As an internationally successful corporation, MENTOR has been setting standards in the technical development and implementation of mechanical, electronic and optoelectronic components for diverse areas of application in industry for decades.

**LIGHT IS INDIVIDUAL.**

**Your idea is our business**
Virtual lighting development supported by physical correct ray tracing and product visualization with rendering tools · photometric measurement devices in-house · Manufacture of LED lighting systems and light modules
Virtual lighting development with Computer Aided Lighting (CAL) and CAD software: CAL: SPEOS CAA and LucidShape · CAD: Catia V5 · Visualization: SPEOS CAA or Blender with Cycles and Luxrender

**Your market as our areas of development**
**Automotive:** LED based ambient lighting for interior and LED luminaires for exterior applications (e.g. blind spot monitor, license plate light). (www.mentor-automotive.com)
**General lighting:** Indoor and outdoor LED luminaires
**Industrial lighting:** LED light guides for front panels, opto-electronic components, etc. (www.mentor-components.com)

**Your virtual lighting development and implementation**
Defining customers wishes and demands · selecting the right LED as light source · selecting the appropriate optic concept (reflective or refractive) · defining the tolerances · designing the optics in Catia or LucidShape · doing the physical correct ray tracing in SPEOS CAA or LucidShape · injection molding tool construction · production · assembly · etc.

**Your advantage:** Fast results and reduced costs.

**OUR REFERENCES.** (excerpt)

**Automotive**
Audi A6/A7 ambient light in door panel and center console · Audi Q3 cup holder light guide · VW LED license plate luminaire (bumper luminaire in complete VW fleet) · VW Passat ambient light in door panel · etc.

**General lighting**
Home lighting installation indoor and outdoor · emergency exit lighting · multimedia lighting · stage lighting · lighting in vending machines · etc.
Optical measurement devices

Luminance cameras (TechnoTeam LMK mobile advance, Instrument Systems LumiCam 1300) · spectroradiometer (JETI specbos 1201) · photometer (Instrument Systems MAS 40) · lux-meter · integrating sphere with 500 mm diameter · etc.

Proven quality and secure results.

Visualization tools

Nearly physical based ray tracing in Blender or external render engines for product visualization. Blender as well as the external render engines are open-source software.

Your advantage: Photo-realistic impression of your product.

Optical measurement devices (extract)

Luminance cameras (TechnoTeam LMK mobile advance, Instrument Systems LumiCam 1300) · spectroradiometer (JETI specbos 1201) · photometer (Instrument Systems MAS 40) · lux-meter · integrating sphere with 500 mm diameter · etc.

Your advantage: Proven quality and secure results.

LucidShape (www.lucidshape.info)

LucidShape is used for reflective and refractive optics design including free form geometries. The LucidShape internal multi-threading ray tracer supports physical correct material parameters, e.g. refraction index, wavelength dependent absorption coefficient, Bidirectional Reflectance Distribution Function (BRDF), light sources (e.g. LED ray files), etc. LucidShape is a stand-alone program with a Catia import/export interface via IGES/STEP and supports GPU ray tracing.

SPEOS CAA (www.optis-world.com)

Multi-threading ray tracer supports physical correct material parameters, e.g. refraction index, wavelength dependent absorption coefficient, Bidirectional Reflectance Distribution Function (BRDF), scattering phase function, light sources (e.g. LED ray files), etc.

SPEOS CAA is an integrated Catia V5 workbench.

Standorte der Firmengruppe MENTOR

Locations of the MENTOR Group

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Bureau de liaison France · F-Colmar Cedex;
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OUR EXPERTISE.