

# ADVANTAGES OF MICRO FOUR THIRDS

Lightweight and compact, these cameras offer an easy-to-carry alternative to DSLR systems

TEXT & PHOTOGRAPHY BY DANIEL J. COX

With nearly four decades of traveling the world as a working photographer, you get a different perspective on the pros and cons of large cameras versus small. For older photographers, smaller, lighter camera gear is a huge relief in size and weight. For the younger crowd, with the energy to move mountains, a smaller photographic footprint and higher-quality pictures can be quite appealing.



Nikon	Panasonic LUMIX	Olympus
12-24mm f/2.8	7-14mm f/4	7-14mm f/2.8
24mm f/1.4	12mm f/1.4	12mm f/2
24-70mm f/2.8	12-35mm f/2.8	12-40mm f/2.8
35mm f/1.4	15mm f/1.7	17mm f/1.8
50mm f/1.4	25mm f/1.4	25mm f/1.8
70-200mm f/2.8	35-100mm f/2.8	75mm f/1.8
80-400mm f/4-5.6	100-400mm f/4-6.3	40-150mm f/4-5.6 (w/1.4x teleconverter)
85mm f/1.4	42.5mm f/1.2	45mm f/1.8
105mm f/4 Macro	45mm f/2.8 Macro	60mm f/2.8 Macro
600mm f/4	100-400mm f/4-6.3	300mm f/4

Both groups have a similar interest in creating memories and sharing those special experiences with others. For many, it began with film; for others, with the iPhone. Either way, the world of photography has exploded, with young and old participating in numbers hard to believe. In a single day, over 1.8 billion pictures will be uploaded to photo-sharing sites in some form or another. Many millennials want to increase their photographic quality from what's possible with a smartphone. Baby boomers are interested in smaller, lighter and easier systems to carry. Many are finding what they need in Micro Four Thirds system cameras.

Good photography is all about being in the moment and having a way to record and share it. To do that quickly and less painfully, I started testing Micro Four Thirds cameras from Panasonic and Olympus—cameras that were smaller, lighter and more mobile, had wireless capabilities, looked less conspicuous, and didn't kill my back and neck.

To put it all into perspective, the first NIKKOR 600mm f/4 I bought weighed over 12 pounds. My 300mm f/2.8 was 6.5 pounds. These two lenses, several wide-to-midrange optics, two or three camera bodies, all stuffed in a Lowepro Super Trekker, weighed over 60 pounds.

*Salisbury Plain on the northern end of South Georgia Island is said to be home to over half a million king penguins. Without a doubt, there are many more today than when I first visited the island in the mid-'90s.*

Panasonic LUMIX GH3, Panasonic LUMIX G X VARIO 35-100mm F/2.8 ASPH; Exposure: 1/40th sec., f/18, ISO 640

*Between Olympus and Panasonic, the Micro Four Thirds system now has virtually all the same lens equivalents I had with my Nikon gear. Here's a list of popular Nikon lenses, along with equivalent offerings from Panasonic and Olympus. As you can see, lens options aren't an issue. Because of the cooperative nature of the MFT world, we have several companies to choose from for just the right optics. Wouldn't that have been nice in the '90s, when we were switching between Nikon and Canon? Okay, maybe you weren't born yet in the '90s.*

Put that on your back, and the message becomes clear: Enough already—there has to be something better.

For me, that something has come in the form of Micro Four Thirds cameras. A number of manufacturers are part of the MFT world, the two most notable being Panasonic and Olympus. All MFT players have agreed to support a common lens mount. That means all Olympus lenses will fit Panasonic LUMIX bodies, and all LUMIX lenses will fit Olympus bodies. No more having to adapt or replace your lenses if one company builds a better camera.

Unless you're Ötzi the Iceman, you're most certainly aware of the growing interest in mirrorless cameras. Everybody but the big two is taking mirrorless very seriously, including Fujifilm, Olympus, Panasonic and Sony. What you might not know is that just because it's mirrorless doesn't mean the overall system is going to be smaller and lighter. Granted, the body likely will be more svelte, but if the digital sensor is larger than MFT, such as those from Fujifilm and Sony, you're relegated to much larger lenses, similar to the ones we've been shooting with Canon and Nikon DSLRs.

## Testing the MFT Waters

If any of this sounds interesting to you, there are a few things to consider. Keep in mind that all MFT cameras have a smaller

sensor than a full-frame, 35mm-sized sensor. Because of this, the focal length of all MFT lenses is multiplied 2x to get an equivalent to what we're accustomed to seeing through traditional 35mm cameras. Therefore, an MFT 12-35mm f/2.8 is equivalent to what we're used to seeing through a 24-70mm f/2.8. This is most advantageous for telephoto work: The new Panasonic Leica DG Vario-Elmar 100-400mm F4.0-6.3 ASPH gives us an equivalent range of 200-800mm. Yes, I said 800mm. It's true that the image looks like 800mm due to the much smaller sensor so, to be fair, it's a cropped image, but how many of you are already cropping like a crazed photographer in your software? You spend all that money on a full-frame camera and then start cropping the bejimminy out of your images once you get them into your computer.

## MFT Limitations

**Low Light.** Without a doubt, no MFT body can compete with Canon, Nikon or Sony when it comes to low-light photography. In a nutshell, smaller sensors equal more noise in dark situations. I've found the MFT cameras to be about 1.5 to 2 stops less sensitive to low light than my full-frame Nikons. Even so, I regularly shoot my Panasonic LUMIX cameras at ISO 1600, sometimes going as high as ISO 3200.

**AF Speed and Accuracy.** Until recently, MFT cameras didn't have AF

***Vervet monkey on the  
Maasai Mara National  
Reserve, Kenya.***

Panasonic LUMIX  
GX8, Panasonic  
Leica DG Vario-Elmar  
100-400mm F/4.0-6.3  
ASPH; Exposure:  
1/400th sec., f/5,  
ISO 640



speed and accuracy comparable to the top-of-the-line DSLRs. However, with cameras like the Olympus OM-D E-M1, as well as the LUMIX GH4 and GX8, the differences are closing fast. My Nikon D4 can still collect more perfectly focused frames on a fast-moving subject coming straight at the camera, but the best MFT cameras aren't far behind.

**MFT Benefits**

**Innovative Technologies.** As we all see on a daily basis, technology is galloping forward at breakneck speeds, and MFT cameras have frequently offered these technologies first. Things like in-camera image stabilization, touch-screen LCDs, 4K video, 4K photo mode, post-focus, focus stacking, panorama mode, silent shutter, wireless uploads and many other great new tools are all available in MFT cameras.

**In-Camera Image Stabilization.** Konica Minolta pioneered the idea of in-camera IS with technology they called Anti-Shake (AS), and Olympus perfected the feature with their EVOLT E-510. In-camera IS systems move the image sensor within the camera body to compensate for movement by the photographer, effectively cancelling that movement to produce a sharper image. Though not exclusive to MFT systems, both Olympus and Panasonic have this fabulous technology.

**Touch-Screen LCD and Custom Function Buttons.** Panasonic's LUMIX cameras have the easiest-to-use interface and ergonomics of any camera I've shot. That ease of use is mainly due to their superb touch-screen LCD on the back of the camera. Moving the AF point with my thumb, while the camera is held to my eye is the quickest way to change the AF sensor position that I've experienced. Quick and easy AF control is key to well-composed images. However, as wonderful as the touch screen is, it's not a replacement for buttons and dials. Both the LUMIX and Olympus systems have a profusion of Custom Function buttons that can be set to just about anything you might want.

**4K Video.** Most all of us are familiar with a 1080 HD television picture, which is the most common format TVs are using today. If you're like me, watching 1080 HDTV is almost like looking through a window. Now imagine that same picture with four times



***A pair of cheetah hunting on the Maasai Mara National Reserve, Kenya.***

Panasonic LUMIX GX8, Panasonic Leica DG Vario-Elmar 100-400mm F/4.0-6.3 ASPH; Exposure: 1/320th sec., f/6.3, ISO 400



***A large male Japanese macaque, commonly referred to as a snow monkey, sits in a hot thermal pool in Jigokudani Snow Monkey Park near Nogano, Japan. This image was shot handheld at a slower shutter speed to show the movement in the swirling snow.***

Panasonic LUMIX GH3, Panasonic LUMIX G X VARIO 35-100mm F/2.8 ASPH; Exposure: 1/50th sec., f/5, ISO 500

more resolution. That's 4K video. It's the future, and these cameras can capture at that resolution.

**4K Photo Mode.** Even the top professional Nikon and Canon DSLRs can only shoot at 12 or 14 frames per sec-

ond, respectively. I never would have imagined writing the word "only" when it comes to these high frame rates, but Panasonic's new 4K Photo Mode gives us the ability to shoot at 30 frames per second in a video file, with the ability to

subsequently pull 8-megapixel stills as individual frames from that video. Yes, I'm talking about a still camera that can shoot 8-megapixel JPEGs at 30 frames per second.

**Post-Focus.** Imagine shooting a photograph and being able to select the spot you want to be focused after the frame has been captured. Lytro pioneered this technology, but Panasonic has brought the concept to the masses—with a twist. Once again, using the LUMIX camera's 4K video capture, you can shoot 4K video and select the critical focus later by way of software, or choose the individual image on the camera's LCD and save that image as an 8-megapixel JPEG.

**Focus Stacking.** Olympus has a terrific new technology that's producing incredible macro photos by allowing the photographer to pick a starting focus point and an ending focus point, with the camera creating a series of images between the two points. When finished shooting, the camera automatically combines the frames into a final image with enhanced depth of field and perfect focus from front to back.

**Panoramic Mode.** Almost everybody has experienced the enjoyment of shooting a panoramic image with our mobile phones. It's now possible to do the same with Panasonic LUMIX cameras. No more shooting lots of individual frames and having to wait to see the results by way of combining them in the computer. The camera now does all the stitching of images for you. I've actually printed panoramic images from the LUMIX GX8 that are 40 inches wide.

**Out of Sight, Out of Mind.** Finally, one seriously underrated benefit of MFT cameras is the ability for the photographer to fly under the radar. If you're a serious shooter, you've most likely experienced some anxious moment, like an authority figure questioning you at a park overlook or a gate guard stopping you from bringing a large lens and camera to a concert, ball field or any other number of venues that restrict professional or serious photographers.

Last year, I shot the Colorado Avalanche with the pocketable, fixed-lens LUMIX LX100 in 4K Photo Mode. The Pepsi Center in Denver doesn't allow professional cameras inside, but the LX100 doesn't fall into the category of a "professional-looking" camera. With no fanfare, shakedown or nasty looks



*Klipspringer, Samburu National Reserve, Kenya.*

Panasonic LUMIX GX8, Panasonic Leica DG Vario-Elmar 100-400mm F/4.0-6.3 ASPH; Exposure: 1/1250th sec., f/6.3, ISO 320



*Pintail ducks on a shallow pond, Bosque del Apache National Wildlife Refuge, New Mexico.*

Panasonic LUMIX GX8, Panasonic Leica DG Vario-Elmar 100-400mm F/4.0-6.3 ASPH; Exposure: 1/2000th sec., f/9, ISO 320

from the gatekeeper, I walked right past and came out the other side with some fabulous images of a super-exciting hockey game.

As fellow MFT photographic colleague Giulio Sciorio likes to say, "Small camera, big picture." Combine that with light and mobile, at a fraction of the cost of a traditional DSLR, all while

attracting little or no attention, and I like to say, "It's a dream come true." or

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# TAMRON SP 90mm F/2.8 Di MACRO 1:1 VC USD

Discover a world of brilliant details with true 1:1 macro, exceptional resolution and advanced Vibration Compensation

Featuring an all-new design with enhanced ergonomics and superior optical performance, the **SP 90mm F/2.8 Di MACRO 1:1 VC USD (Model F017)** is the next generation of Tamron's 90mm Macro legacy.

New XY-Shift Vibration Compensation detects and corrects lens movement both vertically and horizontally for improved image stabilization with up to 3.5 stops of correction when shooting handheld\*. To increase focusing speed and accuracy at close distances, the lens' Ultrasonic Silent Drive focusing system has been optimized with new software specifically for macro photography. The focusing system also offers Manual Focus Override, enabling precise focus adjustments for creative effect.

The optical design features 14 elements in 11 groups, including one LD (Low Dispersion) and two XLD (eXtra Low Dispersion) glass elements to reduce lateral and on-axis chromatic aberrations for exceptional resolution and fidelity. The lens also employs Tamron's proprietary

Floating System to adjust the position of lens elements for optimal performance as you adjust focus from near to far, ensuring the best imaging performance at any range.

Particularly important for macro work when a shallow depth of field is desired, the lens features a nine-blade circular diaphragm for a beautiful bokeh effect. To help eliminate flare and ghosting, a combination of two specialized lens coatings are used—eBAND (Extended Bandwidth & Angular-Dependency) is layered on top of BBAR (Broad-Band Anti-Reflection)—to significantly reduce internal reflections for flawless color and clarity, even in bright direct light.

Available for Canon, Nikon and Sony mounts, the SP 90mm F/2.8 Di MACRO 1:1 VC USD is designed to excel when shooting outdoors, with Moisture-Proof and Dust-Resistant Construction, and a Fluorine Coating on the front lens element to repel water and oil.

\*Sony mount model does not include VC.



Wil Mijer

*"Working with the new Tamron SP 90mm F/2.8 Di VC USD is really a pleasure. The f/2.8 maximum aperture creates wonderful soft focus—the result is like a fairytale. Atmospheric, mysterious...that's what I go for."*

*"In the early morning, when the sun is coming up, it's the most wonderful time to be in the field making macro photographs. Vibration Compensation, in combination with the aperture of f/2.8, gives me pictures with the most natural light, the same as I saw with my own eye. I'm very excited about that."*

*"The big advantage of the new Tamron SP 90mm is that it is waterproof and dust resistant. You don't have to worry about moisture when you are in the field. And the Ultrasonic Silent Drive AF focuses quickly for sharp details, even when you have to run after a butterfly."*

—Wil Mijer

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