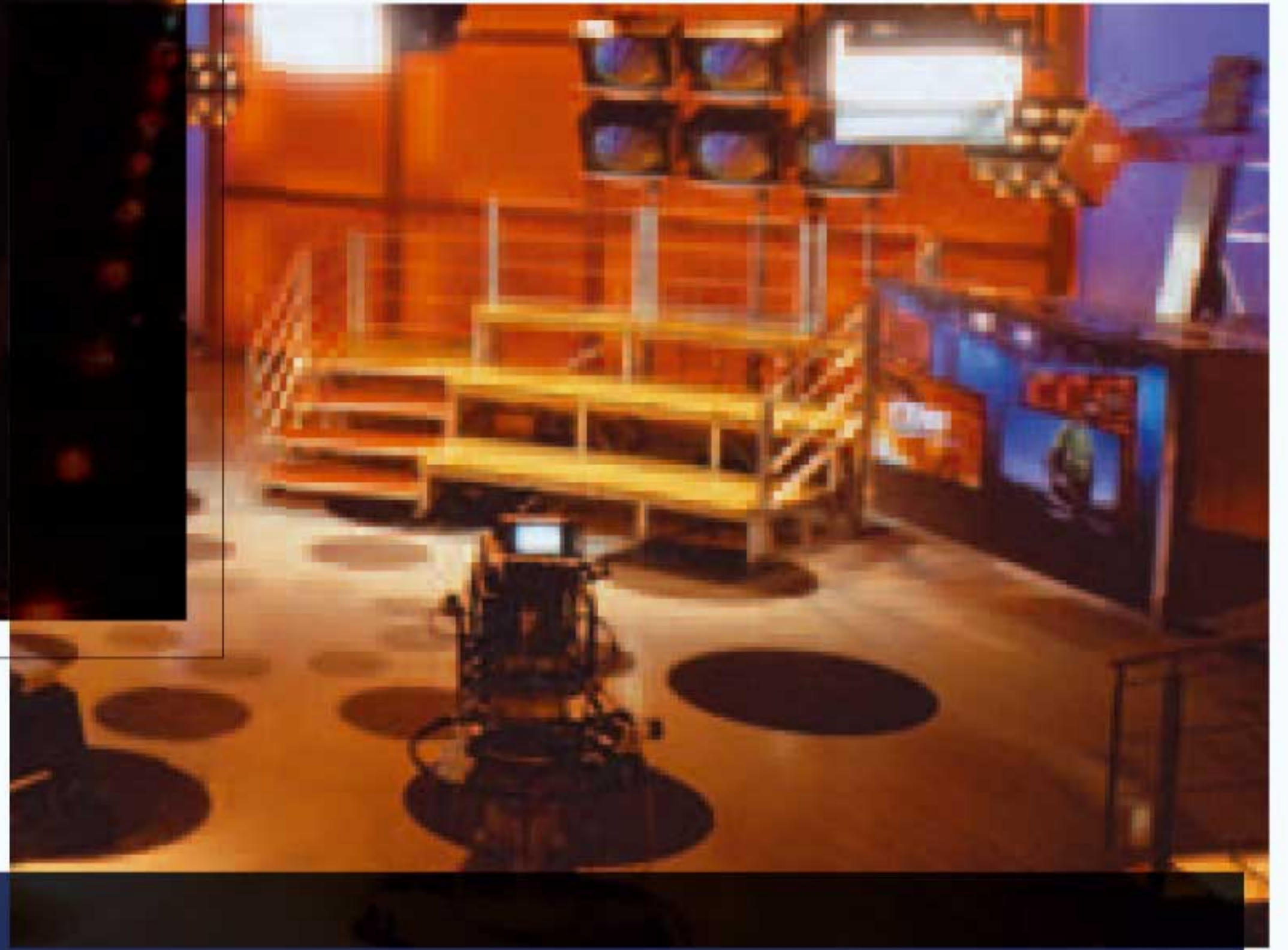


www.osram.com



Your challenges, our solutions.

Innovative LED system solutions.

SEE THE WORLD IN A NEW LIGHT



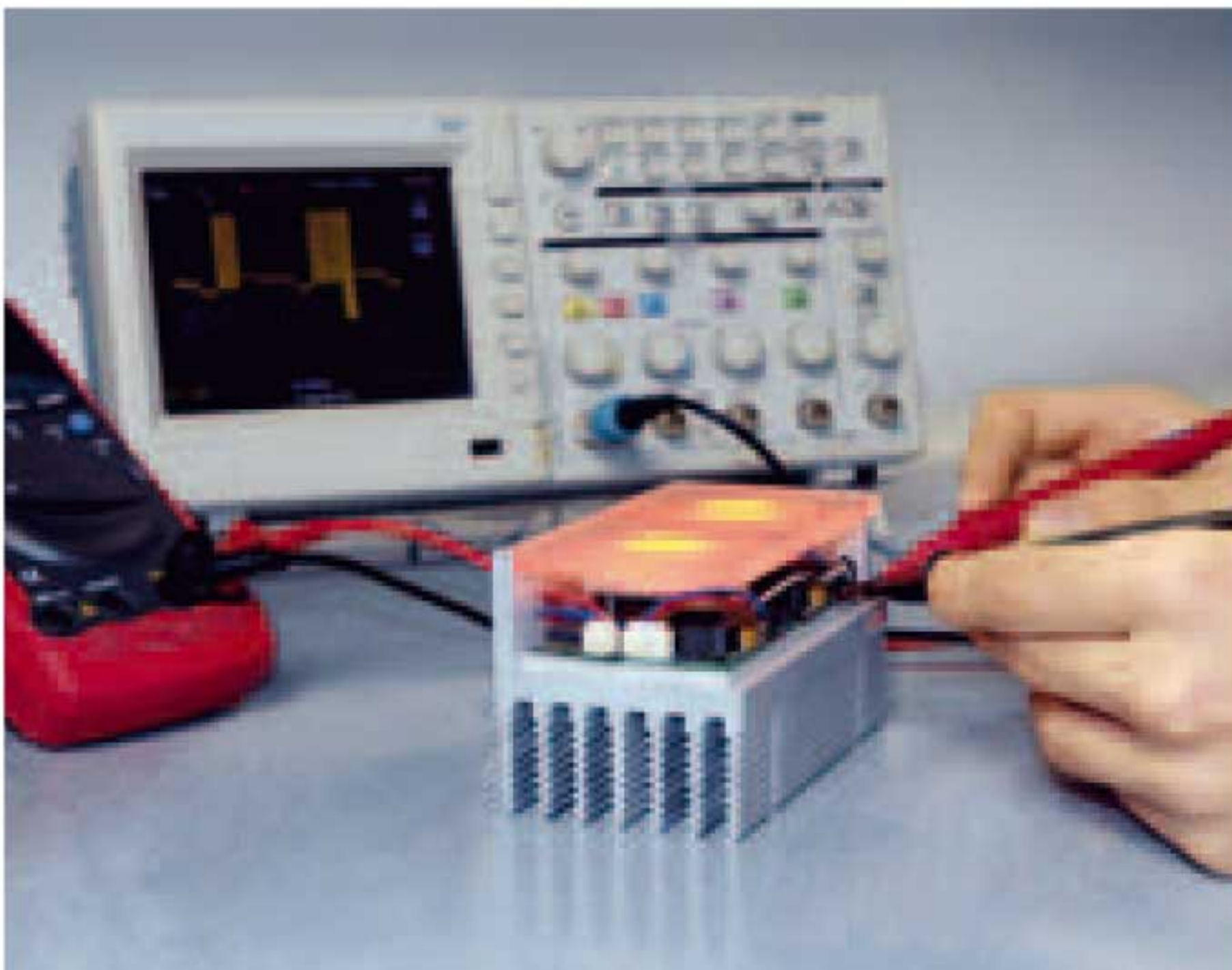
System solutions to meet your challenges.

LED system solutions have reached new levels of innovation, energy-efficiency and eco-friendliness, LEDs are finding their way into an ever-expanding range of applications. However, as every application presents its own unique challenges, a high degree of experience and know-how is required for successful design. Solving your lighting challenges is what we do best. Our strength enables us to offer global LED resources, including R&D (e. g. thermal and optical engineering; also for electronics and controls), project management, manufacturing and quality assurance.



OSRAM Opto Semiconductors: In-house LED manufacturing.

At OSRAM, we do not have to rely on others when it comes to the latest innovations. As a technology leader in the opto semiconductor market, our subsidiary OSRAM Opto Semiconductors gives you direct access to its state-of-the-art LED technology. Its product spectrum includes light-emitting diodes for visible and infrared light, organic LEDs and lasers, and ranges from mini-chips with outputs of only a few millilumens/milliwatts to high-flux chips offering almost 100 lumens per watt. In order to ensure the highest product quality possible, OSRAM Opto Semiconductors takes on quality management as a global task. All its facilities around the world are certified to ISO 9001:2000 and TS 16949.



OSRAM Display/Optic Business: Customization and system integration.

OSRAM offers both standardized and individually customized LED solutions. In the customization process, the level of technology integration varies from customer to customer and from case to case. The main objective of OSRAM is to understand our customer's challenges and to offer the best LED system solution possible. Whether you need a standard catalog part or a product tailored to meet your specific requirements, our experienced LED engineering development team is up to the challenge. Partnering with OSRAM is easy and convenient as you are supported by our worldwide network of highly trained sales managers and application engineers.



Customization process: From single unit to complete solution.

The business segment OSRAM Display/Optic combines the LED technology from OSRAM Opto Semiconductors with cutting-edge optical, electrical, mechanical and thermal components to form a perfectly coordinated system. In addition, the suitable mounting/assembly technology (e. g. chip-on-board assembly) is provided. In the highly structured development process (including product and process FMEA), all components are tailored to the customer's individual requirements and are thoroughly tested.

Fields of application



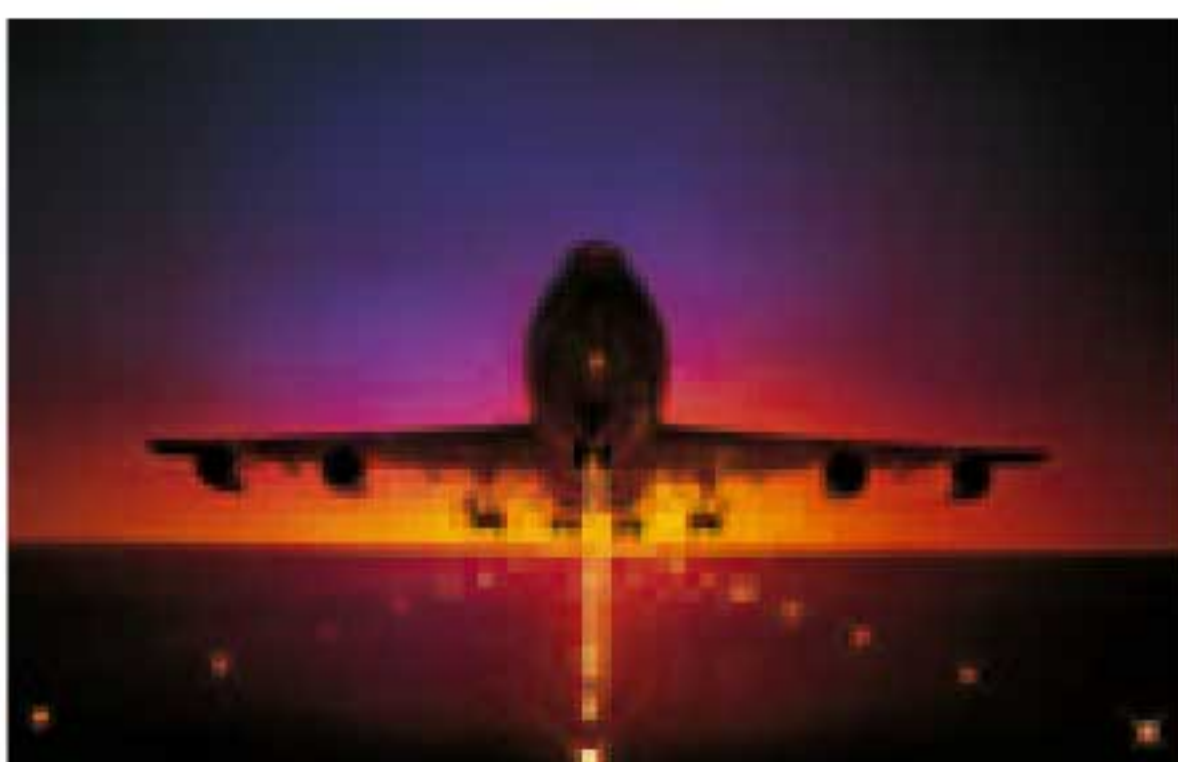
Studio, stage and TV lighting

- Studio lighting
- Stage lighting
- Film and TV production
- Theater lighting
- Video production
- Professional photography



Effect lighting

- Event lighting
- Architectural lighting
- Advertising projection
- Exhibition lighting
- Theater lighting
- Club lighting



Industrial applications

- Airfield lighting
- Visual inspection
- Microscopy
- Curing
- Machine vision
- Fluoroscopy

Scope of performance

LED manufacturing

- Extensive expertise in research & development
- Innovative and trendsetting technologies
- Own chip production and packaging
- All under one roof

Optical design

- Optical simulation
- Reflector and lens design
- System integration of optics
- Optical measurements

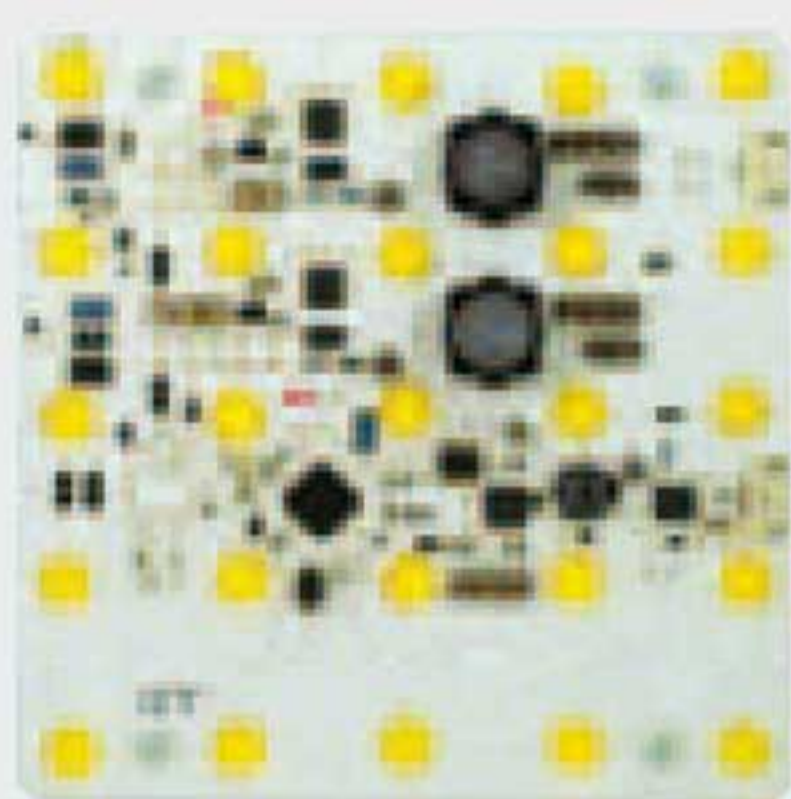
Electrical & mechanical design

- Mechanical simulation
- Layout (IPC standards)
- Mechanical testing (e. g. according to FAA standards, vibration testing)
- LED driver design, testing and manufacturing

Thermal management

- Steady-state thermal analysis
- Transient thermal analysis
- Temperature distribution on PCB

Complete solutions for various applications.



KREIOS® D+T

Studio, stage and TV lighting

Challenge: To provide optimized and/or tuneable light.

Kreios D + T uses an innovative remote phosphor concept to create perfectly tuned, high-CRI light that duplicates halogen or daylight illumination. This system is stable over a large temperature range and is dimmable with no color shift.

Available in 3200 and 5600K with CRI ratings above 95.



ZELION® H*

Industrial application (airfield) and entertainment

Challenge: To develop a flexible optical LED replacement for 48 W halogen reflector lamps.

Solution: Flexible, energy-efficient and low-maintenance solution for a variety of applications, including runway and approach lighting. The LED light engine consists of 4 white, red, green or blue OSRAM OSTAR Compact LEDs, an I²C temperature sensor and EEPROM, a robust connector and an optimized 6° or 10° reflector on a metal core PCB.

* Engineering sample

Benefits at a glance

- One-stop supply of SSL solutions
- Access to the latest SSL technology through OSRAM Opto Semiconductors
- Customization of standard (sub-) components and system integration through OSRAM Display/Optic
- High system efficiency
- Strong knowledge in light mixing and shaping
- Development of platform technologies for various applications
- High-quality components
- Long-lasting solutions through reliability testing during development
- Global reach extending to 150 countries around the world
- Close cooperation and reliable support

Coming attractions:

- Gobo projector
- Pico projector
- Stage light
- Fiber optic light engine
- Medical exam/surgical light

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