

ANSYS®

OPTIS

Scan reality... ...Unleash your creativity

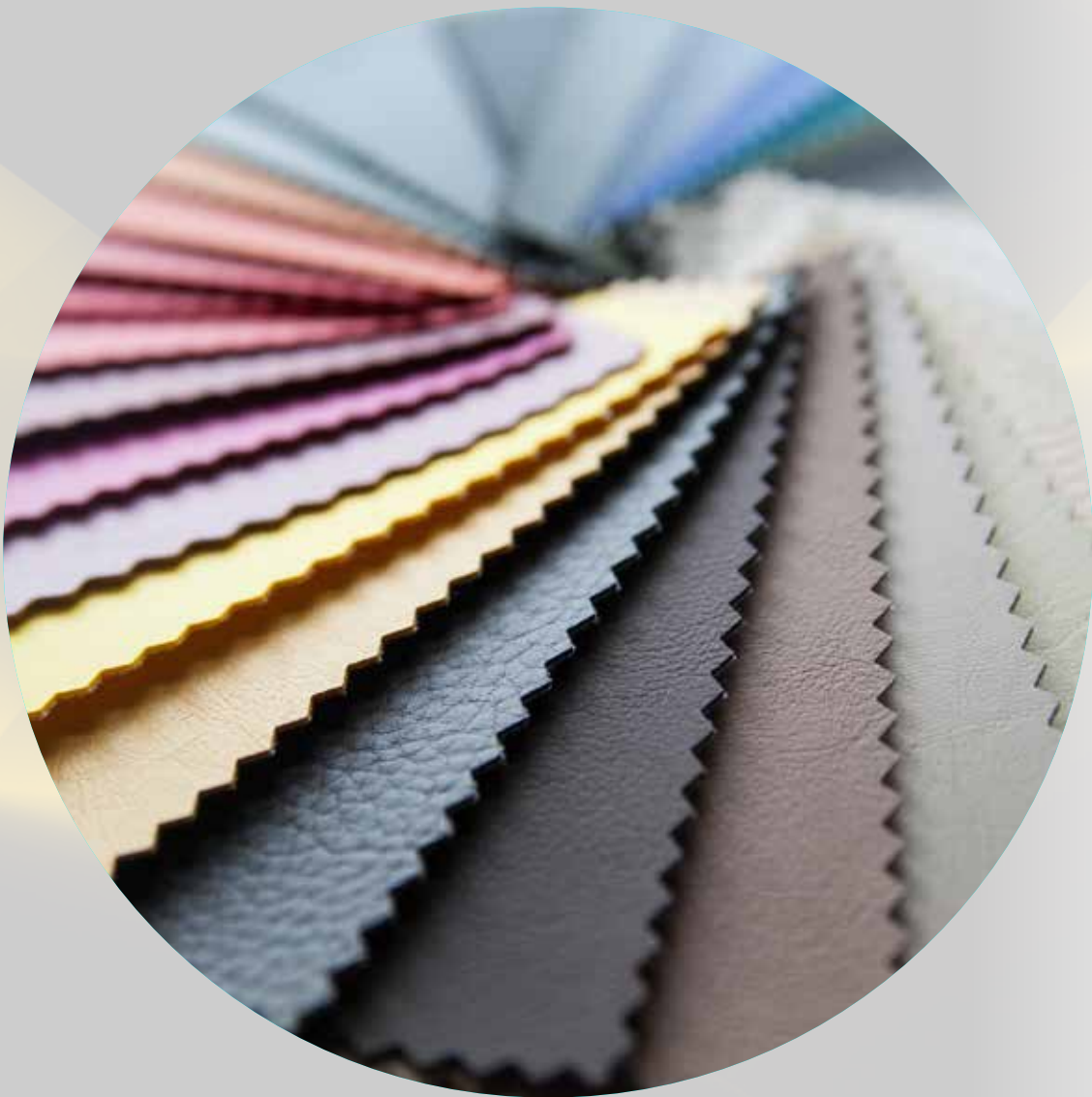
ANSYS OPTIS provides precise photometric & colorimetric measurements & generate libraries that characterize any material and light source.



www.optis-world.com
ansys.com



Optical Measurement Devices





Optical Measurement Devices

Quantify the appearance

Carry out scientifically accurate measurements. The only true way to get reliable and objective information regarding material appearance under any lighting conditions. Your provider and your customers will virtually experience the same material. The only way to guarantee you make trustworthy decisions regarding your prototype.



Directly connected to your virtual mock-up

Incorporate physically accurate sources and surfaces into your simulation process to evaluate the perceived quality, reflections and color appearance of your future product.



ANSYS Optis enhancement

ANSYS Optis developed cutting edge technologies to predict data between two measurement points. No more missing data, no more inaccurate interpolation.

A world of possibilities:

- Measure leather, wood, plastics, metals...
- Characterize diffusing and lacquered surfaces.
- Capture Iridescent surface, whose color varies with your viewing direction.
- Control the homogeneity of your light sources: LEDs, OLEDs and LCD source.



Portable Optical Measurement Device

Scan materials & light sources... and visualize your prototype directly into ANSYS software.

No more time consuming in creating shaders. Scan materials & light sources ... and drag and drop directly into the visualization software.

Handheld: portable & lightweight

The Portable Optical Measurement Device makes it possible to make in-situ measurements directly, eliminating the need to prepare samples or to cut pieces out. Compact and non-invasive, the Portable Optical Measurement Device can be directly used to measure existing objects and prototypes: car, train and aircraft cockpits, Passenger cabins, as well as buildings...

Point-and-scan color BRDF measurements:

Carry out BRDF (Bidirectional Reflectance Distribution Function) measurements. BRDF is the only scientific and thus accurate way of measuring how a surface reflects light.

Fast: compress hours into seconds!

Measuring with the Portable Optical Measurement Device is as fast as using a camera; simply press the button, and just wait a few seconds for the measurement to be taken; the BRDF data is ready to be used in your virtual mock-up.

Apply your sample to virtual prototypes in a matter of seconds. With the Portable Optical Measurement Device there is no need to remove



samples or search for manufacturers' references. The Portable Optical Measurement Device adds realistic light and material effects, increasing the quality and accuracy of renderings.

High Dynamics Measurement

Thanks to its high dynamics, high performance sensor, the Portable Optical Measurement Device can capture color diffusing material as well as reflective material.



Portable Optical Measurement Device Technical Specifications

Surface technical capabilities

- Surface scattering: BRDF
- Dynamic range: 10^6
- Angular optical resolution: $\pm 0.5^\circ$ FWHM
- ~1 minute per measurement

Product infos

- Size: 280 x 110 x 110 mm
- Weight: 1Kg
- CE Marked
- User Manual

Source characterization

- Sources relative intensity diagram
- Dynamic range: 10^6
- Angular optical resolution: $\pm 0.5^\circ$ FWHM
- ~1 minute per measurement

Software characteristics

- Measure enhancement and postprocessing
- Adaptive BRDF sampling
- BRDF enhancement (to physically predict missing data)

Sample characteristics

- Minimum sample size is 5mm x5mm
- Diameter of the illumination spot on the sample: 1mm
- Sample must be smooth and planar (Max curvature = 100 mm radius, Max structure depth = 500 μ m).





Laboratory Optical Measurement Device

The color, the real one.

With its 10^8 Dynamic range, characterize the surface behavior spectrally and angularly, to capture unique appearance variation under different illumination.

Photometric measurements include:

- Bidirectional Distribution Function: BRDF, BTDF and BSDF to capture subtle variation of surface response under varying illumination.
- Intensity diagram of light sources to characterize indicators, OLED, LED, and screens
- HD BSDF to characterize ink, paint and diffuse molded surface response
- Volume scattering properties to characterize mass diffusing materials like diffusing layers.

Faster measurement make cheaper prototypes

To increase accuracy and save time the ANSYS OPTIS bench not only makes measurements with a constant step but can also adapt the sampling step in areas with a high dynamic range reducing measurement times dramatically and improving precision.

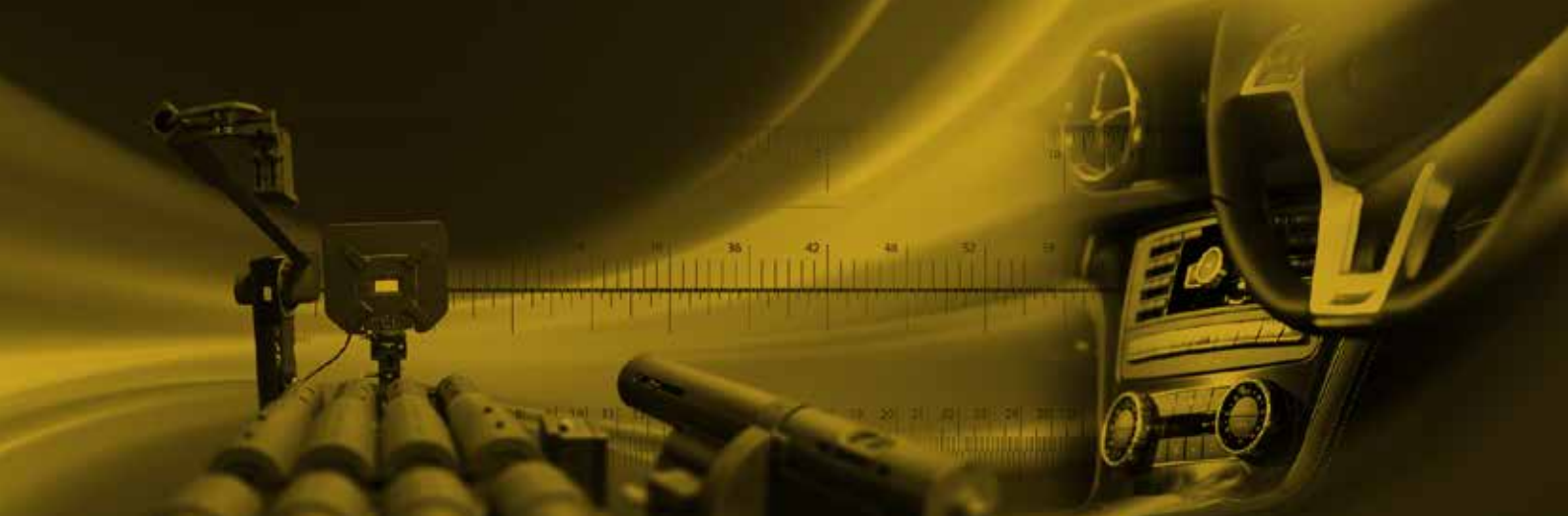
Quality Control

The Laboratory Optical Measurement Device accuracy offers a cutting-edge technology for quality control in production lines and laboratories.

Multi-function

The ANSYS OPTIS bench delivers full BSDF, Volume Optical Properties, Intensity and Spectral measurements in one solution, removing the need to use several different pieces of equipment to measure different optical data.





Laboratory Optical Measurement Device Technical Specifications

Surface technical capabilities

- Surface scattering: BRDF, BTDF & BSDF
- Dynamic range: 10^8
- Angular optical resolution:
- Laser Source: $\pm 0.1^\circ$ FWHM
- Spectral Source: $\pm 0.5^\circ$ FWHM

Spectrometer for non-iridescent surface spectral measurement

- Range: 360nm - 1040nm
- Resolution: better than 5nm

White source for full spectral characterization

- Resolution between 10nm to 50nm
- Tunable from 360nm up to 850nm
- Anisotropic materials
- Polarisation-ready

Volume technical capabilities

- Volume scattering coefficient using optimization of Henyey-Greenstein Model or your own model.
- Volume Absorption coefficient using spectrometer.

Measure accuracy

- BRDF Bench accuracy: better than $\pm 5\%$
- Repeatability: better than $\pm 5\%$
- Nominal angular positioning: 0.05°

Source characterization

- Sources relative Intensity Diagram
- Dynamic range: 10^8

Software characteristics

- A single software to control and parametrize measurement

Measure enhancement and postprocessing

- Adaptive BSDF sampling
- BSDF enhancement (to physically predict missing data)
- Effective anisotropic reconstruction from 2 measurements

Sample characteristics

- Sample Size: from 30mm x 30mm
- Thickness up to 30mm
- Max. Sample weight: 500gr

Product infos

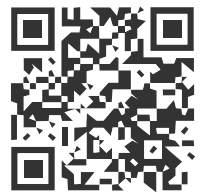
- Size: L 2.1m * W1.6m * H2.1m
- Weight: 130 Kg
- CE Marked
- User Manual





OPTIS

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