

Online measurement of strip and slit strip width

EMG iCAM[®]



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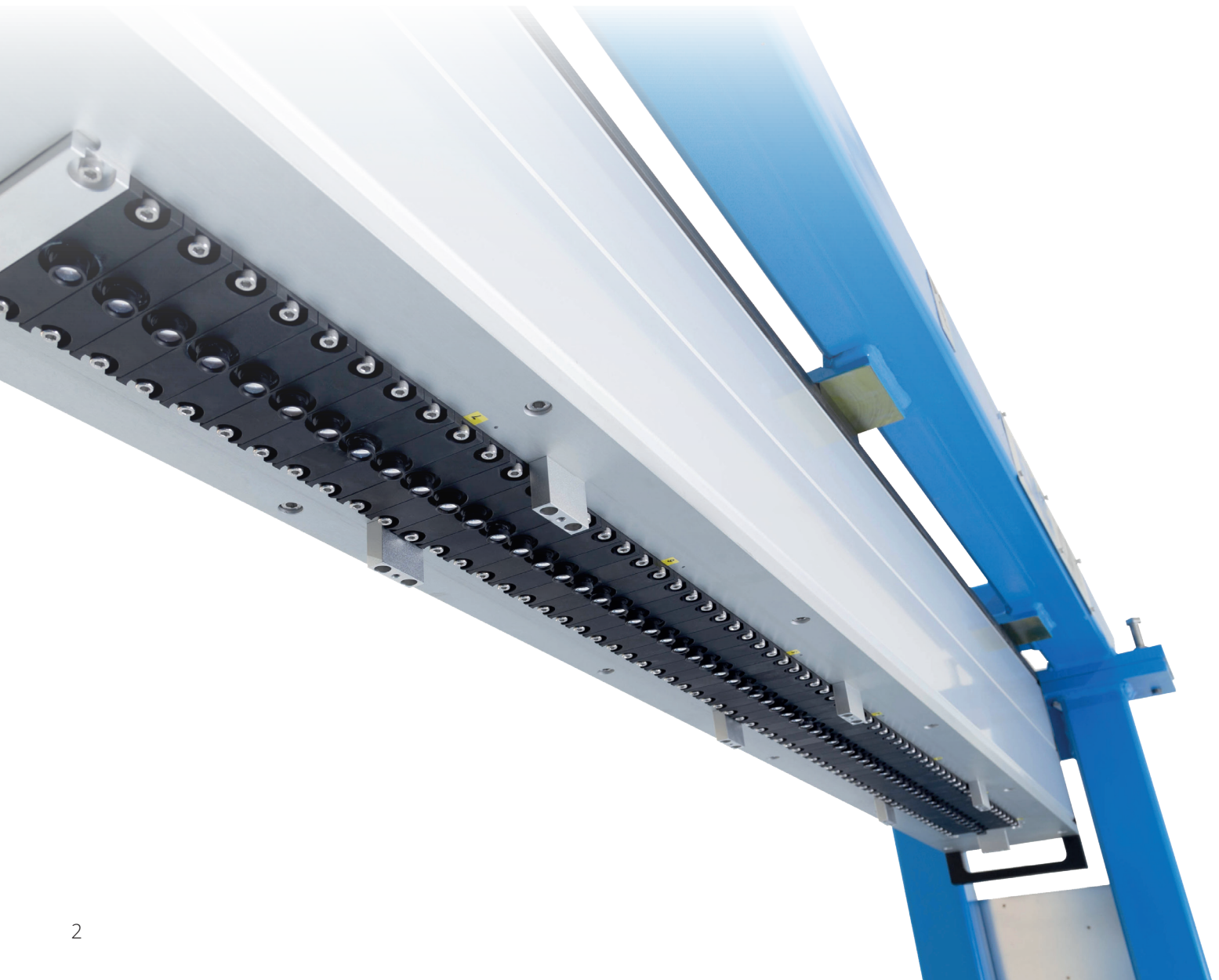
Our solution

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.



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Multi-camera technology

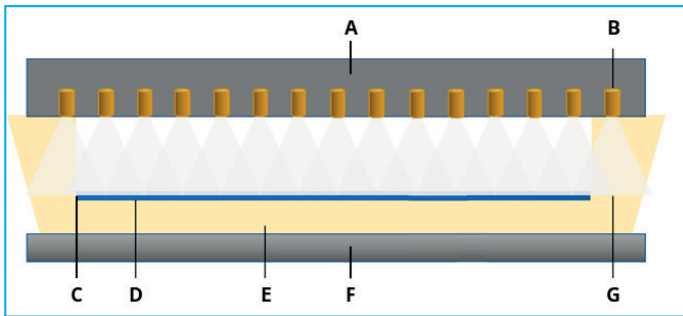
High precision & non-contact

Measuring principle

- » Multi-camera detection unit above the strip
- » LED-based emitter unit below the strip
- » Distance of camera modules to the strip
300 mm (standard)
- » Distance of the LED backlight unit to the strip
150 mm (standard)
- » Light detection from the backlight unit on the strip width

Performance features

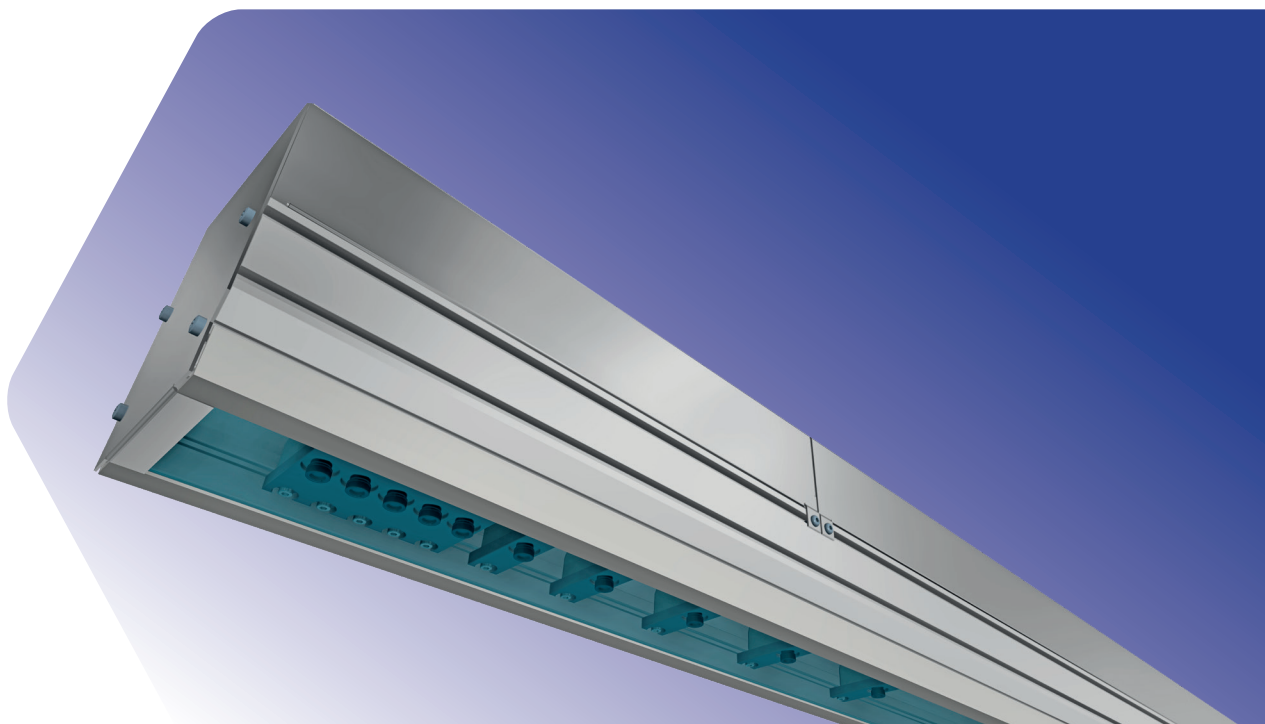
- » High-precision and non-contact measurement method
- » High-speed data processing capability
- » Modular design, and custom-made by the width and precision requirements of different production lines
- » Various interface solutions to meet the needs at different sites
- » Small installation space
-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



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



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



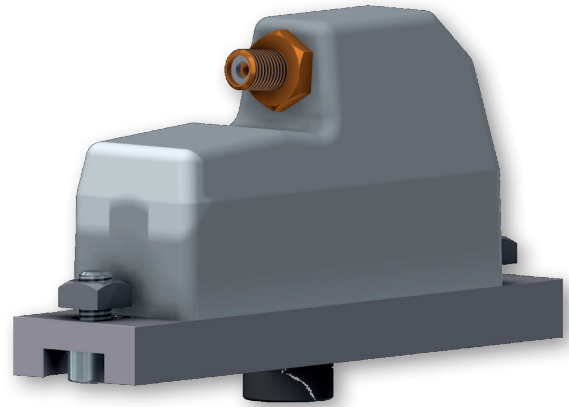
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Modular camera system

Flexible & insensitive

Compact camera module

- » Light detection using a monochromatic CMOS chip in the camera module
- » 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 modules customisable to the width and requirements of the various production lines (see application examples)



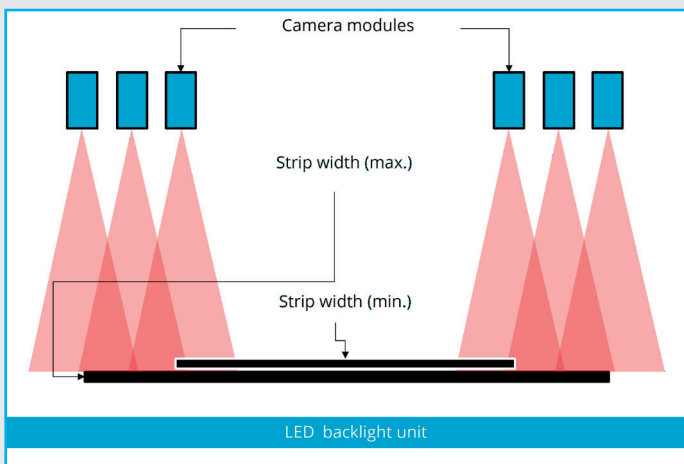
Customisable to your processes

100 % the right decision

Customer challenges

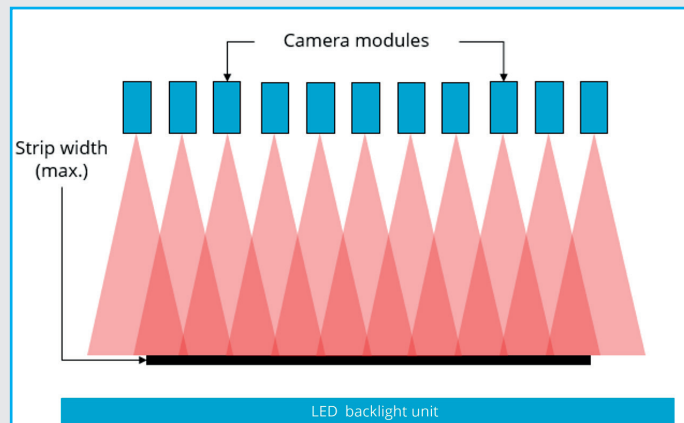
- » Fast and highly accurate strip and slit strip width measurement for input / process control

Application examples



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

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



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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 with low gloss level (e.g.): » Steel (cold roll strip, hot-dip galvanized strip, electro galvanised strip) » Aluminium (uncoated, pre-treated)
Distance measuring profile / strip	300 mm (standard)*
Distance emitter unit / strip	150 mm (standard)*
Passline detection area (Passline variation + thickness)	19 mm
Measuring range	up to 2,250 mm*
Measuring accuracy	up to +/-0.05 mm (2 σ)
Ambient temperature	+5 °C to +50 °C*
Strip temperature	max. +60 °C*
Relative humidity	5-85 % (non-condensing)
Power supply	110-240 VAC; 50/60 Hz

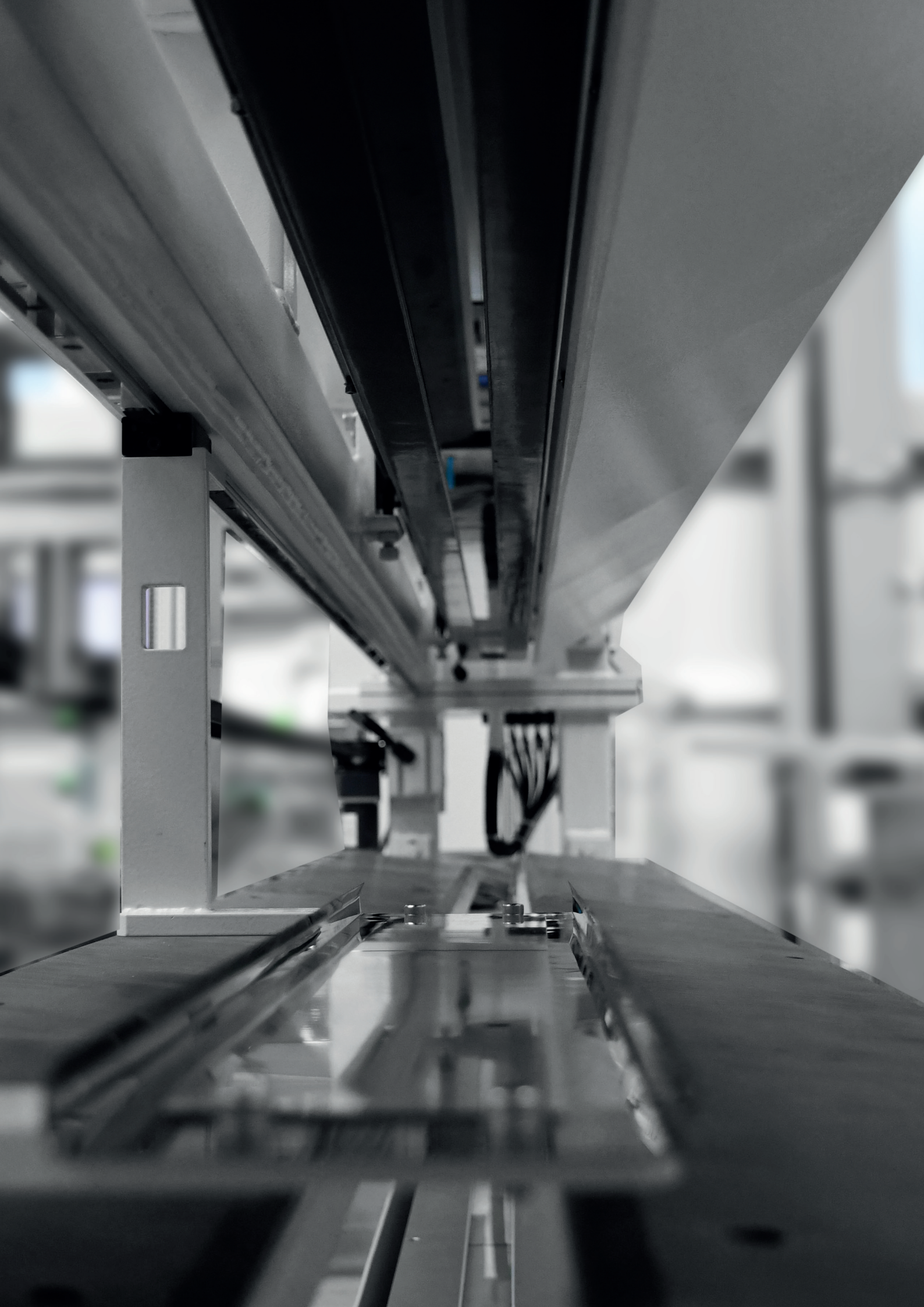
* others on request

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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
- » Efficient process release through data management and visualisation of measurement data
- » EMG iCAM® is based on the same hardware and software structure as all EMG systems:
Reduction of TCO (total cost of ownership)





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