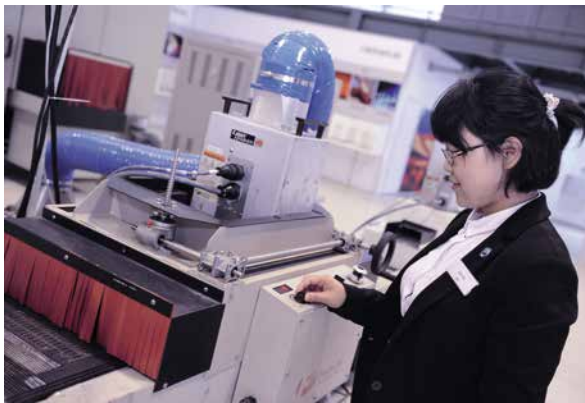




**Benefit from our experience and competence**  
Application-focused solutions from UV to IR

# Heraeus Noblelight will jointly find the optimal solution for you and your customer



**Decades of experience with radiation sources and a solid technical basis are optimal conditions for solving the most difficult issues.**

Productive light – with wavelengths from ultraviolet to infrared – provides higher economic efficiency, improved process reliability and more innovation in many industrial, scientific and medical applications.

Whether you are just beginning to investigate the feasibility of using infrared heat, UV radiation or Xenon Flash technology in your operations, want to find some formulators to work with, or are ready to use our demonstration equipment for a trial at your plant, our services will get you there faster.

## Your benefits

- Our experts fully understand your application, make investments more profitable, speed up decisions
- Customer materials can be tested and industrial processes can be optimized
- Global availability of Application Competence Centers
- Your solution will be tailored to you
- On-site tests in your specific environment are possible, equipment for rent with our experts on hand with help and advice
- We cooperate closely with system manufacturers and end users to develop customer-optimized solutions
- We take you through the solution-finding process step by step
- Simulation of individual process under laboratory conditions
- Higher efficiency by combining latest UV, IR and flash technology

# Develop and perfect your process using the latest UV technology



## Your process – our competence

UV radiation is used to polymerise inks, coatings and adhesives in a fraction of a second.

The process does not require any solvents and, in many cases, consumes much less energy than other processes. The rapid cure process means products can be handled immediately for further processing; increasing throughput and reducing cycle times. UV curing delivers high performance, scratch resistant, durable coatings that are used in a variety of applications.

## The technical possibilities

Following trials in our ACC, or tests at your production site, our experienced team will work with you to develop a UV curing process that best meets the needs of your production process.

- Feasibility testing to develop new UV curing processes
- Assistance with UV curing process design
- UV measurement training
- Range of broad band UV lamps
- UV LED lamps
- Low pressure mercury lamps
- Various lamp configurations are possible to enable curing of inks, coatings and adhesives on a range of substrates with different shapes and sizes

## Application fields for UV technology

- Protective and decorative inks and coatings to surfaces such as wood, glass, metal and plastic
- Inks, coatings and adhesives for printing applications including packaging, labels, display material
- Specialist applications including in electronics, composites, medical devices and fibre optics
- Surface activation and disinfection of wood, plastic, glass, metal and textiles
- Applications in air and water disinfection

X-rays

Ultraviolet

VUV

UVC

UVB

UVA

100 nm

200 nm

280 nm

315 nm

380 nm

# See how Xenon Flash Lamps add value to your process



Xenon Flash Lamps can be operated with an infinite number of parameter sets; this is an advantage for optimising processes but also means that an off-the-shelf system for all requirements is not desirable.

We offer a full consultancy service for Rapid Thermal Processing requirements using Xenon Flash. We can advise on all aspects of thermal processing on many applications from curing to sintering, followed up with sample testing or small production runs, optimising your processes before any capital outlay.

Our fully equipped lab has multiple Flash Systems, utilising different power supply types for all application requirements, including high and low frequency, long and short pulses, high and low power with Spectral enhancement capability. Following successful trials

and proof of process, the Cambridge technical team can design a bespoke system to enable a cost effective Photonic process solution for you to incorporate into your production facility.

## The technical possibilities

We have the technical experience and equipment to provide support in improvements to lamp technology and for application projects.

- Multi-lamp head
- Unique camera system for arc attachment analysis and temperature measurement
- Spectral analysis (UV to NIR)
- Sophisticated ray tracing technology
- Calibrated homogeneity modelling software

## Application fields for Xenon Flash technology

- Sintering of Metal Oxides/Inks/Pastes
- Rapid Thermal Processing (RTP)
- Semiconductor processing
- Flash Lamp Annealing (FLA)
- Photovoltaic cell/module testing
- Curing
- Disinfection

# Infrared technology helps making your application a success



Understanding the different applications helps to exploit infrared heating productively. Competent, technically experienced employees carry out and monitor the tests either in the Application Center or on site.

## The Technical possibilities

We have the technical equipment and plant to meet the widest range of requirements to carry out tests on customer materials:

- Modules and individual emitters from near infrared to medium wave radiation
- Gascatalytical IR oven
- Conveying systems
- Coating equipment to apply both wet- and dry coatings
- Computer supported measuring systems
- Evaluation and documentation

## Application fields for IR technology

- Drying
- Curing and Polymerization
- Activating adhesives
- Heating, Melting, Forming
- De-burring, Welding
- Heating under Vacuum conditions

## CAE simulation instead of trial and error

In modern process development, numerical simulation (Computer Aided Engineering – CAE) is a key Technology. Applied at a very early stage of the product development process, CAE provides methods tried and tested in practice to reduce development times and costs within the projects.



## Infrared

short wave

medium wave

long wave

780 nm

2000 nm

3500 nm



**Benefit from our knowledge & experience – worldwide**  
Applications Competence Centers around the world,  
in the U.S., Japan, China, Italy, Great Britain and many  
other countries, means we are where you are.

The intensive networking and cooperation between our  
test facilities allow you to have access to an extensive  
range of resources and facilities.

In addition, our local presence means simple logistics  
and communication and takes account of market  
conditions.

Europe, Middle East, Africa, Rest of World\*

**Heraeus Noblelight GmbH**

Heraeusstraße 12–14

D-63450 Hanau, Germany

Phone +49 (6181) 35 8492

[hng-info@heraeus.com](mailto:hng-info@heraeus.com)

[www.heraeus-noblelight.com](http://www.heraeus-noblelight.com)

\*For local contacts please visit also our website [www.heraeus-noblelight.com](http://www.heraeus-noblelight.com)