

## CUSTOM-MADE PRODUCTS

# Weird and uncommon things we do for our customers

Besides producing state-of-the-art telecentric lenses and other innovative optics for machine vision, Opto Engineering® develops dozens of custom-made optics every year according to customer specifications.

We are often asked to deliver special optics to fit certain optical performances, dimensional constraints or camera formats which no off-the-shelf product would be suitable for.

In many cases what we deliver is actually unique because of its specific optical layout allowing for very special imaging functions: most customers are often surprised at how effectively we manage to solve complex imaging issues which were labelled as impossible.

The list below will serve to get just a feeling of the numerous developments Opto Engineering® has carried out during last few years.

### Telecentric Lenses:

- numerous types of lenses for shaft measurement
- a variety of lenses and collimated illuminators for pre-set machines
- different types of lenses for cell and blood inspection applications
- very special lenses for wafer and silicon inspection
- several double port optics for dual magnification measurement

### Entocentric Lenses:

- lens assembly with moving filter for banknotes inspection
- lenses for data-matrix code reading
- lens for microscopy imaging
- lens for hardness testing
- many types of lenses for document acquisition and scanning
- different kinds of zero distortion lenses for dimensional measurement
- fiberoptic endoscopy optics
- lenses for car wheels alignment
- lenses for key dimensional control
- IR missile tracking optics
- different types of fingerprint analysis optics
- macro lenses for X-ray imaging

### Zoom Lenses:

- 5x 3-5 micron IR motorized zoom for military/naval environment
- 12x motorized lens for textile inspection
- 5x motorized lens for plastic parts inspection
- motorized lens for measurement applications

### 360° viewing optics:

- hole inspection lenses for mechanical parts
- hole inspection probes for engine control
- different types of panoramic lenses for security application
- special pericentric lenses for plastic parts inspection
- multi-mirror assemblies for glass and plastic components inspection

### LED Illuminators:

- many different types of special ring, coaxial and back light illuminators
- special pattern projectors

...and lots of other crazy things!

