SENSOFAR
METROLOGY

Large Area 3D Optical Metrology System

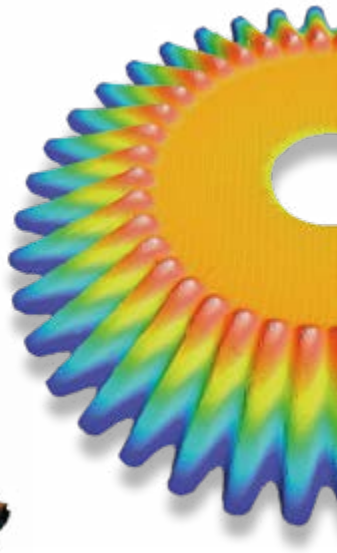
S wide

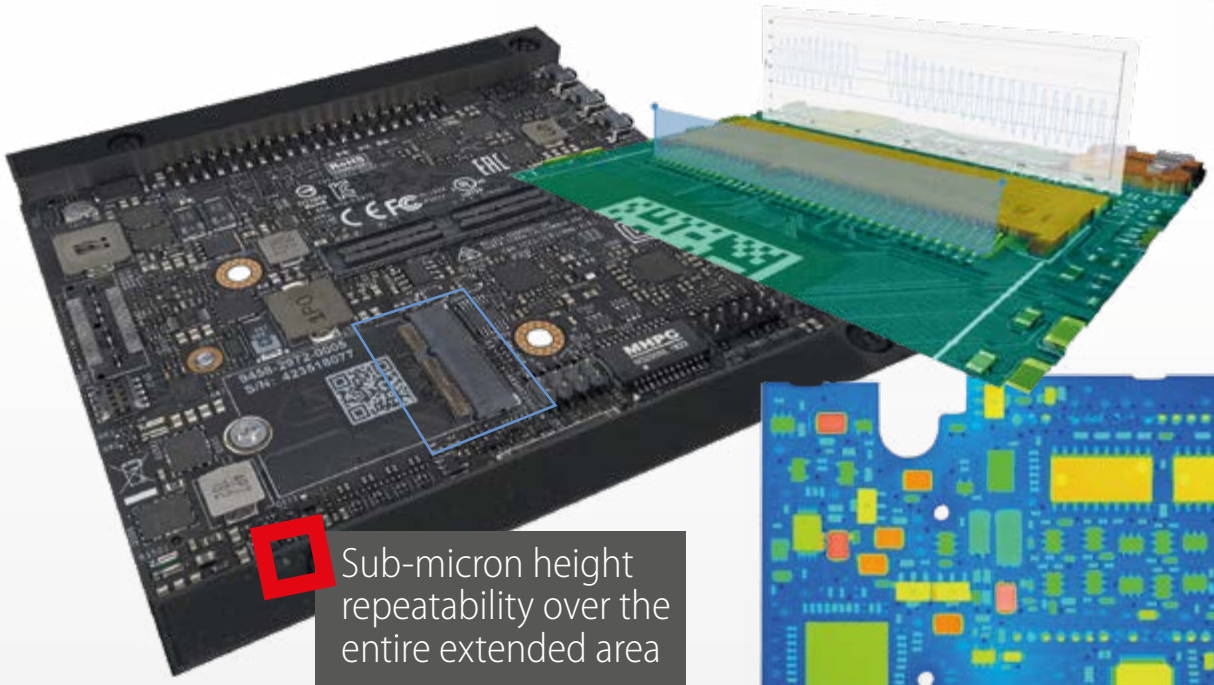
Surface Metrology

S wide

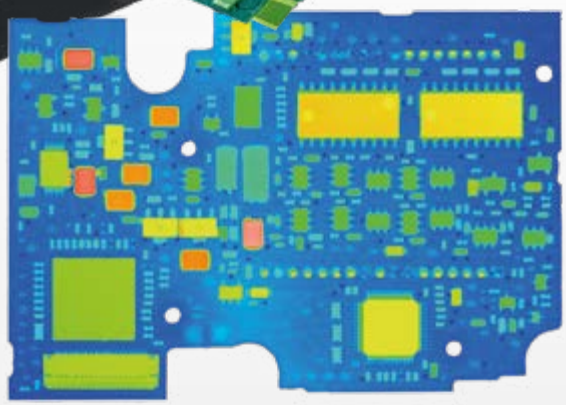
The next metrology tool for

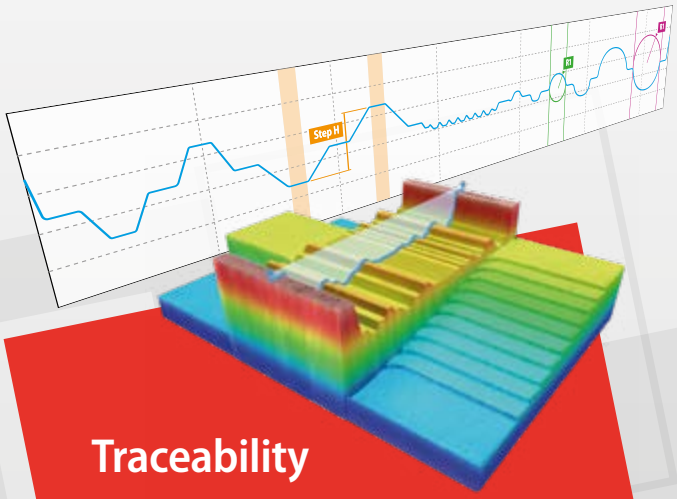
The S wide is a dedicated system designed to rapidly measure large sample areas up to 300 x 300 mm.
It provides all the benefits of a digital microscope integrated into a high resolution measuring instrument.
Extremely easy-to-use with one single button acquisition.





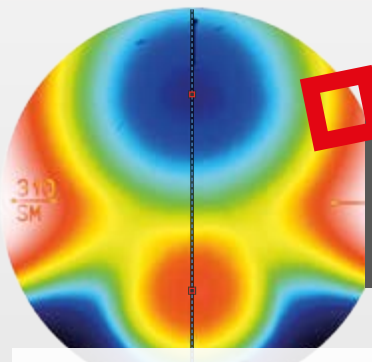
Sub-micron height repeatability over the entire extended area





Traceability

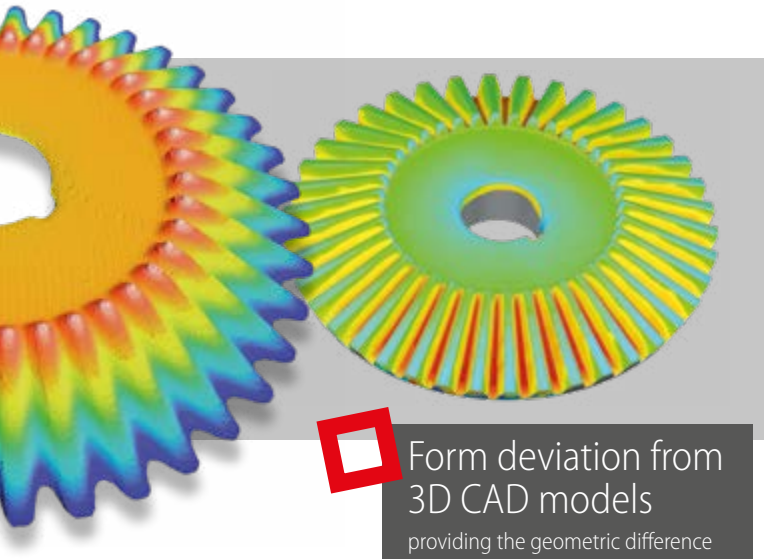
Every S wide is manufactured to deliver accurate and traceable measurements. Systems are calibrated using traceable standards according to ISO 25178 and VDI 2634-2.



One shot height measurement up to 40 mm without Z scanning

dL = 3.4358 cm
dZ = 653.29 µm

wide areas

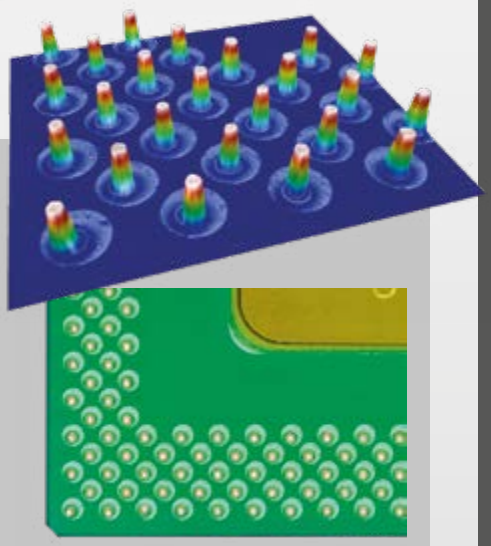


Form deviation from 3D CAD models

providing the geometric difference and tolerance measurement

Solutions

- Advanced manufacturing
- Archaeology & Paleontology
- Consumer electronics
- Medical devices
- Molding
- Optics
- Watch industry



Bi-telecentric lenses with very low field distortion providing accurate metrology

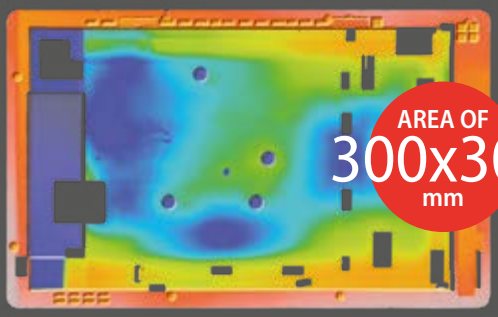
Software

SensoSCAN

Software drives the system with its clear, intuitive and user-friendly interface. The operator is guided through the 3D environment, delivering a unique user experience.

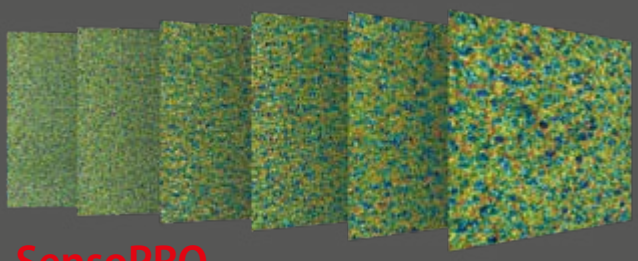
EXTENDED MEASUREMENTS MODULE

SensoSCAN's extended measurements module allows the user to easily define the measurement layout. Wide areas of up to 450 million pixels are possible.



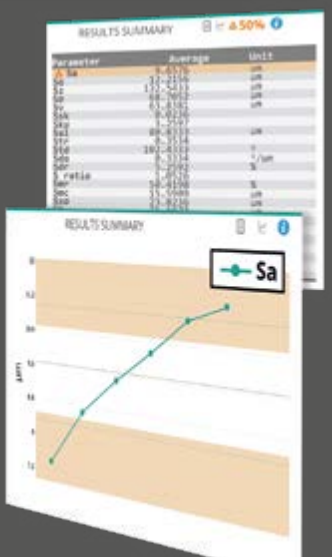
AUTOMATING PROCEDURES MODULE

Automated measurements are obtained using the Recipes tool, which is a customizable facility for creating quality control procedures. It is extremely easy to define procedures for automating measurements with sample identification and automatic fiducials recognition.



SensoPRO

It has never been so easy to perform rapid quality control on a production line. Thanks to SensoPRO, the operator only needs to load the sample and follow guided instructions to get "pass or fail" criteria. Plug-in-based data analysis algorithms provide a high degree of flexibility.



System specifications

Measuring principle	Fringe Projection (Gray code & Slit, Gray code & Phase Shift)
Observation types	Bi-telecentric lens with 0.243X magnification and 0.015 NA
Color camera	5Mpx: 2448x2048 pixels (60 fps)
Total magnification (27" screen)	11X
Display resolution	0.001 µm
Max. Extended measuring area	300x300 mm with 10x12 stitched fields (Max. resolution 450 Mpx)
Vertical measuring range	10 mm (up to 40 mm)
XY stage range	Manual: 150x100 mm; Motorized: 154x154 mm, 302x302 mm
LED light sources	Green (530 nm) and blue (460 nm)
Ring light illumination	White
Sample weight	up to 25 Kg
Sample height	105 mm (standard); 280 mm (optional)
User management rights	Administrator, advanced operator, operator
Advanced software analysis	Included: SensoVIEW; Optional: SensoPRO, SensoMAP, Geomagic®
Power	Line Voltage 100-240 V AC; frequency 50/60 Hz single phase
Computer	Latest INTEL processor; 3840x2160 pixels resolution (4K) (27")
Operating system	Microsoft Windows® 10, 64 bit
Weight[4]	55 Kg (121 lbs) table-top system; 8 Kg (18 lbs) integrable head
Environment	Temperature 10 ºC to 35 ºC; Humidity <80 % RH; Altitude <2000 m

Objective lenses

	FRINGE PROJECTION
MAG	0.243X
NA	0.015
WD (mm)	80
FOV[1] (mm)	34.7 x 29.1
Spatial sampling[2] (µm)	14.2
Optical resolution[3] (µm)	9.35

Accuracy and repeatability

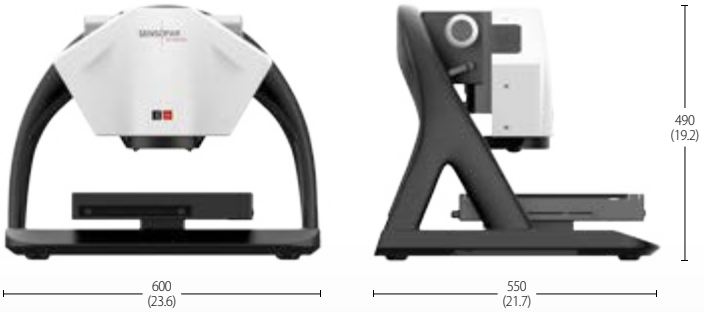
Standard	U , σ
Step height	U = 2.5 µm, σ = 0.05 µm
Area roughness (Sa)	U = 1 µm, σ = 0.01 µm
Profile roughness (Ra)	U = 1 µm, σ = 0.05 µm

1 Maximum field of view with 3/2" camera. **2** Pixel size on the surface. **3** L&S: Line and Space. Values for blue LED. **4** Adjustable stand with H105 XY Stage.

Since 2007, Sensofar has been member of the Technical Committee of the International Organization for Standardization (ISO/TC213 WG16).

Dimensions

mm (inch)



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