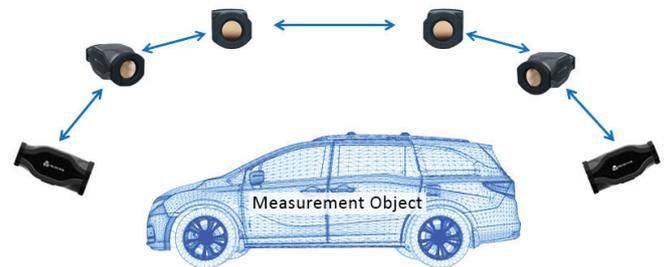
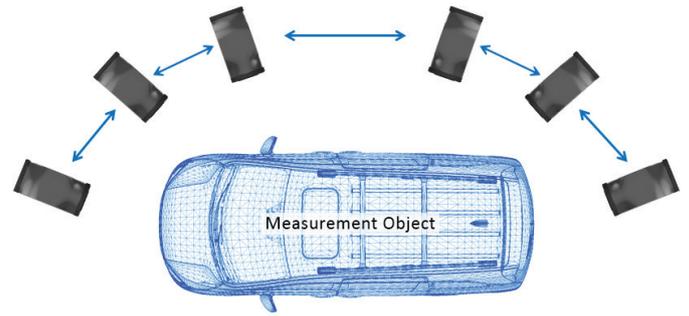


# METRONOR MultiCam

- EXTEND YOUR MEASUREMENT AREA
- INCREASE THE MEASUREMENT ACCURACY
- TAKE ADVANTAGE OF A STATIC SET-UP THAT TAKES UP LESS FLOOR SPACE THAN COMPARABLE GANTRY SYSTEMS
- EXPAND THE SYSTEM ACCORDING TO PROJECT NEEDS: ADD MORE CAMERAS OR A DIFFERENT TYPE OF HANDHELD SENSOR (E.G. OPTICAL SCANNER)



Pair several cameras and achieve multiple-camera synchronization, extending your Metronor DUO's photogrammetry also into other directions.

The Metronor DUO system has been around since 1989 and has proven its consistency and repeatability over several decades in various industrial segments and applications. With new developments and technologies, its functionalities can now be extended.

The regular way of pairing a DUO requires two cameras set up either horizontally or vertically to each other. A technique called bar dance enables the photogrammetry and triangulation of our measurement device, both for tactile probing and optical scanning.

With the MultiCAM functionality you can add more cameras into the existing set-up and create multiple pairings, measuring with even more than two cameras at the same time. With a 4-camera system you can, for example, set up two horizontal and two vertical DUO pairs and/or one overall 4-camera network, where all 4 cameras measure the visible handheld sensor at the same time.

It is also possible to add more cameras to the system, so a further extension to 6 or 8 cameras is an option for your future projects.

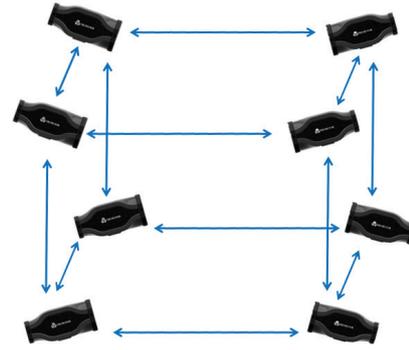
## APPLICATIONS INCLUDE:

- Reverse engineering
- Prototyping
- Fixture inspection
- As-built documentation
- Tool and die inspection
- Deformation analysis
- Large assembly measurement
- Excess material verification in casting/forging
- Process repeatability verification
- Root cause analysis – check tool, parts, variation and interference in single session
- Tool building
- Tool certification
- Jig-less tooling

For more information: [www.metronor.com](http://www.metronor.com)

## Working with Metronor MultiCam

- Set up the cameras in the room with the help of the camera viewer in the Metronor software
- Select all camera pairings you would like you work with
- Perform the bar dance to set up the photogrammetry for these pairings
- The photogrammetry automatically ties in different coordinate systems into one shared, global set-up



It is best practice to use stability units for static setups. The stability units compensate for temperature shifts over longer periods of time. The stability modules have gone through extensive testing in heat chambers to compensate a wide range of temperature shifts. The modules will correct the photogrammetry of the DUO pairs in the background, in addition to the system checking itself for accuracy, as displayed by the sigma value in the Metronor software.

## Technical Specifications

### METRONOR DUO

#### PERFORMANCE SPECIFICATIONS

<b>Range</b>	Distance From Sensors	1.5 to 15 m (5 to 50')
<b>Accuracy</b>	U95 Distance Measurement Accuracy	+/- (0.020 + L/70000) mm Pilot customers have reported typical accuracy improvements of at least 30% when using MultiCam compared to the Metronor Duo specifications.

#### HARDWARE SPECIFICATIONS

<b>Environment</b>	Operating Temperature	10 to 45°C (50 to 113°F)
	Storage Temperature	-25 to 65°C (-13 to 150°F)
	Operating Humidity	< 95% relative humidity, non-condensing
	Pressure, Humidity, Temperature	No effect on measurement accuracy
	Vibration Stability Control (option)	0- 100 Hz, < 3 mm amplitude
No Warm-up		
<b>Electrical Power</b>	Auto switching (Battery operation optional)	100-240 V AC, 50-60 Hz
<b>Packaging</b>	System Weight (excl. cases)	17 kg (38 lbs)
	Shipping Weight	30 kg (66 lbs)
<b>Computing Unit</b>	Type	Laptop, Windows 10 Professional 64 bit
<b>Sensor Unit (2 incl.)</b>	Type	CCD-based digital camera
	Optical Wettings	Fixed aperture and focus, factory optimized
	Field of View	38° x 32°
	Effective Resolution	640.000 x 512.000
	Unit Net weight	0.80 kg (2 lbs)
<b>Probing Unit</b>	Type	Wireless Handheld, with quick-change styli
	Material	Carbon fibre w/embedded active targets
	Styli	User configurable set of 7 w/ titanium extensions/angles
	Styli Type	Ruby spheres (incl.), scribe tip (incl.), edge styli (opt.)
	Hidden Point Capability	600 mm (24")- longer with optional probes
	Unit Net Weight	0.52 kg (1.2 lbs)