



Press Release

ESCATEC ensures consistent high performance LED application thanks to a new back-end cooling system

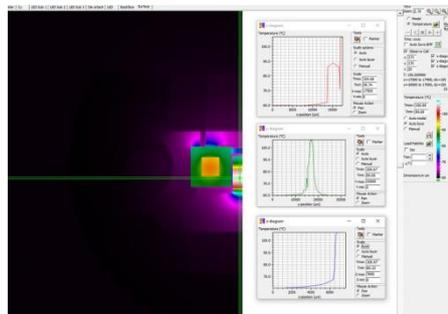
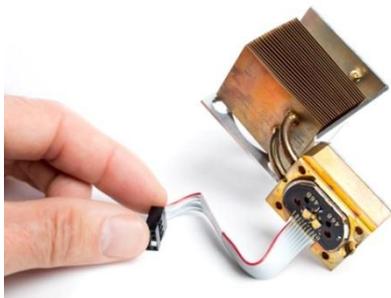
(Heerbrugg, Switzerland 14 MAR, 2017) ESCATEC, the Swiss electronic design and manufacturing service provider, helped transform the illumination quality of a recently released ophthalmic microscope. Its Micro Opto Electronic Mechanical Systems (MOEMS) facility created the new technology for a customer, which now guarantees a reliable LED light source, thereby increasing the success rate of cataract surgery.

Conventional LED red reflex illumination technology offers surgeons optimal views of the eye's structure and texture. However, the quality of red reflex illumination provided by conventional light technology decreases during the most crucial phases of ophthalmic surgery. For this reason, a leading microscope manufacturer contracted the MOEMS facility at ESCATEC in Heerbrugg, Switzerland, to design and produce a new red reflex LED light source solution. ESCATEC quickly developed a new high efficiency LED module with four individual beam paths to overcome the drawbacks of the conventional illumination technology. The new module now provides consistent, high quality and detailed ophthalmic views throughout the entire surgical procedure.

LED generated heat challenges, solved through thermal management

Using a high resolution thermal simulation tool primarily developed by the University of Vienna, thermal simulation models were quickly generated and optimised from complex structures. The quality and consistency of the light source was optimised and a back-end cooling system was designed and manufactured to prevent overheating. The new light module's micro-assembly, thermal management assembly, packaging, and testing were all completed at the cutting-edge MOEMS facility at ESCATEC in Switzerland.

"For almost every LED application heat is the major enemy. Thermal management is a challenge for every LED and LASER device designer and this is where ESCATEC was able to develop a specific solution," says Wolfgang Plank, head of the MOEMS facility, "our customers wanted the higher performance of LED lights, with lower service costs, as an alternative to the previous Xenon technology. Our extensive experience with LEDs enabled us to quickly deliver the right solution."



ESCATEC Red Reflex LED Light Source ensures thermal management and therefore consistently high reliability throughout intensive applications.

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For additional information about the MOEMS facility at ESCATEC:

<http://www.escatec.com/en/product-development-service/moems-design>

For more technical information on ESCATEC's new Red Reflex LED Light Source:

http://www.led-professional.com//Microscope_LED_Light_Source

About ESCATEC

The ESCATEC Group provides fully integrated electronic and mechatronic design and manufacturing solutions, helping our customers achieve success in their markets. Our reliable solutions and best-in-class service enable industry leading OEMs around the world to operate more profitably, sustainably and efficiently. With over 40 years of experience, our history is full of innovation, making us a first choice partner for many European and North American OEMs. Our Swiss owned company perfectly blends Swiss business philosophy and precision quality with the advantage of low-cost, high volume, manufacturing capabilities in our Malaysian factories.

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