this full-frame retro-style Z camera. It's an incredible prize that's worth a whopping £2299/\$1999. Enter any of the 12 rounds of NPOTY 2024 to be in with a chance of taking Nikon's nostalgia-infused Z camera home – and of being crowned *N-Photo's* Photographer of the Year 2024.

A blast from the... future?

The Z f is far from retro under the hood. It's built around a 24.5Mp full-frame CMOS sensor and inherits some of the latest advancements from the Nikon Z 8 and Z 9. It's powered by the latest EXPEED 7 processor, has a native ISO range of 100-64,000, and uses the same impressive autofocus system as the Z 8 and Z 9.

It's equipped with 299 focus points that enable you to pinpoint your subject with superb accuracy. This system is adept at subject tracking, including humans (faces, eyes), animals, birds and vehicles, ensuring precision even in challenging shooting conditions, down to an impressive -10EV.

Unique to the Nikon Z f is the introduction of subject-detection algorithms that function seamlessly in manual focus mode or when using adapted manual-focus lenses, enhancing exposure accuracy based on recognizing the subject.

The camera is also capable of achieving up to eight stops of image stabilization with

compatible lenses and is the first Nikon camera to offer Pixel Shift Shooting. This physically moves the sensor to capture a sequence of up to 32 Raw images. When blended together in Nikon NX Studio, this creates a whopping 96Mp image.

Nikon's Focus Point VR system takes in-body image stabilization a step further by employing the camera's active focus point to enhance stabilization around the subject.

It's a serious video tool too, supporting 4K up to 60p; oversampled 6K footage up to 30p for better quality 4K; and Full HD up to 120p. It also shoots 10-bit internally and records continuously up to 125 minutes.

Z f Features

- 1 The camera body has a leather-like textured finish, adding to its retro charm.
- 2 Z 8/9 tech and totally new features make this a modern camera beneath the hood.
- 3 Precision-milled brass control dials don't just look the part, they will patina with age.
- 4 Black-and-white switch allows you to toggle seamlessly between colour and mono.
- 5 The rear LCD is fully articulating, rather than tilting as seen on Nikons like the Z 6II.
- 6 Retro-style shutter button has a screw to fit an after-market soft-shutter-release.

How to enter

HOW OUR COMPETITION WORKS

- Each issue, the *N-Photo: The Nikon Magazine* team sets a theme – we next want to see your best Flowers & Plants photography. Enter your photo(s) at www.photocrowd.com/npoty24flowers
- The deadline for entries is 11 April 2024. The top 10 gallery will appear in *N-Photo* 163, on sale 09 May 2024
- Here are our next three competitions:
Mono Opens: 04 Apr Closes: 09 May
www.photocrowd.com/npoty24mono
Action Opens: 02 May Closes: 06 Jun
www.photocrowd.com/npoty24action
Travel Opens: 30 May Closes: 04 Jul
www.photocrowd.com/npoty24travel
- It goes without saying that *all* images must be shot on Nikon cameras!
- Please ensure your entry *does not* contain a watermark and *is* submitted with the necessary EXIF data: the model of the camera and lens, and the shutter speed, aperture and ISO used.
- 12 competitions will appear throughout 2024, and the overall *N-Photo* Photographer of the Year 2024 – and winner of the grand prize – will be crowned in the issue that goes on sale in January 2025. So, grab your Nikon and start capturing photos. Good luck! 📷

Readers' letters

We'd love to hear your thoughts on the mag and all things photographic! You can write to us, message us or share your images in the following ways: ✉ mail@nphotomag.com
 🐦 twitter.com/nphotomag 📘 facebook.com/nphotomag 📷 instagram.com/nphotomag

★ Star Letter

Bird bloodbath

Thank you for printing my letter in the February 2024 edition (*N-Photo* 159), it's nice to see it in print and makes my wife a little more tolerant. Don't panic, I won't be a pest, but I thought this sequence of images might

also be of interest. Once again it happened rather quickly and, as you can see, these images were taken through a small window. I could have cropped, but thought I'd show it as it was.

I'm a little disappointed by the clarity of the action shots but will take it on board next time. Obviously the main photo shows him having

dinner, but I'm not sure what the victim was. At least he showed good manners by taking a shower after his gruesome meal, but did look a little indignant when he suspected I was watching.

My greatest pleasure in photography is watching the ink being laid and the picture coming to life. Great mag!
Brian Crossley

★ Movie-ramas

When I need to create a panorama, similar to the 'Ridiculous Resolutions' project that appeared in the January 2024 edition (*N-Photo* 158), I shoot a movie and use Microsoft Image Composite Editor (free to download for Windows PC's from www.microsoft.com/en-us/research/project/image-composite-editor) to make the panorama.

This image was created from a video shot in MOV format on my Nikon D750. I started at the top-left side and snaked my way to the bottom-right side – making sure I had plenty of space around the subject as you need to have nice margins to help in cropping. I then put the MOV file into Microsoft Image Composite Editor to create the panorama. I usually save the image as a TIFF, then I use Corel Paintshop Pro image-editing software to make any additional adjustments, as needed.

Bernie Gellman

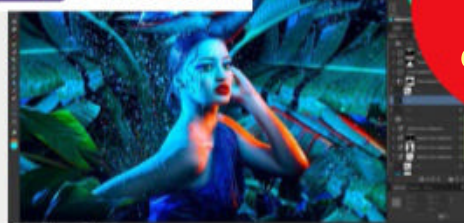
Thanks for sharing your



Brian captured this sparrowhawk taking an after-dinner shower in his birdlife-filled back garden after a gory meal.

Images: © Brian Crossley

There's certainly no shortage of interesting birdlife activity where you live, Brian. And we're with you when it comes to printing out images to be displayed in all their glory (Brian sent us stunning large A3 prints of his shots). After all, a photo in the hand is worth two on the hard drive...



WORTH £49

WIN! A copy of Affinity Photo 2

Write our star letter and you'll win a copy of the amazing Affinity Photo* for Mac or PC from Serif. This feature-packed software is just as powerful as programs that retail for many times its price – and all without having to pay a monthly subscription fee. With full support for Raw files, layers and 'professional' features such as Curves and live filters, it also boasts top-class focus stacking, HDR merging, panorama stitching and batch processing. Affinity Photo is available for Mac, PC and iPad, and files can be easily shared between devices so you can continue editing on the move. It opens Photoshop files, too. www.affinity.serif.com

*Winners will need to create an Affinity user account to download the app. The prizes are issued in accordance with the standard Affinity EULA and there's no cash alternative.

Image: © Bernie Gellman



Bernie created this image from a video by zooming in and panning to fit everything in the frame, but stills would give better results...

technique, Bernie – though we would caution that creating a panorama from movie footage won't give you nearly as much resolution as stitching together still images, and you won't have full control over the exposure of the image – but luckily Image Composite Editor is capable of stitching panos from photographs, too!

Good heavens

I was amused – and I don't imagine it would be limited to me – that on the cover of the February 2024 issue (*N-Photo* 159), you quoted Göran Strand about what he was hoping for, what he said, and what he got instead is fantastic: "I went to shoot a comet BUT got the Northern Lights". But? Shouldn't that

be 'though' or even 'and'? His work is magnificent, but your copywriter's choice of words (even if it was a throwaway comment) should surely have considered the aurora borealis to be worth more?
Nik Watt

The full quote, as it appeared in the interview, was, "I went out to capture a comet, probably photos that no one would have taken much notice of, and instead I got the Northern Lights, Coldplay and stamps!" But with 10 or fewer words to play with, we have to condense it. The resulting cover hit is a bit of a tease, we admit, but hopefully intriguing enough to make people want to read further. N

Nik questions our condensed quote – but if it piqued your interest then it's done its job, we reckon...



www.DigitalCameraWorld.com
The best from our companion website



Image: Future

1. The Nikon F5 is a film camera I will never sell!

Film photography has seen a massive resurgence, with many wanting to go back to film for the nostalgia or others wanting a 'slower' process than instantly being able to see your results. No matter what your reasons for shooting film, there is no denying that it is back with force. But for my Nikon F5, it never went away! <https://bit.ly/3uzvK7n>



Image: Nikon

2. No, F-mount products are NOT dead, says Nikon

After reports raged across the internet that all Nikon F-mount products have now been discontinued, Nikon responded and replied to the contrary, saying that, actually, they have not. The Nikon Rumors claim was picked up by outlets in Nikon's native Japan, prompting Mynavi to reach out to the manufacturer for clarification. <https://bit.ly/3SM7yYK>



Image: Nikon

3. Make mine black with a splash of Sunshine Orange!

Black or silver? Silver or black? I had an early preference for silver until I bought my Nikon F4 and it's been all black since then. The contention seemed to be that silver was more elegant and classier – perhaps because of the contrast with black inserts – and that a black finish was more workmanlike because it looked to be the choice by professionals. <https://bit.ly/42tsTcQ>



Sign up to our newsletter for the latest Nikon news! Simply scan this QR code or go to <https://bit.ly/dcwnews>

[1] When using an ultra-wide field of view, ensure that the subject still fills an adequate portion of the frame.



Camera:	Nikon D850
Lens:	14mm f/1.8
Exposure:	1/80 sec, f/11, ISO100

Bridge camera



For **Shawn Spencer** there's no such thing as a bridge too far – here's how he captured this excellent selection of architectural images

MISSION: Use various compositional techniques and lighting situations to capture compelling architectural images of bridges

PHOTOGRAPHER: Shawn Spencer

KIT USED: Nikon D850, AF-S 24-70mm f/2.8E ED VR, AF-S 50mm f/1.4G, Sigma 14mm f/1.8 DG HSM | Art, Benro tripod, Pluto trigger, K&F Concept ND

INSTAGRAM: @ShawnSpencerPhoto

I've been interested in photography since I was a child, but my passion was not fully revealed until I took a continuing education class at the Art Academy of Cincinnati. After researching all of the camera brands, I found that Nikon cameras felt best in my hand and had the best viewfinder. Nikon has

an incredible assortment of lenses that have allowed me to explore several different genres of photography, including landscapes, sports and wildlife.

An abridged guide

I rely on my Benro tripod and Pluto remote trigger to avoid camera shake and ensure sharp photos when shooting at slow shutter speeds. I also find an L-bracket to be a great accessory so I can easily switch between landscape and portrait compositions.

An ultra-wide 14mm focal length can provide a dramatic dimension to the sky, but it can be difficult not to lose the subject. I set my tripod at a low level, close to the rocks in the foreground to help increase the bridge's presence [1]. Using Live View and my D850's tilting rear LCD allowed me to

feel confident that my composition was effective. Once the camera was set up, I waited for an interesting cloud arrangement to pass by before I fired the shutter.

Sometimes I find myself exploring with my camera at night, not knowing what I might photograph. At these times, I rarely bring my tripod with me. Instead, I raise the ISO up to 1600 and open up the aperture. Even at f/2, the lights on the bridge created nice starbursts [2]. When taking this photo, I was on a high vantage point, which created a unique perspective that wouldn't have been possible if I didn't take the time to explore the location first.

The best sunsets have multiple stories to tell, with fast-moving clouds acting like turning pages. Because of these ever-changing skies, you need to be patient and capture multiple photos to form a story. Clouds can accentuate the light, while adding extra layers to the sky. When taking sunset photos [3], I set up the tripod, frame my scene and wait. I tend to shoot in →



The best sunsets have multiple stories to tell, with fast moving clouds acting like turning pages

Camera:	Nikon D850
Lens:	50mm f/1.4
Exposure:	1/60 sec, f/2, ISO1600

[2] Night-time shoots will add a different dynamic to your architectural photographs.



Camera:	Nikon D850
Lens:	24-70mm f/2.8
Exposure:	30 secs, f/11, ISO100

[3] Keep returning to shoot the same subject at sunset and you'll always capture a different sky.

Shawn's Top Tips



- Dedicate time to learning more about photography: take classes, watch YouTube videos and, of course, read *N-Photo: The Nikon Magazine*.
- Be patient, focus on the details when setting up a shot. Observe the spacing around the edges of the frame so you don't include unwanted elements.
- Help other photographers learn about their Nikon camera – teaching a subject is the best way to master it.

YOUR STORIES

[4] Make sure you use a fast enough shutter speed when shooting the moon to prevent motion blur.



Camera:	Nikon D850
Lens:	24-70mm f/2.8
Exposure:	1sec, f/11, ISO800

Aperture Priority so the camera compensates for the changing light. Be prepared for additional compositions from the same spot in case the clouds present a better opportunity in a different direction.

A full moon composed alongside a familiar landmark can add an interesting element to your night-time images [4]. An app like Sun Seeker can help you track when and where the moon will rise so you can plan where to set up for the best photos. When taking photos of the moon, it's important to shoot at a higher ISO. This is because the moon moves faster than you think and will quickly cause motion blur if your shutter speed is too slow.

Interesting foreground elements can draw your viewer into the image and direct them towards the subject. In this photo [5], the bright flowers added foreground interest, while also contrasting nicely with the somewhat gloomy sky. Once I set up my tripod and find a composition that I like, I often wander around the location, looking for different perspectives and watching the activity around me. I actually took this photo while talking to a passerby. Thankfully, I was able to effortlessly fire the shutter via my Pluto remote trigger. ■



The moon moves faster than you think and will quickly cause motion blur if your shutter speed is too slow



Camera:	Nikon D850
Lens:	24-70mm f/2.8
Exposure:	1/15 sec, f/11, ISO100

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[5] Foreground interest is a great way to add colour and depth to your architecture photos.

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NEW GEAR

90 Shiny new Nikon-fit kit
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REVIEW

92 Viltrox AF 27mm f/1.2 Pro
Fast prime for Z DX mirrorless users with a consumer-friendly price tag



BIG TEST

94 Super-telephoto primes
Our pick of the 10 best F-mount and Z-mount super-telephoto prime lenses for the longer view

BUYER'S GUIDE

108 Nikon cameras & F/Z-fit lenses

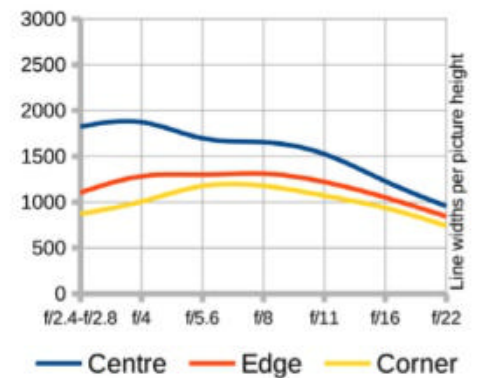
Every current Nikon camera, plus an exhaustive round-up of lenses to put on 'em



Lab tests explained

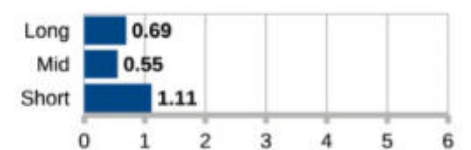
Sharpness

A chart with multiple sharp boundaries is photographed, the extent of blur at the centre, mid and edges showing how many line widths per picture height the lens can resolve. Simply put, the bigger the numbers the sharper the lens.



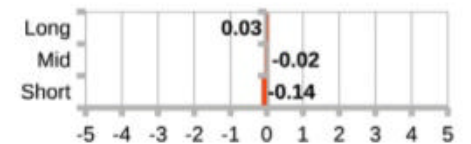
Fringing

Chromatic aberration is visible as purple or green fringing around high-contrast boundaries, caused by different wavelengths being focused on different areas of the sensor. The larger the number, the worse the score.



Distortion

A lens that bulges towards the edges of the frame produces barrel distortion, shown as a negative score. Pincushion distortion produces a positive score. A score of zero indicates no distortion.



Our awards in a nutshell



The best performance, design and value



A product that gives you more for your money



The very best kit that really sets the standard

Our scoring system

- 1.0** Forget about it!
- 2.0** Below average
- 3.0** Good for the money
- 4.0** Excellent product
- 5.0** Best-in-class

New gear

See the latest Nikon-fit kit for yourself at The Photography & Video Show!

Laowa 10mm f/2.8 Zero-D FF

£839/\$799 www.venuslens.net

Laowa has built a reputation for developing speciality manual focus lenses, with attention to extreme macro and cine lenses. It has now announced its first autofocus lens, which will be on public display for the first time at The Photography & Video Show (as are all the products featured here).

The 10mm f/2.8 Zero-D FF is a full-frame ultra-wide prime lens, which will be available in Nikon Z mount. Laowa is renowned for creating excellent glass and this lens looks set to follow suit, with a great selection of features that place it amongst the best landscape and astrophotography lenses.

The lens is comprised of 15 elements in nine groups, including two aspherical and three extra-low dispersion glass elements. The design of the lens is sleek and modern, with a stylish oversized focusing ring. However, it does lack a focus distance scale/gauge to accompany the focus ring.

The 10mm focal length is incredibly wide for a full frame lens, providing an astonishing 130.4 degree angle of view and a minimum focusing distance of just 0.12m, enabling the user to get creative and push the limits, whether shooting interior or portrait photography.

'Zero-D' is inscribed on the lens, next to the focal length and the aperture. This signifies that the lens provides zero distortion, even when shooting wide open, so horizontal and vertical surfaces remain close to straight, rather than exhibiting noticeable barrel distortion (which is often seen in wide lenses). And unlike many ultra-wide lenses, this doesn't have an overly bulbous front element, enabling the lens to fit filters via its 77mm thread.

The f/2.8 aperture promises 'outstanding low light performance', an important specification for those who photograph at night. This also aids in rendering high-resolution images that remains constant from edge to edge.



See it at TP&VS on stand **B601**

The autofocus lens has five aperture blades, but Laowa says that a future manual focus-only 14-blade variant is also in the works, for a reduced sunstar effect.

FIRST IMPRESSIONS

Combining such a wide viewing angle with 'zero' distortion sounds too good to be true. We can't wait to put it through our tests.

Irix 65mm T1.5 Cine lens

£1195 (approx £1050/\$1300) <https://irixlens.com>

The Irix 65mm T1.5 Cine is the company's latest Z-mount lens aimed at cinematographers, and as such its aperture is measured in 'T-stops' rather than 'F-stops' which more accurately measures the light reaching the sensor, and is set via a smooth, variable aperture ring rather than from the host camera.

It is compatible with majority of cine accessories, both manual or motorized, and the design ensures that a change of focus distance has

no influence on lens's length or front element rotation.

Crucial markings are engraved and filled with UV-reactive paint, making them better visible in low light, and up to eight times more visible than standard paint under UV light, making it perfect for shooting in dingy conditions. The weather-sealed construction provides protection from dust and moisture.



See it at TP&VS on stand **K506**

The lens is equipped with 11 rounded aperture blades to offer extraordinary image quality over the entire frame with smooth bokeh,

and its low-distortion optical design enables super-panoramic film shots with a rectilinear image.

There's an 86mm thread but the lens also comes with a Magnetic Mount System for rapid attachment of accessories and filter placement.

FIRST IMPRESSIONS

This latest Irix Cine lens means the brand now has most common focal lengths covered, with the same colour reproduction, weight and location of gears across the range.

All the products on these pages are unveiled at The Photography & Video Show, NEC, Birmingham,



See it
at TP&VS
on stand
K201

Rotolight Anova PRO 3

£2399/\$3410 www.rotolight.com

The Anova PRO 3 LED panel is an all-weather constant light system, delivering a class-leading output of over 22,000 lux (at 1m), more than double the output of the previous-generation Anova.

Featuring an IP65 water resistance rating, it has been designed for use in the most challenging of weather conditions, from heavy rain showers to snow.

Colour temperature is adjustable from 1700 to 20,000 Kelvin, and a patented 'Magic Eye' optical light sensor has been built right into the front face of the light, which automatically measures and can match to any Kelvin or HSI Colour, eliminating the need for a light meter and enabling filmmakers to easily balance lights on set.

An all-new Rotolight app enables you to easily switch between lighting modes to adjust colour, power, flash settings and much more, with the ability to create custom groups and projects on up to 20 lights simultaneously.

The light also features a suite of 'CineSFX' special effects (including Fire, Lightning, TV, Gunshot, Paparazzi and much more) to add drama to a scene at a moment's notice. You can customize, save and instantly recall your favourite settings to reduce time.

FIRST IMPRESSIONS

Ideal for studio use and the most extreme outdoor conditions, the Anova PRO 3 promises to be a versatile tool for photographers, filmmakers and broadcasters.



See it
at TP&VS
on stand
C500

Vanguard Alta Pro 3VRL tripods

From £300/\$460 www.vanguardworld.co.uk

Vanguard has launched an Alta Pro 3VRL series of tripods, available standalone (UK only) in both aluminium and carbon fibre, or in various kits with a video head.

'VRL' stands for 'Video Removable Level', and all Alta Pro 3VRL tripods come with the Alta Pro 3VRL LVL levelling system. This features a handle that you can use to unlock, reposition and lock the base in place, allowing you to find your level in seconds on any terrain.

They also come with an Alta Pro 3VRL Platform 30 that allows you to change to a completely different tripod setup in seconds, without the need to remove and reattach a head. For example, you may have a video head attached to the levelling system and a dual axis ball head

attached to the platform for landscape shoots. Essentially, this becomes a quick-release system for tripod heads. If you have multiple setups, you can buy extra levels and platforms to suit your needs, and Vanguard says that an extending central column is in the pipeline for any photographer who finds a 1.8m tripod is too short!

Designed for stability, its three-section 30mm legs are adjustable via easy-to-clean leg locks that can be set to 23°, 50° and 80° angles, and deliver a load capacity of up to 25kg, while the carbon tripod weighs just 2085g.

FIRST IMPRESSIONS

This new tripod range promises to make it easy to get horizons bang on for multiple camera setups.

Godox V1 Pro Round-Head Speedlite

£308/\$329 <https://godox.com>

An updated version of the V1, the Godox V1 Pro is a powerful battery-powered flashgun, which features a revolutionary round flash head, instead of the traditional rectangular-shape. This enables it to produce smooth-graduated lighting, with natural-looking fall-off and more pleasing results.

Powered by a high-capacity 7.2V/2980mAh rechargeable lithium-ion battery, the flashgun is capable of firing up to 100

continuous full-powered shots, while upgraded thermal protection guards against overheating. In all, a fully charged battery can deliver up to 500 full-power flashes between charges, and the battery can be charged via the included charging dock, or via its USB Type-C port.

Compatible with the Nikon Creative Lighting System, it supports TTL, High-Speed Sync and Stroboscopic flash modes. A built-in 2.4GHz flash receiver enables the flash to fire remotely via one of

Godox's compatible triggers. The flash head also features a magnetic modifier mount, enabling it to be used with a plethora of magnetic modifiers with a minimum of fuss, and a detachable sub-flash module can be easily attached to supply additional fill light.

FIRST IMPRESSIONS

The advanced features and reasonable price tag are tempting enough, but it's the round head that sets the V1 Pro apart. **N**



See it
at TP&VS
on stand
K404

16-19 March. Save 20% on tickets with code NPTTPS24 at www.photographyshow.com



Viltrox

AF 27mm f/1.2 Pro

£420/\$545 www.viltroxstore.com

Is the Viltrox AF 27mm f/1.2 Pro for Nikon Z DX mirrorless cameras truly a 'pro' lens with a consumer price tag? You'd better believe it!

Specifications

Mount: Nikon Z

Construction: 15 elements in 11 groups

Angle of view: 55.3 degrees

Diaphragm blades: 11

Minimum aperture: f/16

Minimum focusing distance: 0.28m

Maximum magnification ratio: 0.15x

Filter size: 67mm

Dimensions: 82x92mm

Weight: 560g

T

The Viltrox AF 27mm f/1.2 Pro picks up the baton from some seriously good f/1.4 lenses, which are available in Nikon Z mount. We've been thoroughly impressed by the Viltrox AF 23mm f/1.4 Z, Viltrox AF 33mm f/1.4 Z and Viltrox AF 56mm f/1.4 Z, which are all pretty much the same size and weight, plus the slightly larger Viltrox AF 13mm f/1.4 Z. (In fact, I've been so impressed by these lenses that I've bought them outright as my go-to lenses for when I'm shooting with my Nikon Z fc.) Combining fast and accurate autofocus with good handling characteristics, the

back-catalogue of Viltrox lenses include a de-clicked aperture ring and are terrific value at the price, although the 23mm, 33mm and 56mm lack weather-seals.

The newer 27mm sets the bar higher with its 'Pro' badge and super-fast f/1.2 aperture, along with a feast of up-market features. It's bigger and heavier than the trio of 23mm, 33mm and 56mm f/1.4 lenses, and getting on for twice the price, but is still standout value for money.

Key features

The 27mm focal length of this APS-C format lens gives an 'effective' 40.5mm in full-frame terms, with a viewing angle of 55.3 degrees. We like that it's a little wider than a standard 50mm lens but not quite as wide as a 35mm lens (again, in full-frame terms).

I find the focal length works really well for everyday shooting and street photography.

A key feature of the lens is naturally its super-fast f/1.2 aperture rating. This enables a tight depth of field, which is always more challenging with crop-sensor rather than full-frame cameras. The quality of bokeh comes to the fore and, to help maintain good bokeh when stopping down a little, the lens features a particularly well-rounded 11-blade aperture diaphragm.

A further bonus of the speedy aperture rating is that you can retain fast shutter speeds for freezing action. As we've come to expect from a lens with a linear stepping motor-based autofocus system, autofocus is fast for stills as well as being adept at delivering smooth and virtually silent transitions when shooting video.



This shot, taken wide-open at f/1.2, shows the lens's excellent control over axial/longitudinal chromatic aberration or 'bokeh fringing' and the level of vignetting at the corners of the frame.



The lens comes with a petal-shaped bayonet-fit hood and soft pouch for stowage.



Bokeh disks from defocused fairy lights look smooth, with a negligible 'onion ring' effect.

Build and handling

Build quality feels consummate with the lens's 'Pro' label. The construction is based on a metal casing and a coated brass mounting plate. Unlike the 23mm, 33mm and 56mm lenses, this one also features a full set of weather-seals. A handling bonus, compared with the other lenses, is that the 27mm features an AF/MF focus mode switch, which is quicker and more convenient to use compared with delving into camera menus. Another welcome addition is the customizable L-Fn button, which falls under the thumb and is what we tend to use for AF hold.

One criticism we had of the 23mm, 33mm and 56mm lenses was that the aperture ring had no click steps and no locking switch. It was easy to inadvertently nudge the ring from its 'Auto' position to a narrow aperture setting. The 27mm still has no locking switch but there's a much firmer 'click' from the Auto position and, throughout prolonged testing, we found that we didn't engage manual apertures accidentally, not even once.

Performance

As advertised, autofocus is very quick and virtually silent, and proved consistently accurate in our tests with a Nikon Z fc. The Viltrox shines through with excellent sharpness and clarity, even when shooting

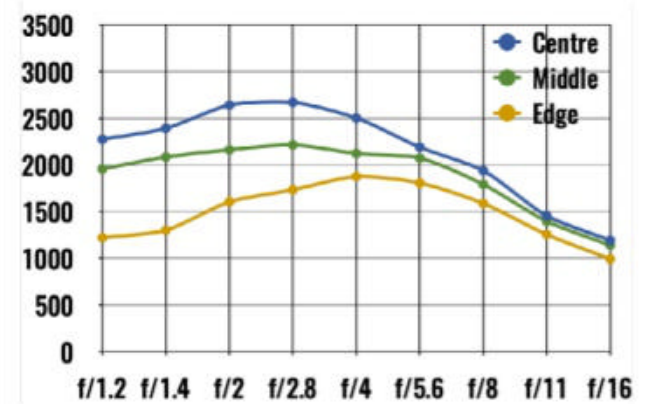
wide-open at f/1.2. And for such a 'fast' lens, wide-open sharpness bears up very well even at the extreme edges and corners.

For creative photographers, the quality of bokeh is arguably every bit as important as sharpness, and the Viltrox does very well here. There's very little distortion but vignetting can be noticeable at the widest aperture. All in all, performance is excellent and entirely consistent with the lens's 'Pro' tag, including pro-grade lenses that cost massively more to buy. **N**

Features

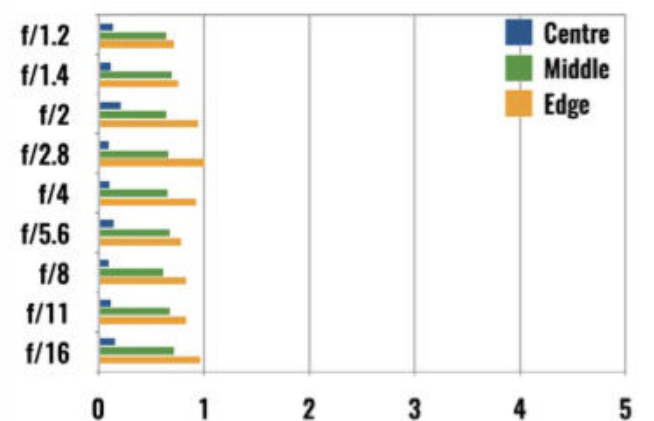
- 1 A 67mm thread enables the attachment of filters, and it comes with a lens hood.
- 2 Build quality is good, with a metal barrel and brass mounting plate, plus weather-seals.
- 3 It's an autofocus lens, but has a click/declick aperture ring for full manual control.
- 4 To accommodate the faster f/1.2 aperture, it's chunkier than Viltrox's f/1.4 primes.
- 5 There's an AF/MF mode switch, and an L-Fn button sits neatly under the thumb.
- 6 A well-rounded 11-blade aperture results in pleasing bokeh on out-of-focus highlights.

Sharpness



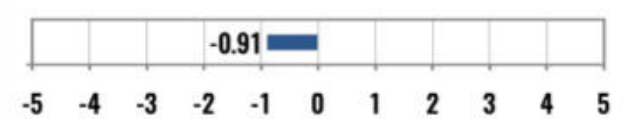
Sharpness is nothing short of astonishing when shooting wide-open and it holds up very well even out at the extreme edges and corners of the frame. From f/2 through to f/8, corner-sharpness is simply epic.

Fringing



There's very little lateral chromatic aberration even at the edges and corners of the image frame, throughout the entire aperture range. The lens also keeps a tight rein on lateral/axial chromatic aberration.

Distortion



There's just a slight hint of barrel distortion but, as with lateral chromatic aberration, this is easily within the remit of automatic in-camera correction.

N-Photo verdict

We've been really impressed by the range of fast f/1.4 autofocus prime lenses from Viltrox, for Nikon Z DX crop-sensor mirrorless cameras. The new 27mm f/1.2 sports a 'Pro' badge and takes everything to a new level. It has superb build quality, sublime handling, a super-fast f/1.2 aperture and delivers fabulous image quality and all-round performance. There's an extra wow-factor – the price tag. We'd pay three or four times as much for a lens of this quality.





Super-telephoto primes

Here's our pick of the best F-mount and Z-mount super-telephoto prime lenses that really go the distance, for the longer view

F

For action, sports and wildlife photography, you often can't get as close as you'd like. A super-telephoto lens enables you to cover the distance and bridge the gap. As featured back in December's Big Test (issue 157), there are plenty of super-tele zooms to choose from, with focal lengths that stretch to 400mm, 500mm or 600mm at the long end. With prices starting at £699/\$699, some of them make good budget buys, such as the Sigma 100-400mm f/5-6.3 DG OS HSM | C and Tamron 100-400mm f/4.5-6.3 Di VC USD, so why would you want to spend up to 20 times as much on a super-tele prime lens?

In a word, the answer is 'quality'. Top-flight super-tele primes are built to last a lifetime and withstand being put through their paces on a regular basis by the most demanding professional photographers, time after time. These primes are also typically designed to deliver the very finest image quality and the best overall performance. That's a moot point if you don't happen to have a huge wodge of cash lying around, to blow on a lens. However, there's a lot to be said for hiring a high-performance lens for special occasions, as and when you need it, rather than owning one outright. And some of the lenses in this issue's Big Test are *relatively* affordable. →

The contenders

Nikon Z 400mm f/4.5 VR S	£2849/\$2997
Nikon AF-S 500mm f/5.6E PF ED VR	£3229/\$3597
Sigma 500mm f/4 DG OS HSM Sports	£4699/\$5999
Nikon Z 600mm f/6.3 VR S	£4999/\$4797
Nikon Z 800mm f/6.3 VR S	£5799/\$5997
Nikon AF-S 500mm f/4E FL ED VR	£10,999/\$10,297
Nikon AF-S 600mm f/4E FL ED VR	£12,099/\$12,297
Nikon AF-S 400mm f/2.8E FL ED VR	£12,199/\$11,197
Nikon Z 400mm f/2.8 TC VR S	£13,499/\$13,997
Nikon Z 600mm f/4 TC VR S	£15,499/\$15,497



Nikon Z 400mm f/4.5 VR S

£2849/\$2997

It might lack the extra-large telephoto reach of some other lenses on test but it's the all-time smallest and lightest Nikon 400mm prime



Amazingly compact and lightweight for a 400mm prime, this one weighs in at just 1245g. That's pretty impressive considering that it has a faster aperture rating than some of the other lenses on test, albeit with a less generous focal length. Either way, it packs 19 optical elements, including one ED (Extra-low Dispersion), two Super ED and an SR (Short-wavelength Refractive) element, aiming for enhanced clarity and colour rendition with minimal chromatic aberrations. Nano Crystal Coat is applied to fend off ghosting and flare, and a keep-clean fluorine coating is applied to the front element.

Autofocus is based on a pair of virtually silent linear stepping motors working in tandem, which are typically fast for stills and smooth for video. Voice coil motors for optical image stabilization enable 5.5-stop

optical VR, rising to 6-stop effectiveness in Synchro VR mode with full-frame Nikon Z system cameras.

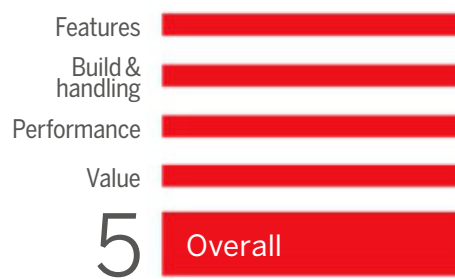
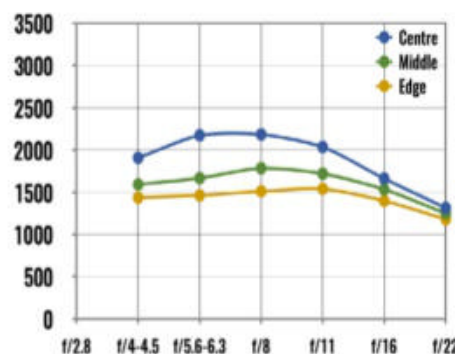
Handling bonuses include two control rings, a Lens-function button at the rear and a rank of four Lens-function 2 buttons towards the front, all of which can be customized. You also get an A/M focus switch, autofocus range limiter and a focus Memory Set button.

Performance

Autofocus is super-fast and highly accurate, while optical image stabilization is highly effective. It's a powerful combination that ensures an excellent hit rate, even when the going gets tough with fast-moving subjects under dull lighting. Image quality is fabulous with excellent sharpness, contrast, clarity and colour rendition. The Z 400mm is simply a terrific lens.

Relatively compact and lightweight but with serious sophistication, this lens is an absolute joy to use and delivers fabulous results at a relatively reasonable price, especially compared with some of the other lenses on test.

Sharpness



Features

- 1 Handling benefits from an L-Fn button at the rear and a rank of L-Fn 2 buttons towards the front.
- 2 The high-tech optical path includes ED, Super ED and SR (Short-wavelength Refractive) elements.
- 3 It's easily manageable but comes complete with a tripod mounting collar.
- 4 Two linear stepping motors ensure super-fast and virtually silent autofocus.
- 5 Highly effective 5.5-stop optical VR rises to 6-stop performance in Synchro VR mode when paired with compatible Z-system camera bodies.

How we test

We combine real-world shooting and a range of lab tests



To test real-world performance, we use lenses in all sorts of lighting conditions, for indoor and outdoor shooting scenarios. We check for good build quality and handling, smooth and precise operation of all controls, and we test the speed and accuracy of autofocus. We typically test full-frame compatible lenses on a range of FX and DX bodies, whereas APS-C format lenses are just tested on DX cameras. These include DSLRs like the D850 and D7500, and mirrorless cameras like the Z 7II and Z fc.

In-camera and Raw processing corrections for chromatic aberration, distortion and vignetting

are disabled where possible, throughout lab-testing, to better reveal the true optical performance of each lens. In our lab, we test lenses under controlled conditions, shooting specialist test charts and processing the results with the Imatest Master and DxO Analyzer suites. Test shots are taken across the range of apertures and zoom settings (where applicable), then analysed for sharpness, chromatic aberrations (colour fringing) and distortion. We judge the overall performance by taking real-world testing and lab tests into account.

Nikon AF-S 500mm f/5.6E PF ED VR

£3229/\$3597

A precursor to some of Nikon's Z-mount lenses, this 500mm F-mount prime employs lighthouse technology to shed size and weight



This Nikon 500mm prime lens is an f/stop slower than its direct competitors on test so you'd expect it to be smaller. As it turns out, the Nikon is dramatically shorter, slimmer and less than half the weight, tipping the scales at just 1460g. A major factor in the downsizing is Nikon's use of a PF (Phase Fresnel) element in the optical path. More usually featured in lighthouse and theatre stage light projection lenses, the ridged element not only enables a much more compact design, but also helps to cut chromatic aberrations.

Mainstream Nikon attractions include three ED (Extra-low Dispersion) elements, VR with dual switchable Normal and Sport modes, and an electromagnetically controlled aperture diaphragm. The latter is featured in all Z-mount lenses and enables better exposure

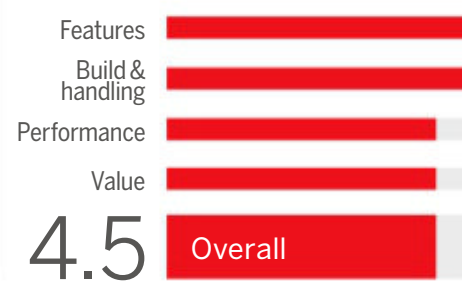
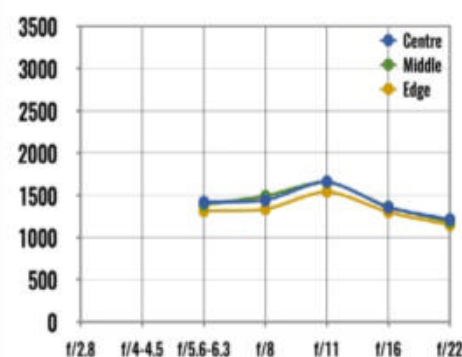
consistency in rapid burst shooting. The ring-type ultrasonic autofocus system typical of F-mount lenses enables full-time manual override with a mechanical rather than electronic linkage. Build quality is excellent, with a weather-sealed magnesium alloy barrel, both Nano Crystal Coat and Super Integrated Coating to reduce ghosting and flare, plus a moisture/grease-repellent fluorine coating on the front element.

Performance

It's definitely a high-performance lens, boosted in practical terms by AF-Lock and AF-On buttons. Autofocus is typically quick and snappy for a ring-type ultrasonic system, less ideal for shooting video. Sharpness proved good rather than great in our lab-tests but overall image quality is very appealing. In handheld

shooting, VR has about a 4-stop effectiveness, which is definitely worth having. If you're after a reasonably compact and lightweight super-telephoto prime for convenient handheld shooting with a DSLR, this one has a lot to offer.

Sharpness



Features

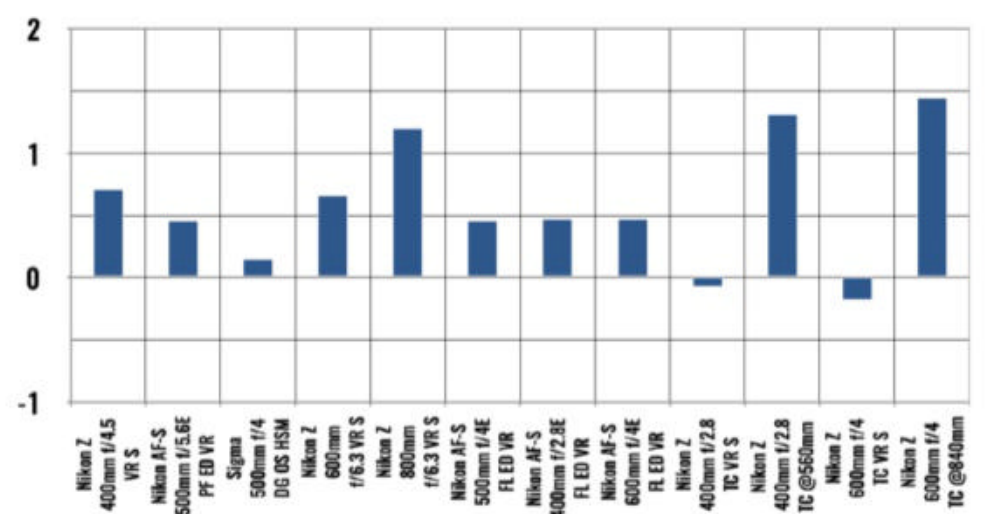
- 1 The lens features a Phase Fresnel element to reduce size and weight.
- 2 Ring-type ultrasonic autofocus comes with the usual distance scale, plus a switch to give priority to autofocus or full-time manual override.
- 3 A Memory Recall function is featured along with AF-Lock and AF-On options.
- 4 The 4-stop VR system comes complete with Normal and Sport modes.
- 5 Like the other F-mount lenses in the group and all Z-mount lenses, it has an electromagnetically controlled aperture diaphragm.

Distortion

There's no cause for concern here

All of the lenses in this test group aren't quite 'zero distortion' optics but some come pretty close. Even the worst offenders deliver only minimal amounts of barrel or pincushion distortion, which is easily taken care of by automatic in-camera correction for JPEGs, and

is also flagged for processing when converting images shot in Raw quality mode. Both of the Nikon Z lenses with built-in teleconverters exhibit negligible barrel distortion in native configuration, switching to a little pincushion with the teleconverter engaged.



Sigma 500mm f/4 DG OS HSM Sports

£4699/\$5999

Sigma's go-faster 500mm Sports prime with its f/4 aperture rating is undeniably expensive, but it's actually a bargain at the price



Sigma's flagship super-telephoto Sports lens is a direct competitor to the Nikon AF-S 500mm f/4E lens on test, but only costs around half the price to buy in most world regions. It's a similarly weighty beast and, at 3310g, it's just over 200g heavier than the Nikon lens.

There's all the usual handling exoticica of Sigma super-telephoto lenses, including dual autofocus modes with either manual or auto priority, a three-way AF range limiter, dual optical stabilization modes, and two switchable custom modes that you can set up with Sigma's optional USB Dock.

The lens also features AF-On, AF-Lock and Focus Recall functions with a Set button and optional audible beep. Everything's wrapped up in a magnesium alloy barrel, and the lens comes with a carbon fibre

hood. The top-grade optical path includes two FLD (Fluorite-grade Low Dispersion) and one SLD (Special Low Dispersion) glass elements.

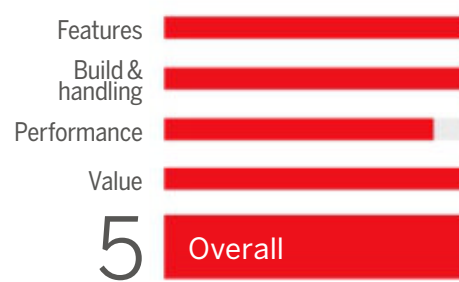
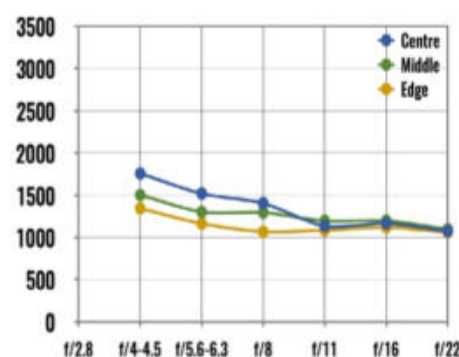
The relatively 'fast' f/4 aperture enables quick shutter speeds for freezing motion, without bumping up your camera's ISO setting too far, as well as maintaining autofocus compatibility if you add one of Sigma's teleconverters. That said, you'll need a DSLR that supports AF at f/8 if you opt for a 2x teleconverter.

Performance

Autofocus is blazing fast and whisper-quiet, based on a ring-type ultrasonic system, typical of DSLR lenses of a certain age. As such, you get full-time mechanically linked manual override. The dual custom modes enable you to tailor the handling characteristics to your specific

requirements, set up via Sigma's optional USB Dock. For example, you can set how visible the effect of stabilization is in the camera's viewfinder. Image quality is simply spectacular, making the lens an absolute bargain.

Sharpness



Features

- 1 A rank of function buttons is featured towards the front of the lens, for easy access when shooting in different orientations.
- 2 The ring-type ultrasonic autofocus system can be switched to AF priority or MO (Manual Override).
- 3 Optical Stabilization can be switched to Static or Panning modes, with around 4-stop performance.
- 4 There's no filter attachment thread at the front of the lens, but a drop-in filter holder at the rear.
- 5 There's a Focus Recall option complete with optional beep.

Pulling power

How much reach do you get with different focal lengths?

This sequence demonstrates the comparative telephoto reach of the various focal lengths. The Nikon Z 400mm f/2.8 TC VR S gives a 560mm focal length with its teleconverter engaged, falling between the 500mm and 600mm mark, whereas the Nikon Z 600mm f/4 TC VR S wins out with a reach of 840mm with its teleconverter.



Nikon Z 600mm f/6.3 VR S

£4999/\$4797

A step up from the Z 400mm f/4.5 on test, this lens packs powerful telephoto reach into an unfeasibly lightweight package



This Z-mount lens follows on from a couple of its other super-telephoto siblings. The most similar is the Z 800mm f/6.3 VR S, which has the same kind of design, based on the use of a Phase Fresnel element in the optical path. Again, this enables a smaller, more lightweight design. Even so, the Z 600mm is significantly smaller and lighter than the Z 800mm, weighing in at just 1470g, compared with 2385g. It also has a regular 95mm filter attachment thread at the front, whereas the Z 800mm takes 46mm drop-in filters at the rear. The 600mm focal length of this lens makes it right at home for action, sports and wildlife photography, when you need to cover a lot of distance between where you're standing and the subject you're shooting. We find that it's generally a better fit than the Z 800mm prime in

these scenarios, whereas the latter is better for shooting smaller subjects, for example in bird photography.

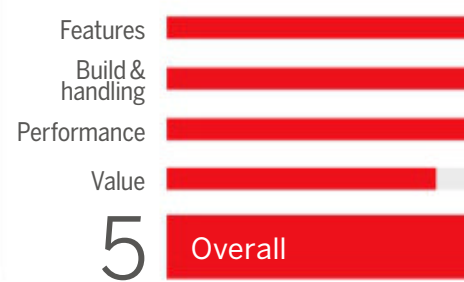
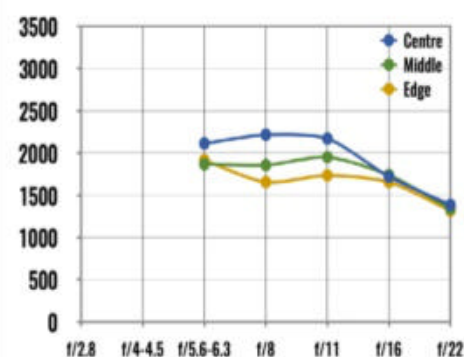
Optical highlights include two ED (Extra-low Dispersion) elements and an SR (Short-wavelength Refractive) element, to enhance clarity and colour accuracy while minimizing chromatic aberrations. Nano Crystal Coat is applied to guard against ghosting and flare, while a fluorine coating on the front element helps in repelling moisture and greasy fingermarks, as well as making the element easier to clean.

Performance

Although the f/6.3 aperture rating isn't particularly fast, the long focal length of the lens does enable a tight depth of field when shooting at this aperture. Defocused areas in images look really smooth, with

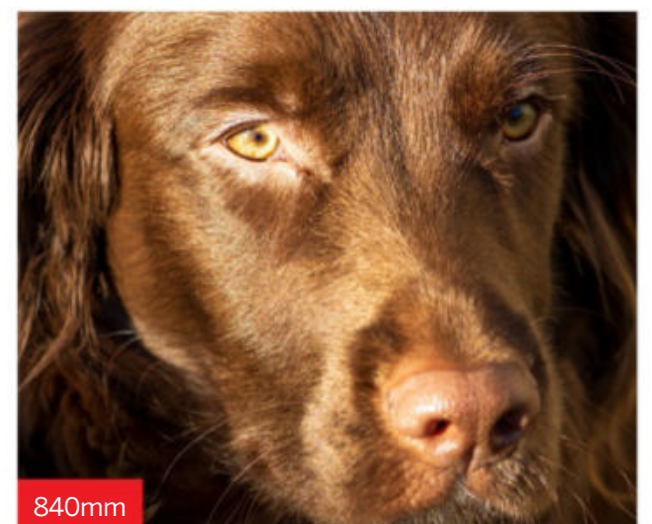
very nice bokeh. For outright sharpness, the lens performs excellently right across the entire image frame, even when shooting wide-open. All in all, every aspect of image quality and all-round performance is absolutely top-drawer.

Sharpness



Features

- 1 This lens has a large 95mm filter attachment thread at the front.
- 2 Customizable L-Fn 1 and a rank of four customizable L-Fn 2 buttons are featured, along with a secondary control ring.
- 3 An autofocus range limiter switch is featured, for locking out the closer end of the focus distance range.
- 4 The 5.5-stop VR system gives a 6-stop benefit in Synchro VR mode, where available in-camera.
- 5 Like other S-line Z-mount Nikon lenses, this one features extensive weather-seals.



Nikon Z 800mm f/6.3 VR S

£5799/\$5997

The Z 800mm is lightweight enough to make ultra-telephoto handheld shooting entirely viable, backed up by effective VR



This lens gives you telephoto super-powers in a relatively lightweight package. The downsized build comes courtesy of a modest f/6.3 aperture rating and a Phase Fresnel optical element, which we're seeing increasingly commonly in Z-mount Nikon super-telephoto lenses. The addition of highly effective optical VR plus a useful range of handling extras ensures top-quality results time after time, with excellent consistency.

The high-quality optical path also includes three ED (Extra-low Dispersion) elements and one SR (Short-wavelength Refractive) element. The combination aims for negligible chromatic aberration across the entire image frame. Nano Crystal Coat is applied to minimize ghosting and flare, and the front element has a fluorine coating.

The fast and virtually silent autofocus system is based on dual linear stepping motors, while voice coil motors power the 5-stop optical VR. Effectiveness is boosted to 5.5 stops in Synchro VR mode, which teams up with the in-body stabilization of full-frame Nikon Z-system cameras.

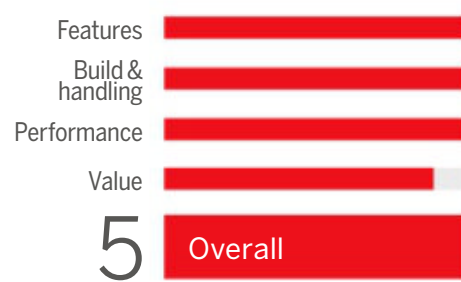
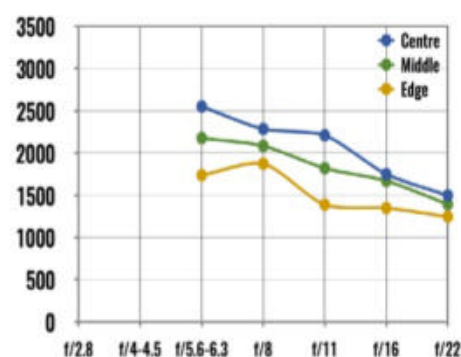
Build quality and handling are fully pro-grade, with plentiful onboard controls. There's a secondary customizable control ring which can be assigned to the likes of ISO, exposure compensation and aperture. It also works well for stepless aperture control.

Performance

Super-fast autofocus is well able to track even rapidly moving subjects and, combined with VR, you can be assured of an excellent hit rate even for tricky action subjects. The lens isn't quite as scary-sharp as the

Nikon Z 400mm f/2.8 TC VR S but sharpness is still excellent even when shooting wide-open, right across the image frame. The 800mm is more than sharp enough to satisfy the super-high-resolution demands of Z 7, Z 7II, Z 8 and Z 9 cameras.

Sharpness



Features

- 1 The big brother to the Nikon Z 600mm f/6.3 VR S, it's nearly a kilogram heavier but light enough for handheld use at 2385g.
- 2 There's no regular filter attachment thread, but the lens takes 46mm drop-in filters towards the rear.
- 3 Dual linear stepping motors are featured to drive two separate focusing groups.
- 4 Optical VR has 5-stop performance, which is about half a stop less than some of the other Z-mount lenses on test.
- 5 It's compatible with Nikon's 1.4x and 2x teleconverters, if you want to go crazy!



Only about 3 inches long, the Tokina 400mm is unfeasibly small and inexpensive for a super-tele prime. Typical of reflex lenses, it gives the characteristic 'doughnut bokeh' from defocused points of light.

Reflex action

This lens does tricks with mirrors

If you're starting to think that all super-telephoto prime lenses are big, heavy and expensive, the Tokina SZX Super Tele 400mm f/8 Reflex MF will make you think again. It measures just 74x77mm, weighs in at a mere 335g and sells for just £249/\$299. So what's the catch?

As a 'reflex lens' it relies on mirrors to bounce the light back and forth before it reaches the camera. Image quality is very much second-rate, the aperture is fixed at f/8, and it's a 'dumb lens' with no autofocus nor any electronic communication with the camera.

Nikon AF-S 500mm f/4E FL ED VR

£10,999/\$10,297

This latest edition of Nikon's 500mm f/4 F-mount lens lessens the load compared with the previous version, making it easier to handle



A big advantage over the previous version of this lens is the addition of two fluorite lens elements, giving a 20 per cent reduction in overall weight, as well as shifting the balance away from the front of the lens. At just over 3kg, it's about 700g lighter than its sibling F-mount 400mm f/2.8 and 600mm f/4 lenses on test, as well as having a slimmer build. A further bonus of fluorite glass is that it has excellent optical performance.

As with the other Nikon F-mount lenses on test, this one has 4-stop VR, complete with a Sport mode for easier tracking of erratically moving objects through the camera's viewfinder, and avoiding a slow-down in high-speed continuous drive mode. The same dual A/M and M/A modes give priority to autofocus or manual override, the latter

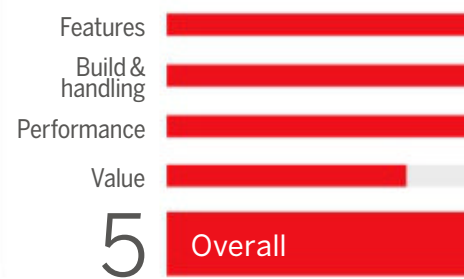
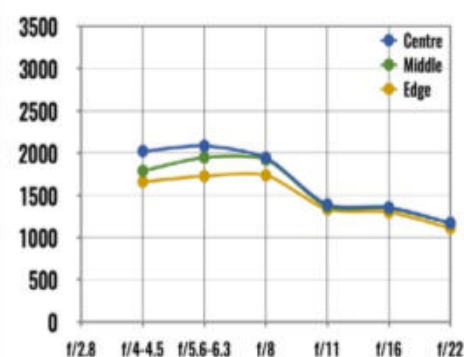
enabling you to instantly switch to manual focusing if autofocus is struggling to lock onto a subject in tricky conditions. A set of four forward-mounted AF buttons can be configured to provide AF-On, AF-Lock and Memory Recall functions. Given the large diameter of the lens, a 40.5mm drop-in filter slot is featured towards the rear.

Performance

The ring-type ultrasonic autofocus system is super-speedy and image quality is boosted not only by the use of fluorite glass but also the inclusion of three ED elements and both Nano Crystal Coat and Super Integrated Coating. Of the three Nikon F-mount big guns on test, this is the most manageable and arguably the best compromise between telephoto reach and aperture speed. Even so, it doesn't come cheap and costs around twice

the price of the directly competing Sigma lens in the group. The official Nikon filters themselves aren't cheap to buy. For example the C-PL405 circular polarizing filter costs around £349/\$220, but it does come complete with a holder.

Sharpness



Features

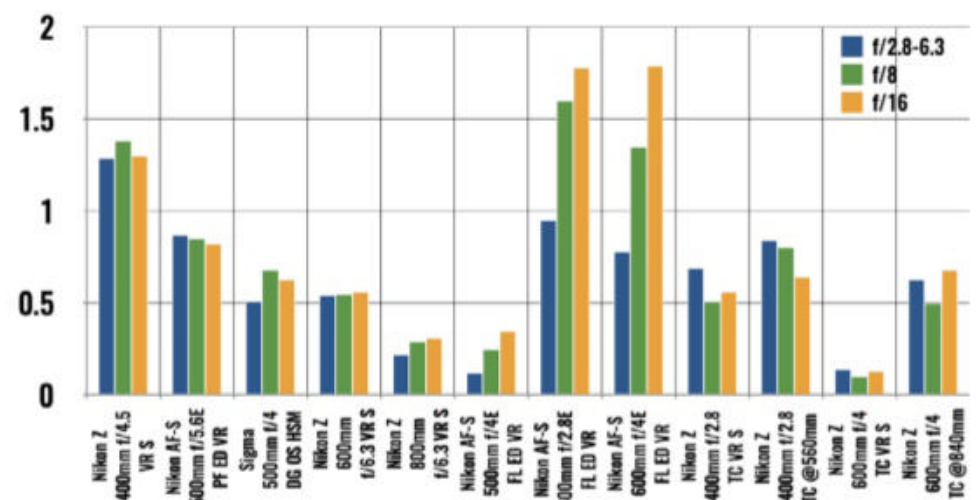
- Two fluorite elements are featured to cut weight but it's still at just over 3kg.
- Nano Crystal Coat and Nikon's trusty Super Integrated Coating cut ghosting and flare.
- Switches are on hand for A/M, M/A and M focus modes, an autofocus range limiter, VR Off, Normal and Sport modes, AF-On, AF-Lock and Memory Recall with optional beep.
- A drop-in mechanism for 40.5mm filters is fitted at the rear of the lens.
- The tripod collar can't be removed but the mounting foot can be detached.

Colour fringing

Colour fringing is low to virtually zero

Lateral chromatic aberration tends to be more noticeable towards the edges and corners of the image frame. It can be easy to spot in high-contrast transitions, for example the outlines of buildings against a very bright sky. The good news for this Big Test is that all of

the lenses concerned exhibit very good control over colour fringing, even at the extreme edges. Standalone performance is further boosted by automatic in-camera correction, featured in all recent and current Nikon DSLRs and Z-system mirrorless cameras.





Nikon AF-S 600mm f/4E FL ED VR

£12,099/\$12,297

With its super-sized telephoto reach, this is the biggest of the Nikon F-mount fluorite trio of 400mm, 500mm and 600mm lenses on test



This lens is noticeably bigger than the similar Nikon AF-S 500mm f/4 and 400mm f/2.8 lenses on test, but only 10g heavier than the latter. Again, the use of fluorite elements towards the front sheds weight while optimizing balance and image quality. At 25 per cent lighter than its predecessor, the loss of 1.25kg is immediately obvious and makes handheld shooting more viable, as does the inclusion of 4-stop optical Vibration Reduction.

The lens comes with a mounting collar and tripod foot, a shorter monopod foot, carbon-fibre lens hood, carrying strap and flight case. The mounting collar is redesigned with new bearings to improve durability and handling. You certainly do get a full kit of parts and the overall bundle screams 'professional' quality.

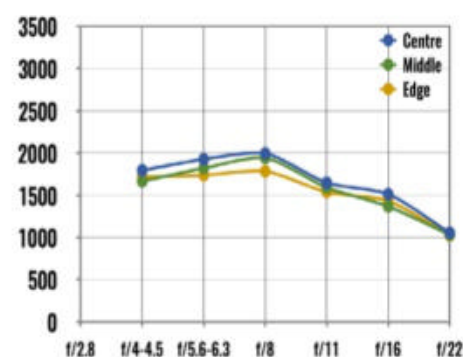
Typical control finery includes switchable A/M and M/A autofocus modes, VR normal and 'Sport' modes, a focus range limiter switch and four autofocus buttons, which can be assigned to AF-Lock, AF-On or Memory Recall with optional confirmation beep. The weather-sealed magnesium alloy casing plays host to 16 elements in 12 groups, including four ED elements and two fluorite elements. Nano Crystal Coat is applied to minimize ghosting and flare.

Performance

The ring-type ultrasonic autofocus system is typically fast for stills but jerky for shooting video. Sharpness is thoroughly excellent although not quite as outstanding as from the AF-S 400mm f/2.8 lens. That being said, all-round performance and image quality are simply superb.

For extra-large telephoto reach without stretching to an 800mm lens, this is as good as it gets for Nikon DSLRs, and it's perfectly viable for using with a teleconverter if you find that you really do need extra focal length.

Sharpness



Features

- 1 Although 25 per cent lighter than its predecessor, the lens still weighs 3810g, that's 2340g (about 2.6x) heavier than Nikon Z 600mm f/6.3 VR S.
- 2 The range of switches and function buttons is identical to that of the smaller and lighter Nikon AF-S 500mm f/4E FL ED VR on test.
- 3 The lens comes complete with a sturdy hard case.
- 4 Like the AF-S 400mm and 500mm, it takes the same 40.5mm drop-in filters. The Circular Polarizer costs around £349/\$220.
- 5 The optical layout includes four ED elements.

Double trouble?

Teleconverters simply don't deserve a bad press

Teleconverters are sometimes criticized for degrading image quality and the speed of autofocus but that's often not the case. All of the lenses in this test group are compatible with the latest Nikon F-mount or Z-mount 1.4x and 2x teleconverters, and the same goes for the Sigma lens with its own-brand teleconverter.



Without Teleconverter



With teleconverter

These were taken with a Nikon Z 70-180mm f/2.8, with and without a Nikon Z Teleconverter TC-2.0x. The macro magnification ratio is boosted from 0.48x to almost full 1.0x.

Nikon AF-S 400mm f/2.8E FL ED VR

£12,199/\$11,197

When speed is of the essence, this lens combines serious telephoto reach with an f/2.8 aperture for quicker shutter speeds



Compared with the Nikon and Sigma 500mm f/4 lenses on test, this one has less telephoto reach but is a whole f/stop faster. At 3800g, it's pretty much the same weight as the longer AF-S 600mm and 710g heavier than the AF-S 500mm, so it's not a lens to be taken lightly. Suffice it to say that unless you have immense upper body strength, prolonged periods of handheld shooting are a real challenge.

On the plus side, fluorite elements help to ensure outstanding image quality while reducing the weight of the lens and making it less front-heavy. As with the companion Nikon AF-S 500mm f/4 and 600mm f/4 lenses, build quality is excellent, based on a magnesium alloy barrel and featuring comprehensive weather-seals. The control layout is identical in all three

lenses, as is the 40.5mm drop-in filter slot towards the rear. Each lens is also supplied with a heavy-duty flight case.

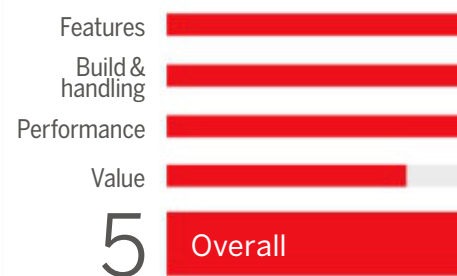
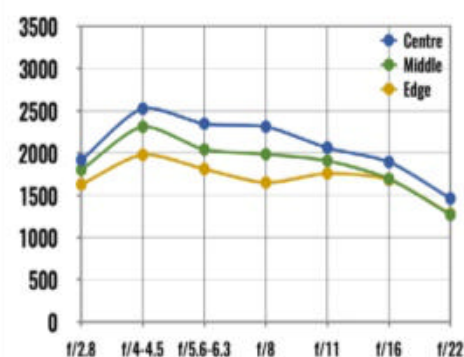
The optical layout includes two fluorite elements and two ED elements, aiming to enhance sharpness, contrast and clarity while minimizing chromatic aberrations. A further similarity that's shared with all of the other lenses on test is the inclusion of an electromagnetically rather than mechanically controlled aperture diaphragm. That's good news from a performance perspective but makes the F-mount lenses incompatible with some older DSLRs, on which you can only use them at their widest aperture.

Performance

Autofocus is amazingly speedy, snapping into place. It's the best F-mount lens in the entire group for outright sharpness,

backed up by typically effective 4-stop optical stabilization. When you need to maintain fast shutter speeds under low lighting conditions, this is the best option out of the AF-S 400mm, 500mm and 600mm lenses.

Sharpness



Features

- 1 The layout of function buttons and switches is the same as in the sibling Nikon AF-S 500mm f/4E FL ED VR and Nikon AF-S 600mm f/4E FL ED VR lenses.
- 2 A standout feature of this lens is its relatively fast f/2.8 aperture rating.
- 3 The lens is compatible with 1.4x and 2x teleconverters. With the latter you get an effective widest aperture of f/5.6 and 800mm reach.
- 4 While fluorite elements cut weight, it's only 10g shy of the 600mm, at 3800g.
- 5 Like other F-mount lenses on test, VR has 4-stop effectiveness.

Feel the need for speed?

How fast do you need your super-telephoto lens to be in terms of aperture rating? Or are you all about focal length?

The aperture rating of a lens is an important consideration. A 400mm with a relatively fast f/2.8 aperture can win out if you need to freeze the action, especially in low lighting. Otherwise you might need to use a high ISO setting, which can hit image quality. A wide aperture will also deliver a tighter depth of field for blurring fussy

backgrounds. The flipside is that for motor sports and other scenarios where you want to create a sense of movement by panning and blurring backgrounds, you won't need wide apertures, as you'll use slow shutter speeds. For covering the distance, a lens with a longer focal length can win out over one that has a faster aperture.



Panning to create a sense of speed demands relatively slow shutter speeds, so a lens with a 'fast' aperture becomes less relevant. →

Nikon Z 400mm f/2.8 TC VR S

£13,499/\$13,997

It's like having two prime lenses in one and, compared with the AF-S 400mm f/2.8, it's also a bit like a BOGOF deal



Thanks to its built-in 1.4x teleconverter, the this lens is effectively both a 400mm f/2.8 and 560mm f/4 prime in one package. The teleconverter is designed specifically to match the optical characteristics of this lens.

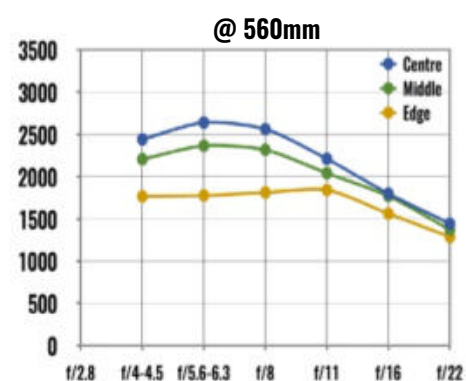
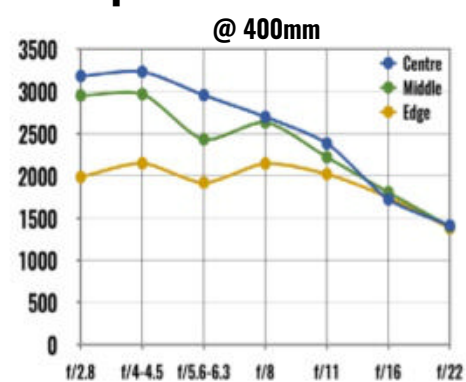
It's perhaps hard to see past the price tag but considering the cost is in pretty much the ballpark as for the Nikon AF-S 400mm f/2.8E FL ED VR on test, you could argue that it's like buying a 400mm lens and getting a 560mm for free. The design features two weight-saving fluorite glass elements (it's actually 850g lighter than the AF-S 400mm f/2.8), two ED (Extra-low Dispersion) elements, one Super-ED element and an SR element, the last of which refracts short-wavelength light. Up-market coatings include ARNEO and Nano Crystal Coat,

plus a new Meso Amorphous Coat, which is particularly anti-reflective for light entering at acute angles. There's an additional, customizable control ring, a customizable function button towards the rear and a rank of secondary customizable function buttons positioned on the front section.

Performance

Image quality is absolutely spectacular in all respects, both with and without the teleconverter employed. Autofocus speed is breathtaking, based on a Silky Swift Voice Coil Motor system and the VR system is similarly top-drawer, delivering 5.5-stop performance in its own right, rising to 6-stops with Z-system cameras that have IBIS. The performance of this lens is absolutely stunning but the price sadly puts it beyond the reach of most of us.

Sharpness



Features

- 1 A standout feature of this lens is that it includes a built-in 1.4x teleconverter.
- 2 Despite the addition of a built-in teleconverter, the lens is nearly a kilogram lighter in weight than the F-mount Nikon AF-S 400mm f/2.8E FL ED VR, at 2950g.
- 3 As we'd expect, the lens features a customizable range of L-Fn button, rank of L-fn 2 buttons and secondary control ring.
- 4 The lens features a 46mm drop-in filter holder.
- 5 Instead of a hard case, this lens is supplied complete with a soft slingback case.

Take the strain

With heavier lenses, a tripod can be your three-legged friend

There's no escaping the fact that fully pro-grade super-tele primes tend to be real heavyweights. The pricier lenses in this test group all weigh in at around 3-4kg, so long periods of handheld shooting would be a pain, to say the least.

All of these lenses are supplied with tripod mounting collars, which are equally suitable for use with monopods and gimbals. A bonus is that

they centralize the weight of the camera and lens on the tripod, not just in landscape orientation shooting but also in portrait orientation, with easy swapping. Even so, at such long focal lengths, effective image stabilization can be a must for getting consistently sharp shots that are free of camera-shake, when using a monopod as well as in handheld shooting.



Long periods of handheld shooting can feel more like an upper-body workout with some of the heavier lenses – a tripod can help.

Nikon Z 600mm f/4 TC VR S

£15,499/\$15,497

Following a path set by the Z 400mm f/2.8 TC, the Z 600mm again has a built-in teleconverter to shift things up a gear



The Z 600mm f/4 TC VR S follows in the highly capable and very expensive footsteps of the Z 400mm f/2.8 TC VR S. Unsurprisingly, the 50 per cent longer native focal length comes with a reduction in aperture speed, from f/2.8 to f/4, narrowing to f/5.6 with the built-in teleconverter engaged. This extends the focal length to a mighty 840mm. The internal teleconverter is very convenient but the lens costs more than a pair of Z 600mm and Z 800mm f/6.3 VR S lenses combined.

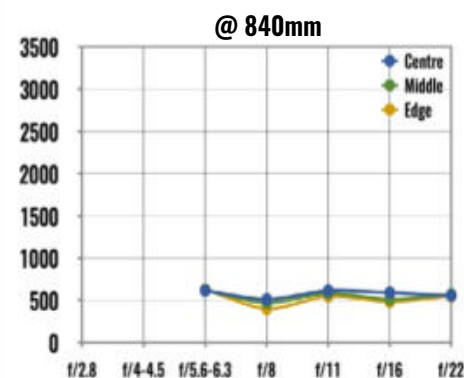
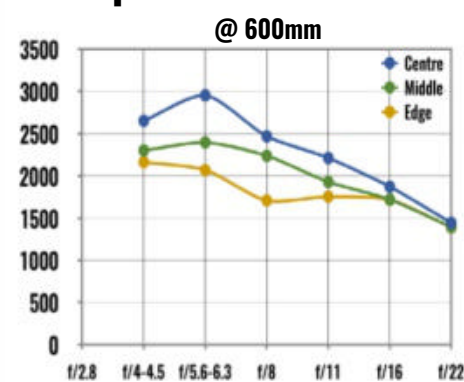
There's a lot of glass packed into this lens, comprising 26 elements arranged in 20 groups, including seven elements in four groups for the teleconverter. Two fluorite elements big up the quality while offering a bit of weight-saving, although the lens is still a real heavyweight at 3260g. Further finery in the optical

path includes three ED (Extra-low Dispersion) elements, one Super-ED element and two SR (Short-wavelength Refractive) elements. Coatings include Nikon's now common ARNEO and Nano Crystal Coat – particularly effective in cutting diagonal and vertical incidental light.

Performance

Autofocus is courtesy of a Silky Swift Voice Coil Motor, or VCM, which uses magnetic attraction instead of gears for super-fast, highly accurate performance in almost complete silence. 5-stop optical VR gives a 5.5-stop overall benefit when used in Synchro VR mode with additional in-body stabilization. Sharpness is superb at 600mm but we found a noticeable drop-off during lab-testing with the teleconverter engaged.

Sharpness



Features

- 1 It's larger but not much heavier than the Nikon Z 400mm f/2.8 TC VR S on test, at 3260g compared with 2950g.
- 2 The optical VR is rated at 5-stop performance.
- 3 Engaging the built-in teleconverter gives an increase in maximum magnification ratio, this time from 0.14x to 0.2x.
- 4 Like the Z 400mm TC, the lens takes 46mm drop-in filters and is supplied with a sturdy slingback soft case.
- 5 The Silky Swift Voice Coil Motor autofocus system is particularly rapid.

Still prefer a zoom?

Can't stretch to a prime? Here are our pick of super-tele zooms

If you're still not sold on a super-telephoto prime lens and feel that a zoom lens would save you 'zooming with your feet', there are a couple of Z-mount options that we're really keen on. As detailed in issue 157's Big Test (December 2023), our outright favourite is the Nikon Z 100-400mm f/4.5-5.6 VR S (£2549/\$2697). It shoehorns a host of advanced features and handling

refinements into a reasonably compact, robust and weather-sealed zoom lens. Image quality and all-round performance are absolutely exceptional. If a maximum focal length of 400mm won't get you as close as you need to be, look no further than the Nikon Z 180-600mm f/5.6-6.3 VR (£1799/\$1697). It's not an S-line lens but it's still a great performer, at a very attractive price.



The Nikon Z 100-400mm f/4.5-5.6 VR S is currently our top choice of Z-mount super-telephoto zoom lens. →

The winner is... Nikon Z 400mm f/4.5 VR S



Taking price as well as performance into consideration, here's our top choice

The Nikon Z 400mm f/2.8 TC VR S is arguably the 'best' lens in the group but most of us don't have £13,499/\$13,997 to blow on a single lens. The Nikon Z 400mm f/4.5 VR S is still a fabulous super-tele prime but it's only about a quarter of the price and less than half the weight, and it performs brilliantly well with Nikon's Z-mount 1.4x and 2x teleconverters, if you need extra reach.

The Nikon Z 600mm f/6.3 VR S and Nikon Z 800mm f/6.3 VR S are both superb recent additions to the line-up that bump up telephoto stretch, as is the top-flight Nikon Z 600mm f/4 TC VR S.

In the specifically F-mount camp, the Sigma 500mm f/4 DG OS HSM Sports gives the most bang per buck. The Nikon AF-S 500mm f/4E FL ED VR, Nikon AF-S 400mm f/2.8E FL ED VR

and Nikon AF-S 600mm f/4E FL ED VR are excellent but cost very much more to buy. All three of the Nikon lenses have almost identical performance and handling, so it comes down to your choice of focal length and aperture speed. The Nikon AF-S 500mm f/5.6E PF ED VR is a good compact, lightweight alternative that undercuts the Sigma for price, although it's an f/stop slower. **N**

How the lenses compare

	Nikon Z 400mm f/4.5 VR S	Nikon AF-S 500mm f/5.6E PF ED VR	Sigma 500mm f/4 DG OS HSM Sports	Nikon Z 600mm f/6.3 VR S	Nikon Z 800mm f/6.3 VR S	Nikon AF-S 500mm f/4E FL ED VR	Nikon AF-S 600mm f/4E FL ED VR	Nikon AF-S 400mm f/2.8E FL ED VR	Nikon Z 400mm f/2.8 TC VR S	Nikon Z 600mm f/4 TC VR S	
Website	www.nikon.com		www.sigma-global.com	www.nikon.com							
Street price	£2849/\$2997	£3229/\$3597	£4699/\$5999	£4999/\$4797	£5799/\$5997	£10,999/\$10,297	£12,099/\$12,297	£12,199/\$11,197	£13,499/\$13,997	£15,499/\$15,497	
Mount	Z FX	F FX	F FX	Z FX	Z FX	F FX	F FX	F FX	Z FX	Z FX	
Effective focal length (DX)	600mm	750mm	750mm	900mm	1200mm	750mm	900mm	600mm	600/840mm	900/1260mm	
Elements / groups	19 / 13	19 / 11	16 / 11	21 / 14	22 / 14	16 / 12	16 / 12	16 / 12	25 / 19	26 / 20	
Diaphragm	9 blades	9 blades	9 blades	9 blades	9 blades	9 blades	9 blades	9 blades	9 blades	9 blades	
Focus type	Dual stepping motors	Ultrasonic (ring-type)	Ultrasonic (ring-type)	Stepping motor	Dual stepping motors	Ultrasonic (ring-type)	Ultrasonic (ring-type)	Ultrasonic (ring-type)	Silky Swift VCM	Silky Swift VCM	
Internal focus	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Optical stabilizer	5.5 stops	4 stops	4 stops	5.5 stops	5 stops	4 stops	4 stops	4 stops	5.5 stops	5 stops	
Min focus distance	2.5m	3.0m	3.5m	4m	5m	3.6m	4.4m	2.6m	2.5m	4.3m	
Max magnification	0.16x	0.18x	0.15x	0.15x	0.16x	0.15x	0.14x	0.14x	0.17x (0.24x with TC)	0.14x (0.2x with TC)	
Filter size	95mm	95mm	46mm (rear)	95mm	46mm drop-in	40.5mm drop-in	40.5mm drop-in	40.5mm drop-in	46mm drop-in	46mm drop-in	
Weather seals	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Included accessories	Hood, pouch	Hood, soft case	Hood, soft case, strap	Hood, pouch	Hood, slingback case, strap	Hood, filter, hard case, strap	Hood, filter, hard case, strap	Hood, filter, hard case, strap	Hood, slingback case, strap	Hood, slingback case, strap	
Tripod mount ring	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Dimensions (dia x length)	104x235mm	106x237mm	145x380mm	106.5 x 278mm	140x385mm	140x387mm	166x432mm	160x358mm	156x380mm	165x437mm	
Weight	1245g	1460g	3310g	1470g	2385g	3090g	3810g	3800g	2950g	3260g	
Features	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Build & handling	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Performance	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Value	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	
Overall	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	

NPhoto

Next issue

**Don't miss
N-Photo 162**
See page 24 for
our free bag
subs offer!

NEW NIKON SKILLS

Great lakes

The Lake District
tops every landscape
photographer's bucket
list, so don't miss our
exhaustive guide to
photographing the
UK's best-loved
national park...

Image: © Edyta Rice



ALSO NEXT ISSUE

Best wide primes
for street shooting
**Capture carpets
of spring bluebells**
Indoor and outdoor
portrait projects
AstrHori 18mm f/8 2x
Probe Macro review

ON SALE THURSDAY 11 APRIL

•Contents subject to change

Nikon cameras

The current range of Nikon DSLR, Coolpix & Z-series mirrorless cameras

Current market prices are checked regularly with reputable stores to serve as a guideline. Body-only prices quoted unless stated. Different lens bundles are available. Prices correct at time of going to press.

Category	Model	Description	Tested In Issue 155 Price																
DX DSLRS	NIKON D7500	THE D7500 SHOEHORNS the best bits from the now-discontinued pro-grade D500 into a smaller, more affordable body. The control layout makes everything easy to get at, and there's a top-plate info LCD, 51-point autofocus system, fast 1/8000 sec shutter speed and 8fps continuous drive rate. Video resolution stretches to 4K. ★★★★★	TESTED IN ISSUE 155 • £1099/\$897																
			<table border="1"> <tr><td>Sensor</td><td>20.9Mp, DX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 5</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.94x, 100%</td></tr> <tr><td>ISO</td><td>100-51,200 (50-1,640,000 expanded)</td></tr> <tr><td>AF</td><td>51-point (15 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>8fps (50 Raw)</td></tr> <tr><td>Memory card</td><td>SDXC UHS-I</td></tr> </table>	Sensor	20.9Mp, DX (5568x3712)	Processor	EXPEED 5	Viewfinder	Pentaprism, 0.94x, 100%	ISO	100-51,200 (50-1,640,000 expanded)	AF	51-point (15 cross-type)	LCD	3.2-inch, tilt, touch	Max burst (buffer)	8fps (50 Raw)	Memory card	SDXC UHS-I
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LCD	3.2-inch, tilt, touch																		
Max burst (buffer)	8fps (50 Raw)																		
Memory card	SDXC UHS-I																		
NIKON D780	THE D780 TAKES the D750's winning design and handling cues, but adds on-sensor phase-detection autofocus and EXPEED 6 processing, inherited directly from the Z 6. The result is a capable and natural-feeling DSLR for shooting stills in viewfinder mode, coupled with the same kind of performance as a mirrorless camera in live view. ★★★★★	TESTED IN ISSUE 155 • £2299/\$2197																	
FX DSLRS			<table border="1"> <tr><td>Sensor</td><td>24.5Mp, FX (6048x4024)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.7x, 100%</td></tr> <tr><td>ISO</td><td>100-51,200 (50-204,800 expanded)</td></tr> <tr><td>AF</td><td>51-point (15 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, 2359k, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>7fps (68-100 Raw)</td></tr> <tr><td>Memory card</td><td>Two SDXC UHS-II</td></tr> </table>	Sensor	24.5Mp, FX (6048x4024)	Processor	EXPEED 6	Viewfinder	Pentaprism, 0.7x, 100%	ISO	100-51,200 (50-204,800 expanded)	AF	51-point (15 cross-type)	LCD	3.2-inch, 2359k, tilt, touch	Max burst (buffer)	7fps (68-100 Raw)	Memory card	Two SDXC UHS-II
	Sensor	24.5Mp, FX (6048x4024)																	
	Processor	EXPEED 6																	
Viewfinder	Pentaprism, 0.7x, 100%																		
ISO	100-51,200 (50-204,800 expanded)																		
AF	51-point (15 cross-type)																		
LCD	3.2-inch, 2359k, tilt, touch																		
Max burst (buffer)	7fps (68-100 Raw)																		
Memory card	Two SDXC UHS-II																		
NIKON D850	THE D850 GOES extra-large in megapixel count with a 45.7Mp image sensor. Further attractions include a high-spec 153-point autofocus system and fairly recent EXPEED 5 processor. For live view and video capture, however, the contrast-detection autofocus system is massively inferior to that of Nikon's mirrorless cameras and the D780. ★★★★★	TESTED IN ISSUE 155 • £2799/\$2497																	
		<table border="1"> <tr><td>Sensor</td><td>45.7Mp, FX (8256x5504)</td></tr> <tr><td>Processor</td><td>EXPEED 5</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.75x, 100%</td></tr> <tr><td>ISO</td><td>64-25,600 (32-102,400 expanded)</td></tr> <tr><td>AF</td><td>153-point (99 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, 2359k, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>7fps (29-200 Raw)</td></tr> <tr><td>Memory card</td><td>One XQD/CFexpress, one SDXC UHS-II</td></tr> </table>	Sensor	45.7Mp, FX (8256x5504)	Processor	EXPEED 5	Viewfinder	Pentaprism, 0.75x, 100%	ISO	64-25,600 (32-102,400 expanded)	AF	153-point (99 cross-type)	LCD	3.2-inch, 2359k, tilt, touch	Max burst (buffer)	7fps (29-200 Raw)	Memory card	One XQD/CFexpress, one SDXC UHS-II	
Sensor	45.7Mp, FX (8256x5504)																		
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AF	153-point (99 cross-type)																		
LCD	3.2-inch, 2359k, tilt, touch																		
Max burst (buffer)	7fps (29-200 Raw)																		
Memory card	One XQD/CFexpress, one SDXC UHS-II																		
COOLPIX	NIKON D6	THE D6 HAS the best autofocus module of any DSLR in Nikon's history, based on a 105-point system in which all of the points are cross-type. Eye-detection is also available in 3D tracking mode, and the 14fps burst rate is impressive. The flipside is that the D6 only has a 20.8Mp image sensor. One significant advantage over the Z 9 is a 3,580-shot battery life. ★★★★★	TESTED IN ISSUE 155 • £6799/\$6497																
			<table border="1"> <tr><td>Sensor</td><td>20.8Mp, FX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>Pentaprism, 0.72x, 100%</td></tr> <tr><td>ISO</td><td>100-102,400 (50-3,280,000 expanded)</td></tr> <tr><td>AF</td><td>105-point (105 cross-type)</td></tr> <tr><td>LCD</td><td>3.2-inch, 2359k, touch</td></tr> <tr><td>Max burst (buffer)</td><td>14fps (105-186 Raw)</td></tr> <tr><td>Memory card</td><td>Two XQD/CFexpress</td></tr> </table>	Sensor	20.8Mp, FX (5568x3712)	Processor	EXPEED 6	Viewfinder	Pentaprism, 0.72x, 100%	ISO	100-102,400 (50-3,280,000 expanded)	AF	105-point (105 cross-type)	LCD	3.2-inch, 2359k, touch	Max burst (buffer)	14fps (105-186 Raw)	Memory card	Two XQD/CFexpress
	Sensor	20.8Mp, FX (5568x3712)																	
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LCD	3.2-inch, 2359k, touch																		
Max burst (buffer)	14fps (105-186 Raw)																		
Memory card	Two XQD/CFexpress																		
NIKON P950	SMALLER & LIGHTER than the P1000, the P950 has broader appeal, but a smaller full-frame equivalent zoom range of 24-2000mm. Like all bridge cameras, image quality is the pay-off for unrivalled versatility. £849/\$797 ★★★★★	NIKON P1000	ANOTHER BRIDGE CAMERA, the P1000 offers a zoom range equivalent to 24-3000mm in full-frame terms, so it's ready for any shooting situation. The camera has a 16Mp sensor and supports Raw photography. £1029/\$1097 ★★★★★																
DX Z-SERIES																			
	NIKON Z 30	THE Z 30 LOOKS and feels like the Z 50 with the viewfinder lopped off, and the tilting rear screen replaced by the vari-angle screen of the Z fc. The rangefinder style makes the camera about 20mm shorter and 40g lighter. The Z 30 is good value for vloggers, with little difference in image or video quality between it and the Z 50/Z fc. ★★★★★	TESTED IN ISSUE 155 • £649/\$607																
			<table border="1"> <tr><td>Sensor</td><td>20.9Mp, DX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>None</td></tr> <tr><td>ISO</td><td>100-51,200 (100-204,800 expanded)</td></tr> <tr><td>AF</td><td>209-point</td></tr> <tr><td>LCD</td><td>3-inch, 1040k, vari-angle, touch</td></tr> <tr><td>Max burst (buffer)</td><td>11fps (30-35 Raw)</td></tr> <tr><td>Memory card</td><td>SDXC UHS-I</td></tr> </table>	Sensor	20.9Mp, DX (5568x3712)	Processor	EXPEED 6	Viewfinder	None	ISO	100-51,200 (100-204,800 expanded)	AF	209-point	LCD	3-inch, 1040k, vari-angle, touch	Max burst (buffer)	11fps (30-35 Raw)	Memory card	SDXC UHS-I
Sensor	20.9Mp, DX (5568x3712)																		
Processor	EXPEED 6																		
Viewfinder	None																		
ISO	100-51,200 (100-204,800 expanded)																		
AF	209-point																		
LCD	3-inch, 1040k, vari-angle, touch																		
Max burst (buffer)	11fps (30-35 Raw)																		
Memory card	SDXC UHS-I																		
NIKON Z 50	WITH ITS DOWNSIZED DX format image sensor, the Z 50 nevertheless inherits the same oversized lens mount from full-frame Z system bodies. The slimline build makes the most of the mirrorless design ethic. The 20.9Mp image sensor matches the megapixel count of the later Z fc and Z 30. It's a real joy to use, and very travel-friendly. ★★★★★	TESTED IN ISSUE 155 • £849/\$857																	
		<table border="1"> <tr><td>Sensor</td><td>20.9Mp, DX (5568x3712)</td></tr> <tr><td>Processor</td><td>EXPEED 6</td></tr> <tr><td>Viewfinder</td><td>OLED, 2360k, 0.39-inch, 100%</td></tr> <tr><td>ISO</td><td>100-51,200 (100-204,800 expanded)</td></tr> <tr><td>AF</td><td>209-point</td></tr> <tr><td>LCD</td><td>3.2-inch, 1040k, tilt, touch</td></tr> <tr><td>Max burst (buffer)</td><td>11fps (30-35 Raw)</td></tr> <tr><td>Memory card</td><td>SDXC UHS-I</td></tr> </table>	Sensor	20.9Mp, DX (5568x3712)	Processor	EXPEED 6	Viewfinder	OLED, 2360k, 0.39-inch, 100%	ISO	100-51,200 (100-204,800 expanded)	AF	209-point	LCD	3.2-inch, 1040k, tilt, touch	Max burst (buffer)	11fps (30-35 Raw)	Memory card	SDXC UHS-I	
Sensor	20.9Mp, DX (5568x3712)																		
Processor	EXPEED 6																		
Viewfinder	OLED, 2360k, 0.39-inch, 100%																		
ISO	100-51,200 (100-204,800 expanded)																		
AF	209-point																		
LCD	3.2-inch, 1040k, tilt, touch																		
Max burst (buffer)	11fps (30-35 Raw)																		
Memory card	SDXC UHS-I																		



DX Z-SERIES

NIKON Z FC



IT'S NOT JUST the retro chic styling that makes the Z fc so alluring. The direct-access shutter speed, exposure compensation and ISO dials, as well as the usual command dial for aperture control, enable a really hands-on approach to creative shooting. It features highly competent people/animal autofocus modes, along with a vari-angle touchscreen. ★★★★★

TESTED IN ISSUE 155 • £899/\$957

Sensor	20.9Mp, DX (5568x3712)
Processor	EXPEED 6
Viewfinder	OLED, 2360k, 0.39-inch, 100%
ISO	100-51,200 (100-204,800 expanded)
AF	209-point
LCD	3-inch, 1040k, vari-angle, touch
Max burst (buffer)	11fps (30-35 Raw)
Memory card	SDXC UHS-I

NIKON Z 5



THE MOST AFFORDABLE FX format mirrorless Nikon, the Z 5 costs much less than the Z 6II, although it lacks a top-panel OLED display. Dual card slots enable instant backups while you shoot. Like all other FX format Z-system cameras, the Z 5 features five-axis IBIS, which is a major plus point over the DX format cameras. ★★★★★

TESTED IN ISSUE 155 • £1349/\$997

Sensor	24.3Mp, FX (6016x4016)
Processor	EXPEED 6
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	100-51,200 (50-102,400 expanded)
AF	273-point
LCD	3.2-inch, 1040k, tilt, touch
Max burst (buffer)	4.5fps (100 Raw)
Memory card	Two SDXC UHS-II

NIKON Z 6II



THE Z 6II HAS a pair of late-generation EXPEED 6 processors, a superb 3690k OLED electronic viewfinder and tilting 2100k touchscreen, as well as an identical control layout to the Z 7II. But with fewer megapixels to process, the Z 6II beats the Z 7II with a 14fps rather than 10fps drive rate, and the buffer holds around twice as many Raw files. ★★★★★

TESTED IN ISSUE 155 • £2069/\$1597

Sensor	24.5Mp, FX (6048x4024)
Processor	Dual EXPEED 6
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	100-51,200 (50-204,800 expanded)
AF	273-point
LCD	3.2-inch, 2100k, tilt, touch
Max burst (buffer)	14fps (19-200 Raw)
Memory card	One XQD/CFexpress, one SDXC UHS-II

NIKON Z F



ITS RETRO DESIGN may be heavily inspired by the classic Nikon FM2 film camera, complete with brass dials for inputting exposure settings, but this stylish full-frame mirrorless Nikon is crammed with the latest tech. With an EXPEED 7 processor at its heart, it has better ISO, AF and subject tracking capabilities than the Z 6II, and a trick pixel-shift mode for super-hi-res images. ★★★★★

TESTED IN ISSUE 157 • £2149/\$1997

Sensor	24.5Mp, FX (6048x4024)
Processor	EXPEED 7
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	100-64,000 (50-204,800 expanded)
AF	299-point
LCD	3.2-inch, 2100k, tilt, vari-angle
Max burst (buffer)	7.8fps Raw (35 Raw), 30fps JPEG
Memory card	One SDXC UHS-II, one MicroSD

FX Z-SERIES

NIKON Z 7II



A MASSIVE 45.7MP super-high-res image sensor and an astonishing 493 phase-detection AF points in its hybrid autofocus system are the chief enhancements over the Z 6II. Dual XQD/CFexpress and SDXC memory card slots are a big bonus over the single XQD slot of the original Z 7, and the bigger memory buffer enables much longer bursts. ★★★★★

TESTED IN ISSUE 155 • £2899/\$2597

Sensor	45.7Mp, FX (8256x5504)
Processor	Dual EXPEED 6
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	64-25,600 (32-102,400 expanded)
AF	493-point
LCD	3.2-inch, 2100k, tilt, touch
Max burst (buffer)	10fps (46-82 Raw)
Memory card	One XQD/CFexpress, one SDXC UHS-II

NIKON Z 8



SHARING THE SAME new-generation EXPEED 7 image processor as the Z 9, the Z 8 is step ahead of the Z 6II and Z 7II, boasting intelligent autofocus recognition and tracking for vehicles in addition to people and animals. Its fully electronic shutter matches the Z 9's 1/32,000 sec max shutter speed and 20-120fps burst rate. ★★★★★

TESTED IN ISSUE 155 • £3789/\$3797

Sensor	45.7Mp, FX (8256x5504)
Processor	EXPEED 7
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	64-25,600 (32-102,400 expanded)
AF	493-point
LCD	3.2-inch, 2100k, v/h tilt, touch
Max burst (buffer)	20fps Raw (79-1000 Raw), 120fps JPEG
Memory card	One XQD/CFexpress, one SDXC UHS-II

NIKON Z 9



HEADLINE ATTRACTIONS INCLUDE shutter speeds up to 1/32,000 sec and a 120fps continuous drive rate in JPEG mode – dropping to 20fps Raws, albeit with a massive 1000-shot buffer. A built-in vertical grip offers duplicated shooting controls, and houses an EN-EL18d battery with sufficient stamina for 700-770 shots. ★★★★★

TESTED IN ISSUE 155 • £4849/\$5497

Sensor	45.7Mp, FX (8256x5504)
Processor	EXPEED 7
Viewfinder	OLED, 3690k, 0.5-inch, 100%
ISO	64-25,600 (32-102,400 expanded)
AF	493-point
LCD	3.2-inch, 2100k, v/h tilt, touch
Max burst (buffer)	20fps Raw (79-1000 Raw), 120fps JPEG
Memory card	Two XQD/CFexpress

Nikon-fit lenses

Your at-a-glance guide to the current crop of Nikon-fit lenses

KEY: ■ BEST ON TEST ■ GOLD AWARD ■ GREAT VALUE ■ Current market prices are checked regularly with reputable stores to serve as a guideline. Prices correct at time of going to press.

	LENS NAME	Price	Mount	DX/FX	Max zoom	Stabilizer	Autofocus	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
WIDE ZOOMS	Nikon AF-S 8-15mm f/3.5-4.5E ED	£1449/\$1246	F	FX	1.9x	No	Ultrasonic	485g	0.16m	0.34x	None	7	149	★★★★★	
	Nikon AF-P DX 10-20mm f/4.5-5.6G VR	£299/\$308	F	DX	2x	Yes	Pulse	230g	0.22m	0.17x	72mm	7	149	★★★★★	■
	Nikon AF-S DX 10-24mm f/3.5-4.5G ED	£949/\$900	F	DX	2.4x	No	Ultrasonic	460g	0.24m	0.2x	77mm	7	77	★★★★★	
	Nikon AF-S 14-24mm f/2.8G ED	£1619/\$1749	F	FX	1.7x	No	Ultrasonic	1000g	0.28m	0.15x	None	9	122	★★★★★	
	Nikon AF-S 16-35mm f/4G ED VR	£1149/\$1097	F	FX	2.5x	Yes	Ultrasonic	680g	0.28m	0.25x	77mm	9	149	★★★★★	
	Nikon Z DX 12-28mm f/3.5-5.6 PZ VR	£299/\$357	Z	DX	2.3x	Yes	Stepping	205g	0.19m	0.21x	67mm	7	152	★★★★★	
	Nikon Z 14-24mm f/2.8 S	£2169/\$2497	Z	FX	1.7x	No	Stepping	650g	0.28m	0.13x	112mm	9	149	★★★★★	■
	Nikon Z 14-30mm f/4 S	£1069/\$1347	Z	FX	2.1x	No	Ultrasonic	485g	0.28m	0.16x	82mm	7	149	★★★★★	■
	Nikon Z 17-28mm f/2.8	£1009/\$1200	Z	FX	1.65x	No	Stepping	450g	0.19m	0.19x	67mm	9	145	★★★★★	■
	Sigma 12-24mm f/4 DG HSM A	£1259/\$1299	F	FX	2x	No	Ultrasonic	1150g	0.24m	0.2x	None	9	149	★★★★★	
STANDARD ZOOMS	Sigma 14-24mm f/2.8 DG HSM A	£1169/\$1299	F	FX	0.19x	No	Ultrasonic	1150g	0.26m	0.19x	None	9	149	★★★★★	■
	Tokina atx-i 11-16mm f/2.8 CF Plus	£480/\$449	F	DX	1.5x	No	Electric	555g	0.3m	0.09x	77mm	9	32	★★★★★	
	Tokina atx-i 11-20mm f/2.8	£500/\$529	F	DX	1.8x	No	Ultrasonic	560g	0.28m	0.12x	82mm	9	135	★★★★★	
	Tokina Opera 16-28mm f/2.8 FF	£700/\$700	F	FX	1.7x	No	Electric	940g	0.28m	0.19x	None	9	101	★★★★★	
	Nikon AF-S 24-70mm f/2.8E ED VR	£1919/\$2400	F	FX	2.9x	Yes	Ultrasonic	1070g	0.38m	0.27x	82mm	9	138	★★★★★	
	Nikon AF-S 24-85mm f/3.5-4.5G ED VR	£579/\$500	F	FX	3.5x	Yes	Ultrasonic	465g	0.38m	0.22x	72mm	7	88	★★★★★	
	Nikon AF-S 24-120mm f/4G ED VR	£1069/\$1097	F	FX	5x	Yes	Ultrasonic	710g	0.45m	0.24x	77mm	9	153	★★★★★	
	Nikon Z DX 16-50mm f/3.5-6.3 VR	£329/\$307	Z	DX	3.1x	Yes	Stepping	135g	0.2m	0.2x	46mm	7	153	★★★★★	
	Nikon Z 24-50mm f/4-6.3	£449/\$397	Z	FX	2x	No	Stepping	195g	0.35m	0.17x	52mm	7	153	★★★★★	
	Nikon Z 24-70mm f/2.8 S	£1899/\$2300	Z	FX	2.9x	No	Ultrasonic	805g	0.38m	0.22x	82mm	7	138	★★★★★	■
TELEPHOTO ZOOMS	Nikon Z 24-70mm f/4 S	£949/\$997	Z	FX	2.9x	No	Stepping	500g	0.3m	0.3x	72mm	7	153	★★★★★	
	Nikon Z 24-120mm f/4 S	£899/\$1097	Z	FX	5x	No	Stepping	630g	0.35m	0.39x	77mm	9	153	★★★★★	
	Nikon Z 28-75mm f/2.8	£849/\$897	Z	FX	2.7x	No	Stepping	565g	0.39m	0.34x	67mm	9	153	★★★★★	■
	Sigma 24-70mm f/2.8 DG OS HSM A	£1149/\$1299	F	FX	2.9x	Yes	Ultrasonic	1020g	0.37m	0.21x	82mm	9	153	★★★★★	
	Sigma 24-105mm f/4 DG OS HSM A	£639/\$899	F	FX	4.4x	Yes	Ultrasonic	885g	0.45m	0.22x	82mm	9	153	★★★★★	■
	Tamron SP AF 24-70mm f/2.8 Di VC USD G2	£1199/\$1200	F	FX	2.9x	Yes	Ultrasonic	905g	0.38m	0.2x	82mm	9	88	★★★★★	
	Nikon AF-S 70-200mm f/2.8E FL ED VR	£2219/\$2350	F	FX	2.9x	Yes	Ultrasonic	1430g	1.1m	0.21x	77mm	9	156	★★★★★	■
	Nikon AF-P 70-300mm f/4.5-5.6E ED VR	£589/\$597	F	FX	4.3x	Yes	Ultrasonic	680g	1.2m	0.25x	67mm	9	148	★★★★★	■
	Nikon AF-S 80-400mm f/4.5-5.6G ED VR	£2299/\$2297	F	FX	5x	Yes	Ultrasonic	1570g	1.5m	0.2x	77mm	9	157	★★★★★	
	Nikon AF-S 120-300mm f/2.8E FL ED SR VR	£10499/\$9500	F	FX	2.5x	Yes	Ultrasonic	3250g	2m	0.16x	112mm	9	156	★★★★★	
SUPER	Nikon AF-S 200-500mm f/5.6E ED VR	£1249/\$1397	F	FX	2.5x	Yes	Ultrasonic	2300g	2.2m	0.22x	95mm	9	157	★★★★★	
	Nikon Z DX 50-250mm f/4.5-6.3 VR	£289/\$377	Z	DX	5x	Yes	Stepping	405g	0.5m	0.23x	62mm	7	148	★★★★★	■
	Nikon Z 70-180mm f/2.8	£1199/\$1247	Z	FX	2.6x	No	Stepping	795g	0.27m	0.48x	67mm	9	156	★★★★★	
	Nikon Z 70-200mm f/2.8 VR S	£2149/\$2600	Z	FX	2.9x	Yes	Stepping	1140g	0.5m	0.2x	77mm	9	156	★★★★★	■
	Nikon Z 100-400mm f/4.5-5.6 VR S	£2199/\$2697	Z	FX	4x	No	Stepping	1355g	0.75m	0.38x	77mm	9	157	★★★★★	■
	Nikon Z 180-600mm f/5.6-6.3 VR	£1799/\$1697	Z	FX	3.3x	Yes	Stepping	1955g	1.3m	0.25x	95mm	9	157	★★★★★	■
	Sigma 50-100mm f/1.8 DC HSM A	£999/\$1100	F	DX	2x	No	Ultrasonic	1490g	0.95m	0.15x	82mm	9	72	★★★★★	
	Sigma 60-600mm f/4.5-6.3 DG OS HSM S	£1699/\$2000	F	FX	10x	Yes	Ultrasonic	2700g	0.6m	0.3x	105mm	9	127	★★★★★	
	Sigma 70-200mm f/2.8 DG OS HSM S	£1099/\$1380	F	FX	2.9x	Yes	Ultrasonic	1805g	0.95m	0.21x	82mm	11	156	★★★★★	■
	Sigma 100-400mm f/5-6.3 DG OS HSM C	£699/\$699	F	FX	4x	Yes	Ultrasonic	1160g	1.6m	0.26x	67mm	9	157	★★★★★	■
WIDE PRIMES	Sigma 120-300mm f/2.8 DG OS HSM S	£2699/\$3600	F	FX	2.5x	Yes	Ultrasonic	3390g	1.5-2.5m	0.12x	105mm	9	156	★★★★★	■
	Sigma 150-600mm f/5-6.3 DG OS HSM C	£849/\$939	F	FX	4x	Yes	Ultrasonic	1930g	2.8m	0.2x	95mm	9	157	★★★★★	■
	Tamron 35-150mm f/2-2.8 Di III VXD	£1799/\$1999	Z	FX	4.3x	No	Stepping	1165g	0.33-0.85m	0.17-0.18x	82mm	9	159	★★★★★	
	Tamron SP 70-200mm f/2.8 Di VC USD G2	£1369/\$1200	F	FX	2.9x	Yes	Ultrasonic	1500g	0.95m	0.16x	77mm	9	156	★★★★★	■
	Tamron 70-300mm f/4.5-6.3 Di III RXD	£599/\$699	Z	FX	4.3x	No	Stepping	580g	0.8-1.5m	0.11-0.2x	67mm	7	148	★★★★★	
	Tamron 100-400mm f/4.5-6.3 Di VC USD	£799/\$799	F	FX	4x	Yes	Ultrasonic	1115g	1.5m	0.28x	67mm	9	157	★★★★★	
	Tamron SP 150-600mm f/5-6.3 Di VC USD G2	£1249/\$1399	F	FX	4x	Yes	Ultrasonic	2010g	2.2m	0.26x	95mm	9	157	★★★★★	
	Nikon AF-S DX 18-140mm f/3.5-5.6G ED VR	£599/\$500	F	DX	7.8x	Yes	Ultrasonic	490g	0.45m	0.23x	67mm	7	27	★★★★★	
	Nikon AF-S DX 18-300mm f/3.5-6.3G ED VR	£629/\$700	F	DX	16.7x	Yes	Ultrasonic	550g	0.48m	0.32x	67mm	7	136	★★★★★	
	Nikon Z DX 18-140mm f/3.5-6.3 VR	£555/\$650	Z	DX	7.7x	Yes	Stepping	315g	0.2m	0.33x	62mm	7	136	★★★★★	

	LENS NAME	Price	Mount	DX/FX	Max zoom	Stabilizer	Autofocus	Weight	Min focus	Magnification	Filter size	Aperture blades	Issue reviewed	Rating	Awards
WIDE PRIMES	Samyang 14mm f/2.8 AF	£559/\$800	F	FX	None	No	None	474g	0.2m	0.15x	None	7	105	★★★★★	
	Samyang 14mm f/2.4 XP	£899/\$730	F	FX	None	No	None	791g	0.28m	0.08x	None	9	142	★★★★★	🏆🏆
	Samyang 14mm f/2.8 IF ED UMC	£349/\$350	F	FX	None	No	None	560g	0.28m	N/S	None	6	70	★★★★★	
	Samyang 20mm f/1.8 ED AS UMC	£499/\$580	F	FX	None	No	None	488g	0.2m	N/S	None	7	116	★★★★★	
	Samyang 24mm f/1.4 ED AS UMC	£559/\$550	F	FX	None	No	None	680g	0.25m	N/S	77mm	8	104	★★★★★	
	Samyang T-S 24mm f/3.5 ED AS UMC (tilt & shift)	£599/\$800	F	FX	None	No	None	680g	0.2m	N/S	82mm	8	25	★★★★★	
	Samyang 35mm f/1.4 AS UMC AE	£499/\$500	F	FX	None	No	None	660g	0.3m	0.2x	77mm	8	125	★★★★★	
	Sigma 14mm f/1.8 DG HSM A	£1399/\$1599	F	FX	None	No	Ultrasonic	1170g	0.27m	0.1x	None	9	149	★★★★★	
	Sigma 15mm f/2.8 EX DG Diagonal Fisheye	£599/\$610	F	FX	None	No	Electric	370g	0.15m	0.26x	None	7	12	★★★★★	
	Sigma 16mm f/1.4 DC CN C	£449/\$499	Z	DX	None	No	Stepping	405g	0.25m	0.1x	67mm	9	154	★★★★★	
	Sigma 20mm f/1.4 DG HSM A	£779/\$900	F	FX	None	No	Ultrasonic	950g	0.28m	0.14x	77mm	9	116	★★★★★	
	Sigma 24mm f/1.4 DG HSM A	£629/\$850	F	FX	None	No	Ultrasonic	665g	0.25m	0.19x	77mm	9	116	★★★★★	🏆🏆🏆
	Sigma 30mm f/1.4 DC HSM A	£449/\$500	F	DX	None	No	Ultrasonic	435g	0.25m	0.15x	62mm	9	111	★★★★★	
	Sigma 30mm f/1.4 DC DN C	£349/\$399	Z	DX	None	No	Stepping	265g	0.3m	0.14x	52mm	9	152	★★★★★	
	Sigma 35mm f/1.4 DG HSM A	£649/\$800	F	FX	None	No	Ultrasonic	665g	0.3m	0.19x	67mm	9	125	★★★★★	
	STANDARD PRIMES	Tamron SP 35mm f/1.4 Di USD	£829/\$900	F	FX	None	No	Ultrasonic	805g	0.3m	0.3x	72mm	9	111	★★★★★
Viltrox AF 13mm f/1.4 Z		£349/\$459	Z	DX	None	No	Stepping	420g	0.22m	0.1x	67mm	9	142	★★★★★	🏆🏆
Viltrox AF 23mm f/1.4 Z		£230/\$320	Z	DX	None	No	Stepping	300g	0.3m	0.1x	52mm	9	144	★★★★★	🏆
Viltrox AF 27mm f/1.2 Pro		£420/\$545	Z	DX	None	No	Stepping	560g	0.28m	0.15x	67mm	11	161	★★★★★	🏆🏆
Viltrox AF 33mm f/1.4 Z		£210/\$279	Z	DX	None	No	Stepping	270g	0.4m	0.1x	52mm	9	152	★★★★★	🏆
Voigtlander 15mm f/4.5 Super Wide-Heliar Z Aspherical		£849/\$799	Z	FX	None	No	None	290g	0.126m	0.25x	58mm	10	160	★★★★★	
Voigtlander D23mm f/1.2 Nokton Z Aspherical		£649/\$699	Z	DX	None	No	None	240g	0.18m	0.2x	46mm	12	158	★★★★★	
Zeiss Milvus 18mm f/2.8 ZF.2		£2190/\$2300	F	FX	None	No	None	675g	0.25m	0.1x	77mm	9	116	★★★★★	
Zeiss Milvus 35mm f/2 ZF.2		£1160/\$1200	F	FX	None	No	None	650g	0.3m	0.19x	58mm	9	87	★★★★★	
7Artisans 50mm f/1.05		£450/\$349	Z	FX	None	No	None	606g	0.57m	0.13x	58mm	13	152	★★★★★	
Nikon PC-E Micro 45mm f/2.8D ED (tilt & shift)		£1899/\$2050	F	FX	None	No	None	740g	0.25m	0.5x	77mm	9	25	★★★★★	
Nikon AF-S 50mm f/1.8G		£229/\$220	F	FX	None	No	Ultrasonic	185g	0.45m	0.15x	58mm	7	130	★★★★★	
Nikon AF-S 50mm f/1.4G		£459/\$450	F	FX	None	No	Ultrasonic	280g	0.45m	0.15x	58mm	9	130	★★★★★	
Nikon AF-S 58mm f/1.4G		£1699/\$1600	F	FX	None	No	Ultrasonic	385g	0.58m	0.13x	72mm	9	40	★★★★★	
Nikon Z 40mm f/2		£229/\$280	Z	FX	None	No	Stepping	170g	0.29m	0.17x	52mm	9	140	★★★★★	🏆
Nikon Z 50mm f/1.8 S		£489/\$700	Z	FX	None	No	Ultrasonic	415g	0.4m	0.15x	62mm	9	140	★★★★★	🏆🏆
Nikon Z 50mm f/1.2 S	£2099/\$2099	Z	FX	None	No	Stepping	1090g	0.45m	0.15x	82mm	9	122	★★★★★		
Nikon Z 58mm f/0.95 S Noct	£8299/\$7999	Z	FX	None	No	Stepping	2000g	0.5m	0.19x	82mm	11	108	★★★★★		
Sigma 50mm f/1.4 DG HSM A	£649/\$950	F	FX	None	No	Ultrasonic	815g	0.4m	0.18x	77mm	9	130	★★★★★		
Sigma 56mm f/1.4 DC DN C	£449/\$499	Z	DX	None	No	Stepping	280g	0.5m	0.14x	55mm	9	152	★★★★★		
Viltrox AF 56mm f/1.4Z	£250/\$299	Z	DX	None	No	Stepping	320g	0.6m	0.1x	52mm	9	152	★★★★★	🏆🏆	
Yongnuo YN50mm f/1.8Z DF DSM	£345/\$359	Z	FX	None	Yes	Stepping	417g	0.45m	0.15x	58mm	9	152	★★★★★	🏆	
Zeiss Milvus 50mm f/1.4 ZF.2	£1245/\$1200	F	FX	None	No	None	875g	0.45m	0.15x	67mm	9	130	★★★★★		
TELEPHOTO PRIMES	Nikon AF-S 85mm f/1.8G	£489/\$477	F	FX	None	No	Ultrasonic	350g	0.8m	0.12x	67mm	7	160	★★★★★	🏆
	Nikon AF-S 85mm f/1.4G	£1699/\$1447	F	FX	None	No	Ultrasonic	595g	0.85m	0.12x	77mm	9	160	★★★★★	
	Nikon AF-S 105mm f/1.4E ED	£2099/\$2097	F	FX	None	No	Ultrasonic	985g	1m	0.13x	82mm	9	160	★★★★★	
	Nikon AF-S 300mm f/4E PF ED VR	£1619/\$2000	F	FX	None	Yes	Ultrasonic	755g	1.4m	0.24x	77mm	9	63	★★★★★	
	Nikon AF-S 400mm f/2.8E FL ED VR	£12199/\$11197	F	FX	None	Yes	Ultrasonic	3800g	2.6m	0.14x	40.5mm	9	161	★★★★★	🏆
	Nikon AF-S 500mm f/4E FL ED VR	£10999/\$10297	F	FX	None	Yes	Ultrasonic	3090g	3.6m	0.15x	40.5mm	9	161	★★★★★	🏆
	Nikon AF-S 500mm f/5.6E PF ED VR	£3229/\$3397	F	FX	None	Yes	Ultrasonic	1460g	3m	0.18x	95mm	9	161	★★★★★	
	Nikon AF-S 600mm f/4E FL ED VR	£12099/\$12297	F	FX	None	Yes	Ultrasonic	3810g	4.4m	0.14x	40.5mm	9	161	★★★★★	🏆
	Nikon Z 85mm f/1.8 S	£699/\$697	Z	FX	None	No	Ultrasonic	470g	0.8m	0.12x	67mm	9	160	★★★★★	🏆
	Nikon Z 85mm f/1.2 S	£2819/\$2797	Z	FX	None	No	Ultrasonic	1160g	0.85m	0.11x	82mm	11	160	★★★★★	🏆
	Nikon Z 135mm f/1.8 S Plena	£2699/\$2497	Z	FX	None	Yes	Stepping	995g	0.82m	0.2x	82mm	11	160	★★★★★	🏆🏆
	Nikon Z 400mm f/2.8 TC VR S	£13499/\$13997	Z	FX	None	Yes	SSVCM	2950g	2.5m	0.17x	Drop-in	9	161	★★★★★	🏆
	Nikon Z 400mm f/4.5 VR S	£2849/\$2997	Z	FX	None	Yes	Dual stepping	1245g	2.5m	0.16x	95mm	9	161	★★★★★	🏆🏆🏆
	Nikon Z 600mm f/4 TC VR S	£15499/\$15497	Z	FX	None	Yes	SSVCM	3260g	4.3m	0.14-2x	Drop-in	9	161	★★★★★	
	Nikon Z 600mm f/6.3 VR S	£4999/\$4799	Z	FX	None	Yes	Stepping	1470g	4m	0.15x	95mm	9	161	★★★★★	🏆
	Nikon Z 800mm f/6.3 VR S	£5799/\$5997	Z	FX	None	Yes	Dual stepping	2385g	5m	0.16x	Drop-in	9	161	★★★★★	🏆
MACRO	Samyang AF 85mm f/1.4 F	£550/\$530	F	FX	None	No	None	480g	0.9m	0.11x	77mm	9	140	★★★★★	
	Samyang MF 85mm f/1.4 Z	£319/\$399	Z	FX	None	No	None	730g	1.1m	0.09x	72mm	8	152	★★★★★	
	Sigma 85mm f/1.4 DG HSM A	£929/\$1199	F	FX	None	No	Ultrasonic	815g	0.85m	0.12x	86mm	9	160	★★★★★	🏆🏆
	Sigma 105mm f/1.4 DG HSM A	£1249/\$1599	F	FX	None	No	Ultrasonic	1645g	1m	0.12x	105mm	9	160	★★★★★	
	Sigma 500mm f/4 DG OS HSM S	£4699/\$5999	F	FX	None	Yes	Ultrasonic	3310g	3.5m	0.15x	46mm	9	161	★★★★★	🏆🏆
	Tokina SZX Super Tele 400mm f/8 Reflex MF	£209/\$229	F, Z	FX	None	No	None	355g	1.15m	0.4x	67mm	None	148	★★★★★	
	Yongnuo YN85mm f/1.8Z DF DSM	£345/\$379	Z	FX	None	Yes	Stepping	405g	0.8m	0.13x	58mm	7	152	★★★★★	🏆
	Irix 150mm f/2.8 Macro 1:1 Dragonfly	£510/\$495	F	FX	None	No	None	831g	0.35m	1x	77mm	11	150	★★★★★	
	Laowa 90mm f/2.8 2:1 Ultra Macro APO	£569/\$499	Z	FX	None	No	None	619g	0.21m	2x	67mm	13	150	★★★★★	
	Laowa 100mm f/2.8 2:1 Ultra Macro APO	£569/\$499	F, Z	FX	None	No	None	650g	0.25m	2x	67mm	7, 13	150	★★★★★	
	Nikon AF-S DX 40mm f/2.8G Micro	£299/\$280	F	DX	None	No	Ultrasonic	235g	0.16m	1x	52mm	7	110	★★★★★	
Nikon AF-S DX 85mm f/3.5G ED VR Micro	£459/\$557	F	DX	None	Yes	Ultrasonic	355g	0.29m	1x	52mm	9	150	★★★★★		
Nikon Z MC 50mm f/2.8	£539/\$647	Z	FX	None	No	Stepping	260g	0.16m	1x	46mm	9	150	★★★★★		
Nikon Z MC 105mm f/2.8 VR S	£899/\$1047	Z	FX	None	Yes	Stepping	630g	0.29m	1x	62mm	9	150	★★★★★	🏆🏆🏆	
Samyang 100mm f/2.8 ED UMC Macro	£429/\$490	F	FX	None	No	None	715g	0.31m	1x	67mm	9	110	★★★★★		
Tokina atx-i 100mm f/2.8 FF Macro Plus	£424/\$429	F	FX	None	No	Electric	515g	0.3m	1x	55mm	9	150	★★★★★		

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D7100 body box	£449
D7000 body	£199
D300 / D90 / D80 body each	£149
MBD-18 (D850)	£249
MBD-17 (D500)	£199
MBD-16 (D750)	£99
MBD-15 (D7000/7100/7200)	£69
MBD-12 (D800/810)	£99
MBD-80 (D80/90)	£49

NIKON AF LENSES USED

10.5 F2.8 fisheye box	£249
10-20 F4.5/5.6 AF-P DX VR	£239
10-24 F3.5/4.5 AFS box	£399
14-24 F2.8 AFS	£699
16 F2.8 AFD fisheye	£299
16-35 F4 AFS VR box	£399
16-80 F2.8/4 VR DX	£499
16-85 F3.5/5.6 AFS VR	£199
17-55 F2.8 AFS	£299
18-35 F3.5/4.5 AFS box	£399
18-35 F3.5/4.5 AFD	£99
18-55 F3.5/5.6 AF VR DX	£99
18-105 F3.5/5.6 VR DX AFS	£149
18-140 F3.5/5.6 AFS VR box	£149
18-200 F3.5/5.6 VR DX MKII	£299
18-300 F3.5/5.6 VR DX	£599
20 F1.8 AFS box	£599
20 F2.8 AFD box	£199
24 F1.4 G AFS Mint box	£699
24 F2.8 AFD box	£249
24-70 F2.8 AFS VR box	£1399

24-70 F2.8 AFS	£399
24-120 F4 AFS VR	£499
28-300 F3.5/5.6 VR box	£599
35 F1.4 AFS G box	£799
35 F1.8 AFS G DX	£99
35 F1.8 AFS ED	£299
35 F2.8 AFD	£299
50 F1.4 AFS G box	£249
50 F1.8 AFS box	£99
50 F1.8 AFD	£99
55-200 F4.5/5.6 AFS VR box	£149
60 F2.8 AFS	£299
70-200 F2.8 E FL AFS box	£1399
70-200 F2.8 AFS VR II box	£599
70-300 F4.5/5.6 E AF P VR	£499
70-300 F4.5/5.6 AFS VR box	£299
70-300 F4.5/5.6 AFD	£99
80-400 F4.5/5.6 AFS VR box	£799
85 F1.4 G AFS box	£499
85 F1.8 AFS box	£299
105 F2.8 AFS VR macro	£399
200-500 F5.6 E ED AFS VR box	£999
300 F4 E PF ED VR box	£799
400 F2.8 E FL AFS VR serviced	£4999
500 F4 E FL ED AFS VR	£4499
500 F5.6 E PF VR AFS box	£2299
TC14-EIII box	£299
TC14-EII box	£199
TC17-EIII box	£99
TC20-EIII box	£199

12-24 F4.5/5.6 II HSM	£399
18-300 F3.5/6.3 OS HSM	£299
24-105 F4 DG OS	£499
35 F1.4 DG Art	£499
50 F1.4 DG HSM Art	£499
70-200 F2.8 EX DG OS HSM	£399
85 F1.4 Art box	£799
105 F2.8 EX DG HSM OS	£299
120-300 F2.8 DG OS HSM Sport	£1699
150 F2.8 EX DG OS HSM box	£499
150-600 F5/6.3 DG OS sport	£749
150-600 F5/6.3 DG OS contem	£749
180 F2.8 DG OS mac box	£599
300-800 F5.6 EX DG HSM	£2499
500 F4 DG OS HSM Sport box	£1999
TC-1401 extender	£169

OTHER NAF USED

TAM 15-30 F2.8 Di USD	£299
TAM 16-300 F3.5/6.3 II VC	£399
TAM 18-250 F3.5/5.6 Di II	£199
TAM 90 F2.8 macro	£199
TAM 150-600 F5/6.3 Di VC	£499

FLASH / ACCESSORIES USED

SB-R1 ring flash	£499
SB-700	£149
SB-900	£99
SB-910	£199
SU-800 commander	£199
DR-6 angle finder	£149
DR-5 angle finder	£149
DR-4 angle finder	£79
MC-36A remote	£99
MC-30A remote	£59
SC-19 / SC-28 cable each	£49

NIKON 35mm AF/MF Cameras, Lenses, Flash and Accessories USED

Used Nikon

F2A body black £399
 Nikon F Photomic FTn Apollo chr body £399

Used Nikon

FM2n body chrome £399
 FM2n body black £399

Used Nikon

135mm F2 AIS £399
 50mm F1.4 AIS £299

NIKON AF BODIES USED

F5 body	£499
F100 + MB-15 grip	£299
F90X body	£99
F801/F801s body	£99

NIKON MF BODIES USED

F Photomic FTn Apollo chrome body	£399
F + plain prism Apollo chr body	£399
F + plain prism black	£499
F + plain prism chrome	£399

F3HP body	£599
F3 body	£499
F2 Photomic + DP-1 chrome	£399
F2A body black	£399
FM2N body Black	£399
FM2N body Chrome	£399
FE2 body chrome	£349
F301 body	£99
Angle finder F fits FE/FM etc	£49
DG-2 Eyepiece magnifier	£49

NIKON MF LENSES USED

24 F2.8 AIS	£199
28 F2.8 AIS	£299
28 F4 shift	£299
28-85 F3.5/4.5 AIS	£299
35 F2.8 shift	£299
35 F2 AIS	£269
35-70 F3.5 AIS	£99
35-105 F3.5/4.5 AIS	£149
50 F1.4 AIS	£299
50 F1.4 AI	£199
50 F1.8 AIS	£149

55 F2.8 AIS micro	£199
80-200 F4 AIS	£199
100-300 F5.6 AIS	£199
105 F2.5 AIS	£299
135 F2 AIS	£399
200 F4 AIS macro	£399
200 F4 AI	£149
200 F4 AIS	£199
300 F4.5 ED AIS	£399
TC200 converter	£99
PB-4 or PB-6 bellows each	£199

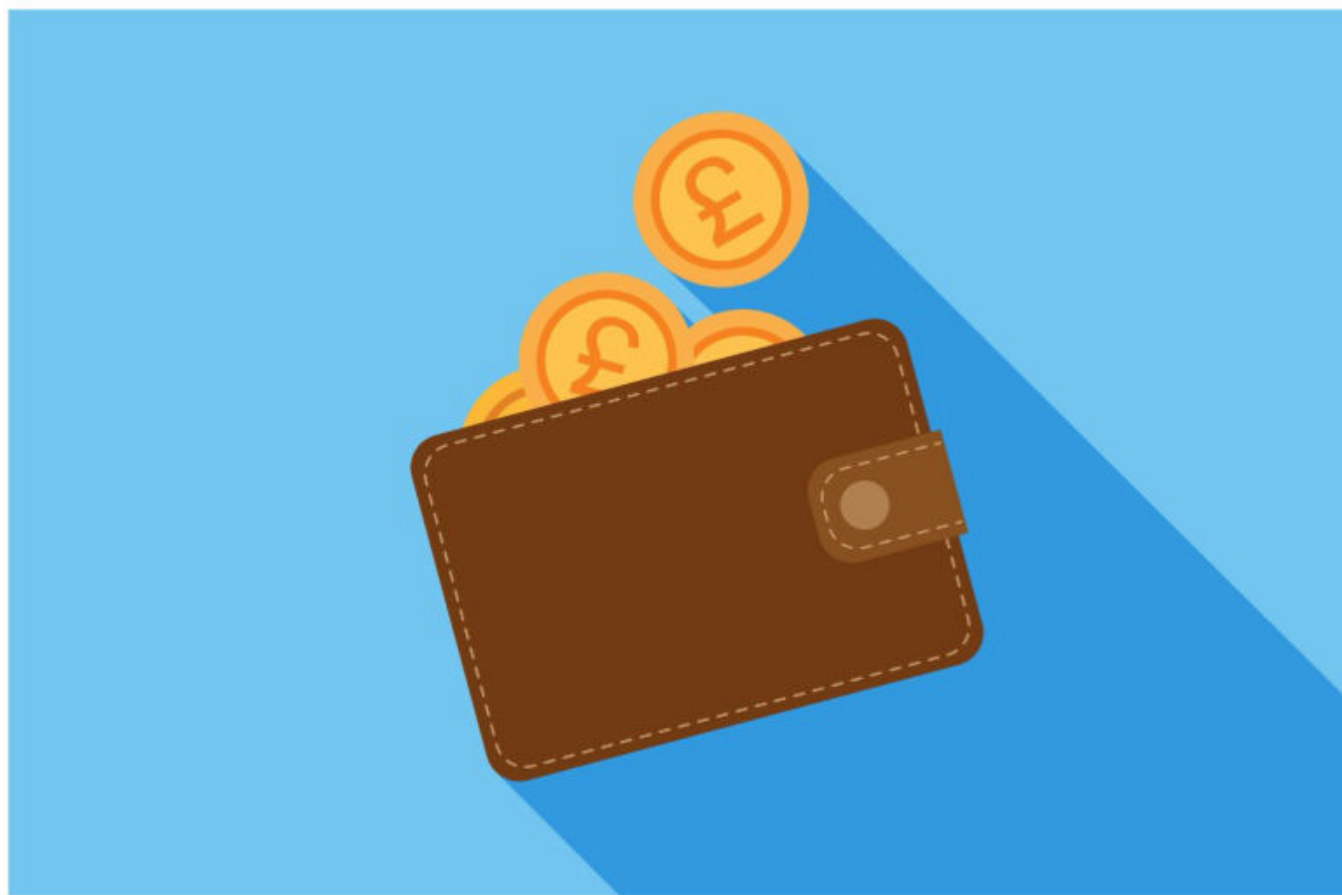
Used Gitzo Carbon Fibre Tripods & Heads

GITZO	GT3541LS	£499	GH3750QR head	£299
	GT3542	£499	GH3780QD head	£299
	GT5532S	£499	GH5380SQR head	£299
	GT5540LS	£499	GS3750 DQR panoramic head	£149



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Camera crunch



Photography is a bloomin' expensive hobby, but arguably, Z-mount and F-mount prices have never been lower, says **Mike Harris**

Terms such as affordable, cheap and budget are superfluous; affordability isn't something you can generalize about. When we use these terms in *N-Photo*, we are comparing an RRP against similar products. On one hand, it's ridiculous to call the Tamron 150-500mm F/5-6.7 Di III VC VXD 'cheap' at £1249, but there's currently nothing as affordable in its class. I say all this to preface this month's topic; how to make your photography dosh go further. And with The Photography Show coming up – and all of its show-exclusive deals – I figured my timing couldn't be better. So, whether or not you're attending the show, here's how to make your hard earned go a little bit further...

Cheap as chips, kind of...

The secondhand market has always been a great resource for cheaper tech and the odd once-in-a-lifetime super deal. But if you've no imminent plans to move to mirrorless or you simply want some cheap glass to fit onto your FTZ Mount Adapter, there's never been a better time to pick up AF-S F-mount glass. I've noticed a *huge* drop in prices over the past year or so. And optics don't age like cameras. Sure, Z-mount lenses consistently beat equivalent F-mount lenses on test, but

high-end F-mount glass is still supreme quality. You could build a professional career from scratch using nothing but F-mount glass right now and long into the future.

While you can't expect used Z-mount deals to be quite as good, you'll still make decent savings. But what's been most surprising is the boom in affordable lens manufacturer support from the likes of Viltrox and TArtisan. The Viltrox AF 85mm f/1.8 is a sublime portrait prime for £325/\$399 and, at the tail end of last year, TArtisan announced its 500mm f/6.3 telephoto lens, which retails for just £409/\$369. Sure, it's a stripped-back, manual-focus-only optic, but a new super-tele at this price is unheard of.

If you're looking for Nikon-branded kit at a cut price, you might be tempted to buy grey imports, but the aftermarket risks are well-documented. Instead, why not visit Nikon UK's certified refurbished online store (Nikon USA has a similar shopfront). The UK site features expertly refurbished Nikon products at discounted prices. Each item has been checked, cleaned and – where necessary – fixed with genuine Nikon parts. And best of all, you get a 12-month warranty.

So, consider these tips the next time you go camera shopping and save a bit of dosh – for more camera gear, of course... **N**

Editorial

Editor **Adam Waring**
adam.waring@futurenet.com • 0330 390 6026
 Senior Art Editor **Rebecca Shaw**
 Deputy Editor **Mike Harris**
 Production Editor **Chris McGine**

Contributors

Iain Afshar, Brett Florens, Nigel Forster, Ross Hoddinott, Catherine Kirkpatrick, Tom Mason, John Miskelly, Chris Nevard, James Paterson, Matthew Richards, Shawn Spencer, Keith Wilson

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Photography

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Media packs are available on request
 Account Director **Matt Bailey**
matt.bailey@futurenet.com • 0330 390 6272
 Account Director **Chelsea Speakman**
chelsea.speakman@futurenet.com • 0330 390 6065
 Head of Advertising **Matthew Johnston**
matthew.johnston@futurenet.com

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licensing@futurenet.com

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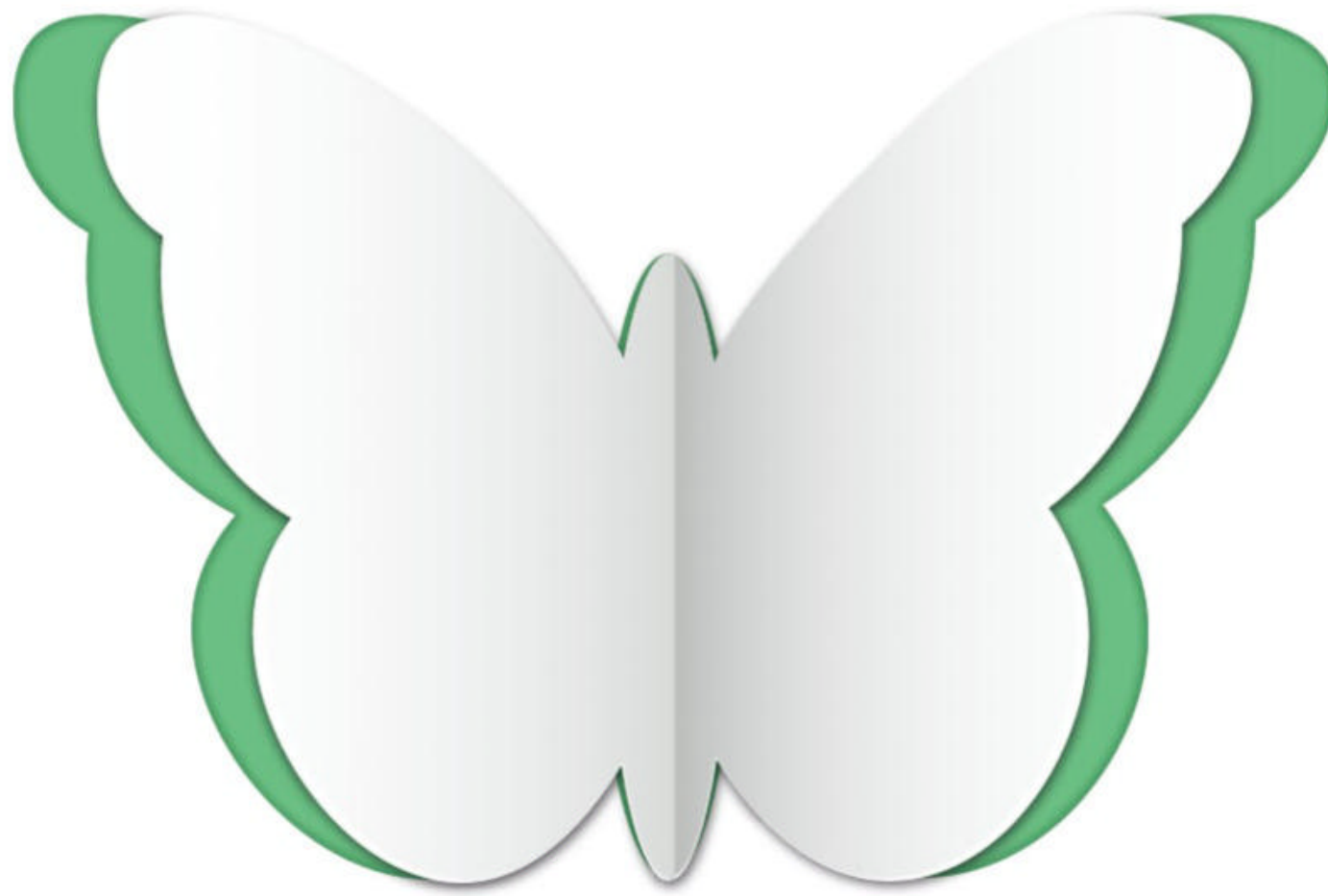
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 Chief Executive **Jon Steinberg**
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PAPER & BIODIVERSITY

Forests cover 31% of the world's total land area and contain most of the world's earthly biodiversity. To ensure the long-term health of forests, the European paper industry counts on sustainable forest management as a source for its main raw material.

Source: FAO and UNEP, The State of World's Forests, 2020



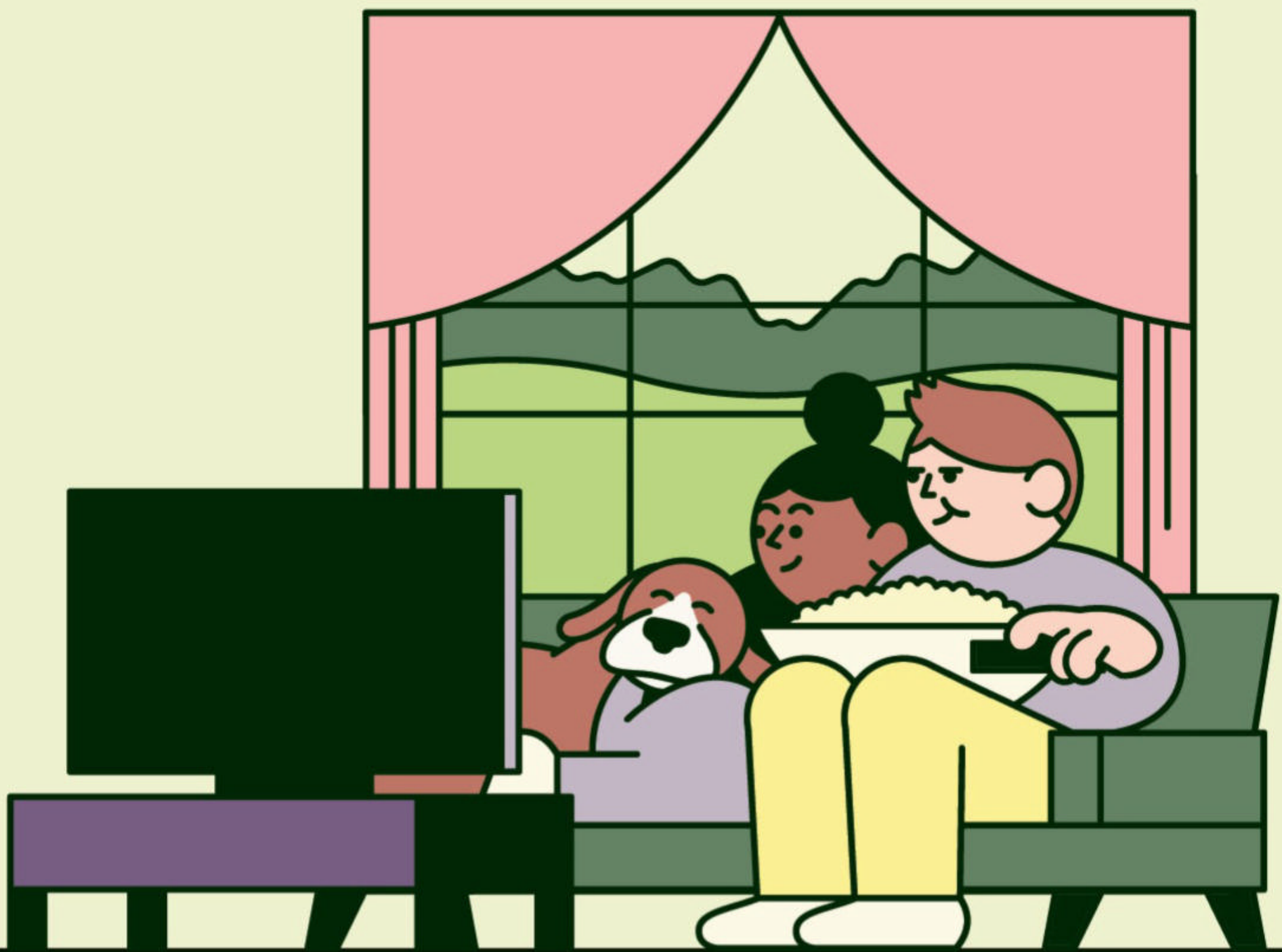
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