

Online measurement of strip and slit strip width

EMG iCAM[®]



EMG iCAM®

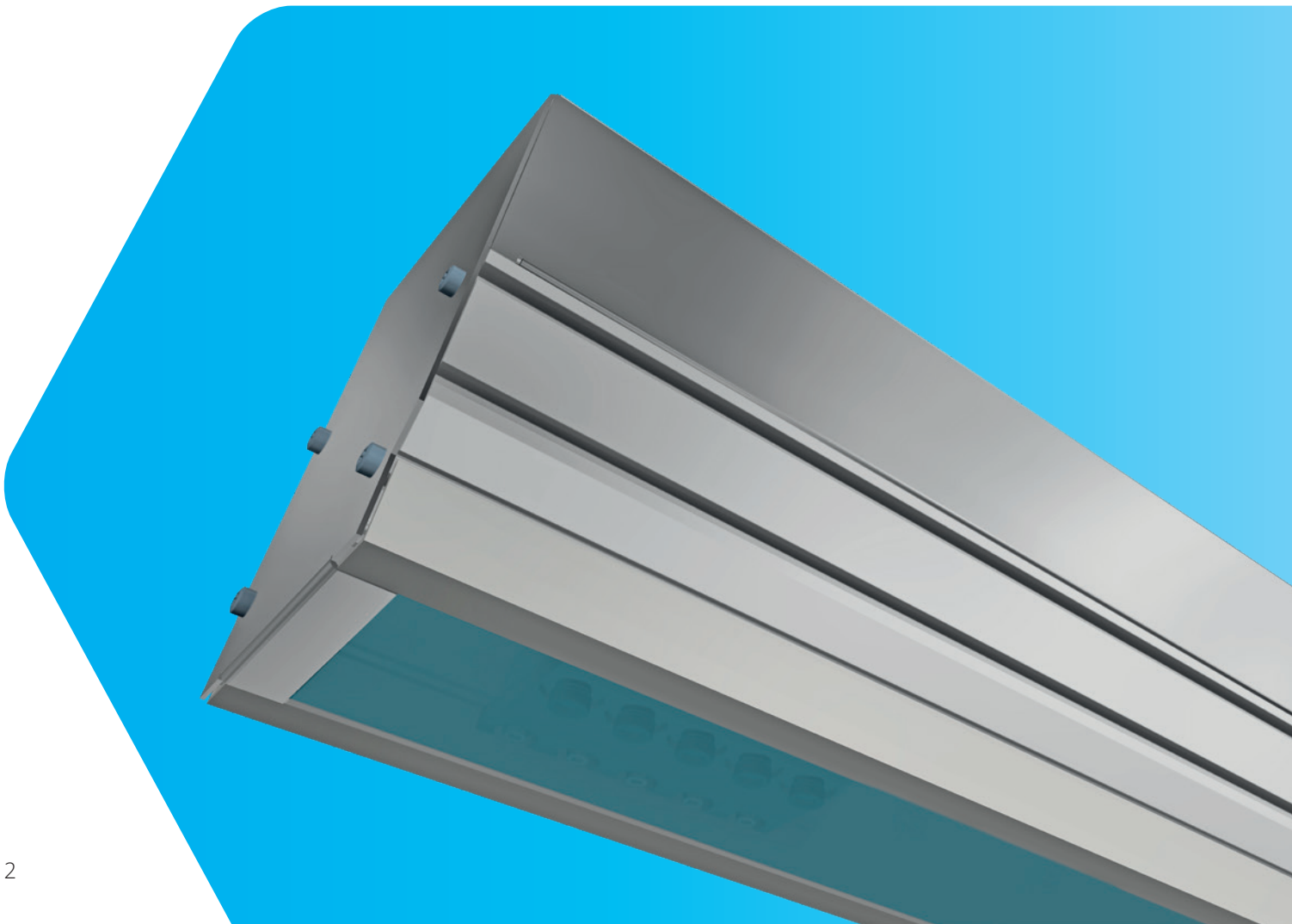
Our solution

Better process stability & availability

The EMG iCAM® system is based on the multi camera array technology and can be used in multiple strip processing lines for the measurement of strip width and slit strip width.

The high-precision measurement of the strip and slit strip width allows the exact control of the knife distances as well as the knife positions.

This information can be used as a valuable reference for the next process step to avoid inaccuracies and improve the quality of the end products.



EMG iCAM®

Multi-camera technology

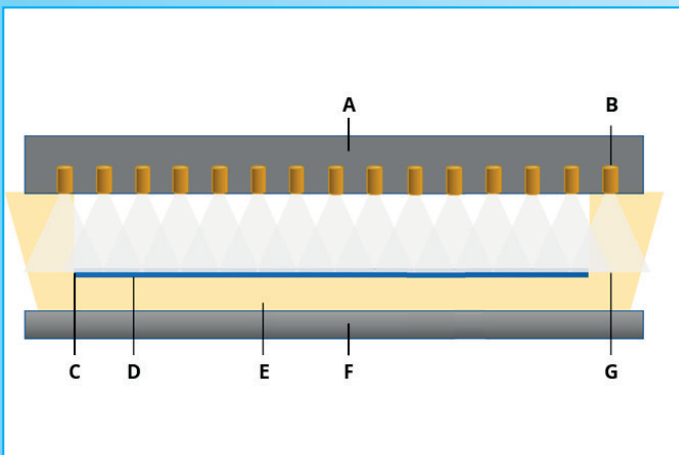
High precision & non-contact

Measuring principle

- » Multi-camera detection unit above the strip
- » LED-based emitter unit below the strip
- » Distance of cameras to the strip
approx. 200 mm - 300 mm
- » Distance of the LED backlight unit to the strip
approx. 150 mm - 200 mm
- » Light detection from the backlight unit on the strip
width

Performance features

- » High-precision and non-contact measurement method
- » High-speed data processing capability
- » Modular design, and custom-made by the width and precision requirements of different production lines
- » Various interface solutions to meet the needs at different sites
- » Small installation space
- » No moving parts, low maintenance cost



A: Multi-camera detection unit / B: Camera /
C: Strip edge / D: Strip / E: Infrared light (850 nm) /
F: LED backlight unit / G: Detection area of cameras (FOV)



Calibration stencil for the realisation of high-precision strip /
slit strip width measurement

EMG iCAM®

Flexible camera system

Compact & insensitive

Compact camera system

- » Light detection using a monochromatic CMOS chip
- » Fast image data processing based on FPGA technology
- » Various camera lenses available, which can be selected according to the application
- » Almost complete avoidance of extraneous light influences
- » Number of camera arrays customisable to the width and requirements of the various production lines (see application examples)

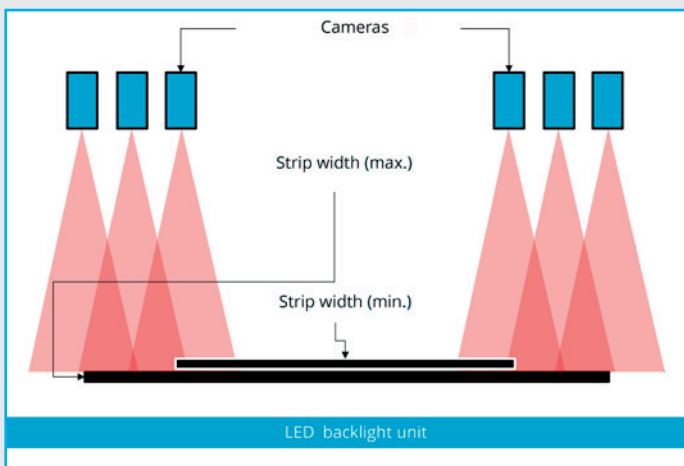


Customisable to your processes 100 % the right decision

Customer challenges

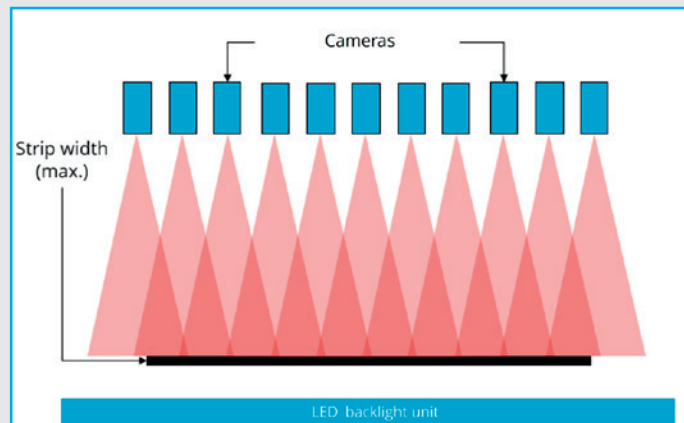
- » Fast and highly accurate strip and slit strip width measurement for input / process control

Application examples



- » Strip width measurement on colour coating line
- » Only edge-related measurement required
- » Reduced number of cameras
- » Focus on the strip edge area

- » Slit strip width measurement
 - » 100 % strip inspection required
 - » Camera unit completely equipped
 - » Alignment and lens type: application-based selected



EMG iCAM®

Technical details

100 % efficient

Measuring technology	Camera-based technology (CMOS chip)
Applications	Strip and slit strip width measurement
Strip material	All metal and non-metal surfaces, almost independent of the surface finish (e.g.): » Steel (cold roll strip, hot-dip galvanized strip, electro galvanized strip) » Aluminium (uncoated, pre-treated)
Distance measuring profile / strip	approx. 200 - 300 mm*
Distance emitter unit / strip	approx. 150 mm - 200 mm*
Passline detection area (Passline variation + thickness)	19 mm
Measuring range	up to 2,290 mm*
Measuring accuracy	up to +/-0.05 mm (2 σ)
Ambient temperature	+5 °C to +40 °C*
Strip temperature	max. +60 °C*
Relative humidity	5-85 % (non-condensing)
Power supply	110-240 VAC; 50/60 Hz

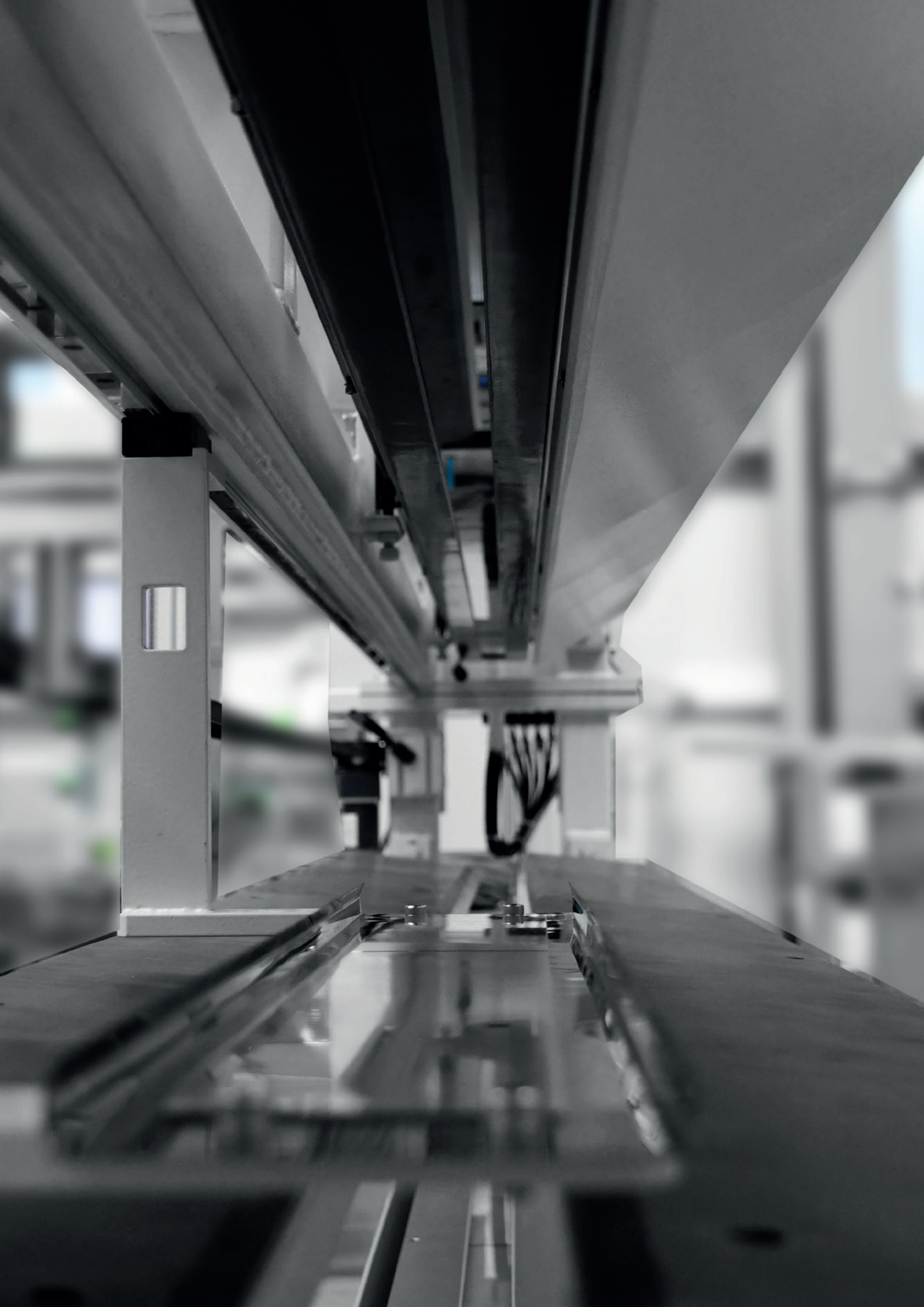
* others on request

EMG iCAM®

Customer benefits

Your advantages

- » Improvement of process stability and plant availability
- » Optimisation of the process and the strip material
- » Transparent incoming inspection and precise process control
- » Minimisation of edge trim
- » Online measurement: continuous and logged strip measurement
- » Efficient process release through data management and visualisation of measurement data
- » **Reduction of TCO (total cost of ownership)**



The logo for EMG, consisting of the letters 'EMG' in a bold, white, sans-serif font. The background of the entire page is a blue-tinted photograph of industrial machinery, with large circular components and a sign that reads '45 10 Limax 451 (GAS)'.

EMG

an **eLEXIS** company

EMG Automation GmbH
Industriestraße 1
57482 Wenden
Germany

T +49 2762 612-0
www.emg.elexis.group
info@emg-automation.com