

INNOVATION PARTNERSHIP WITH CAPPA SPARKS DESIGN AND MANUFACTURE OF LED LASER ILLUMINATION SYSTEM



BACKGROUND

Established in 1951, ProPhotonix is headquartered in Salem, New Hampshire, USA and has ISO-certified production facilities in Cork and Essex in the UK. ProPhotonix designs and manufactures LED illumination solutions and laser modules. ProPhotonix has established a strong position in the machine vision sector and has significantly expanded its presence into the solar, semiconductor, security and medical markets. ProPhotonix products are currently sold to over 500 customers primarily in North America, Europe and the Pacific Rim with LED operations headquartered in Cork.

THE NEED

ProPhotonix identified a current market gap for a cost-effective high-power fibre coupled module in the near-UV wavelength region close to 400nm. Although there are high-power arrays in this wavelength range already available on the market, the light sources are monolithic meaning if one emitter in the array loses power or fails it cannot be replaced leaving the customer with the choice of replacing the entire system or operating at a restricted power level. By targeting a fibre-coupled platform ProPhotonix sought to offer a solution that would enable end-users to replace discrete modules when necessary.

THE SOLUTION

CAPPA worked closely with ProPhotonix to both understand the target idea and to demonstrate the technological challenges that were involved. An initial Enterprise Ireland feasibility study was carried out to assess the challenges and based on this a full Innovation Partnership was proposed. Through this Innovation Partnership and in conjunction with CAPPA's partners in the Tyndall National Institute a series of initial modules were designed and fabricated.

BENEFITS OF THE ENGAGEMENT

Following on from characterisation and design iterations a full series of 32 modules are now being completed. The modules perform approx. 25% above the desired specification and the company has recently agreed a license with CAPPA for the modules. The partnership with CAPPA facilitated ProPhotonix to gain access to key R&D expertise that would otherwise not have allowed the product to develop. Throughout the process, CAPPA ensured that the product design and assembly was suitable for volume manufacture. The ability to replace single emitters, rather than entire systems coupled with the ease with which a new module can be installed in the field eliminates costly equipment downtime and significantly reduces the cost of ownership.



“The success of this project has led to the company engaging in other successful collaborations with CAPPA to deliver challenging solutions to our customers.”

- Ken Reynolds, Business and Technology Manager, ProPhotonix

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