



**DELIVERING ENGINEERED
LED SOLUTIONS FOR
35 YEARS**



Make every drop count

Our Company

PRP Optoelectronics has a market leading capability in the development of monolithic LED arrays and UV LED. We currently produce high accuracy multi-pixel arrays in a variety of wavelengths. Our ability to create large arrays of accurately pitched micron-scale pixels is used in industry proven non-contact, high speed, photographic quality printing applications. PRP is ready to support the next generation of contactless, chemically enabled printing applications, as well as other direct write-applications such as photolithography in the semiconductor, display and PCB industries. We offer a complete design and manufacturing capability for print head modules, which includes packaging techniques and in-house design of custom drive electronics and ASICs, as well as design and production of the light emission array itself.

In addition to this, using our 35 years wealth of experience we excel in harnessing the power of UVC light for a myriad of applications across industries such as Water purification, Air and Surface treatments.

We work closely with our customers providing LED solutions to some of the world's most technically demanding customers.

At PRP, we are not just creating products; we are shaping the future of industries through innovation and expertise.

Monolithic Semiconductor Processing

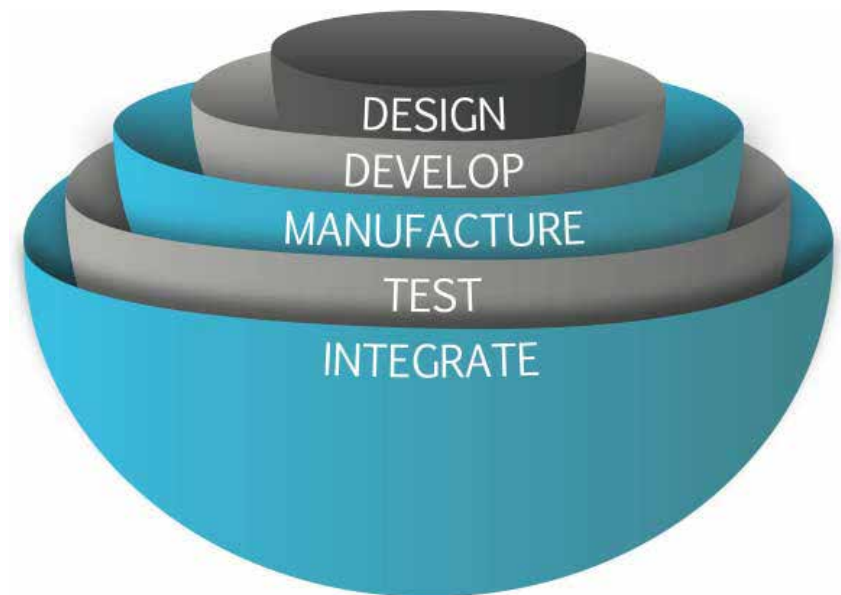
PRP Optoelectronics' in-house fab produces optoelectronic devices with output wavelengths spanning from IR to UV. Achievable emitter size and pitch can be as small as 10µm and 15µm respectively.



Design, Development, Manufacture, Test and Integration

Our customer projects requirements span all of our key capability areas, but most require a bespoke combination of our services. Whatever service you require, our approach starts with discussing your technical requirements and understanding how we can positively impact your project.

We are not a 'one solution fits all' company; with our expert in-house capabilities we provide a customised service to meet the specific needs of our customers. Our capabilities cover the Design, Development, Manufacture, Test and Integration of customised LED modules and UV LED solutions.



Services

One of our core strengths is our ability to develop complete systems inhouse; to enable this our interdisciplinary development team comprises experienced optical, mechanical, hardware, firmware and software engineers. This approach leads to reduced complexity, shorter delivery times and competitive costs.

Many of the products we've produced that are based on our hybrid and monolithic LED technology incorporate drive electronics into the same package as the LEDs. We have extensive experience in power management, mixed-mode ASIC and FPGA programming.

Our LED development team is located at a state-of-the-art wafer processing facility within the UK - Southampton Nanofabrication Centre. Drawing upon a wealth of semiconductor processing experience they develop customer specific LED chips using a range of advanced materials ranging from Infra-Red to the Ultraviolet region of the spectrum.

Commitment to Quality

PRP's Quality Management System is approved to ISO 9001:2015.



System Design

Operating within the parameters of your Requirements Specification our technical team will design a solution suitable for your end user and its operational environment. If your solution requires a bespoke LED we will design a mask set to produce chips to meet your specifications. We are vastly experienced in designing devices that require specific filtering, lensing and thermal management considerations. Our design process is clearly focused on design for manufacture, so we use the latest CAD software and engineering tools. We have close relationships with rapid prototyping partners allowing us to offer fast, cost effective conceptual prototyping if required. Upon completion of this phase, we will provide you with a system design to meet your performance requirements, cost and quality goals. Outputs from the design phase include drawings, 3D models and a compliance matrix.

Testing

In line with our commitment to quality we perform functional tests on each device as standard. For our customers that require high reliability devices we perform a range of further tests on 100% of their devices. Our in-house test capability covers mechanical, optical and life cycle testing.

Integration

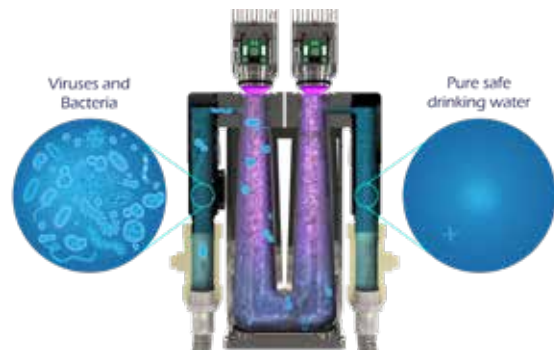
With a wealth of experience in technical development, precision assembly and quality management PRP is an ideal integration partner. Working in partnership with our customers we manage the supply chain, production, assembly and testing. Our project managers will liaise closely with you and your suppliers to ensure the quality, lead time and availability of your product meet the agreed terms.

Manufacturing

Our wafer fab at Southampton Nanofabrication Centre enables us to manufacture low to medium volumes of custom LEDs. We process the wafers from epi (fully grown wafer) right through to individually packaged chips. In conjunction with our wafer fab we have a number of clean room manufacturing pods within our manufacturing facility in Swindon. Here our manufacturing team assemble and package modules using our manual and automated systems which include pick and place, wire bonding (Au, Al) and encapsulation.

ENGINEERED SOLUTIONS





Water Treatment

Aegina uses the latest intelligent Ultraviolet LED technology to produce pure, clean drinking water engineered to your specification and standards. The UV LED light is directed at the flow of water in our system. It uses a specific wavelength of light which changes the structure of the viruses and bacteria.

The UV LED light affects the wall of the pathogen's cells causing irreversible damage to the DNA and RNA. The cells cannot recover or reproduce and so are denatured or rendered ineffective. This is known as thymine dimerization. UV Technology has been around for some time as a water disinfection process and is one of the fastest growing water treatment methods.

However older treatment methods of producing the UV light with mercury lamps is expensive, bad for the environment and will be obsolete within 5 years.



Air & Surface Sterilisation

Ultraviolet (UV) light is increasingly recognized for its efficacy in surface disinfection, particularly in eliminating pathogens. PRP can tailor a UV disinfection solution to your specific needs.

By assessing your requirements, we can design a system that optimally delivers UVC light to target surfaces, ensuring efficient microbial inactivation.

PRP's expertise involves integrating cutting-edge UV technologies into a coherent and user-friendly solution for disinfection protocols for different environments, whether in healthcare, hospitality, food preparation or other industries.

With PRP's tailored approach, businesses and institutions can benefit from a precise, reliable, and scalable UV surface disinfection system designed to meet their unique needs, contributing to a safer, sustainable and healthier environment.

UV Curing

Using UV LEDs for curing introduces innovative technology to ensure precise control over the curing process, promoting faster production cycles and reducing energy consumption.

PRP can design, develop and integrate this technology for your specific needs giving versatile, reliable curing for inks, coatings, and adhesives across industries, contributing to a more sustainable and cost-effective manufacturing process.

Ultraviolet LED curing technology revolutionises the curing process offering swift and energy-efficient results enhancing productivity and product quality.



Features & Benefits

Features

Pure Safe Water

Powerful UVC LED technology eliminates 99.99% of viruses and bacteria.

Superior Quality

Aegina has been designed, developed and manufactured to the highest standards in the UK.

Intelligent

Optimises UVC LED power, is instant, safe and consistently monitors performance.

Energy Efficient

Aegina has low energy consumption compared to other technologies.

24 Month Warranty

All our machines are covered by an automatic 24 month warranty from the date of purchase.

Benefits



Keeps your water safe from harmful bacteria and viruses that may live and multiply in your water source.



Simple installation, no special tools or knowledge required.



Low energy device can be powered by battery, wind, solar or mains supply.



Easily maintainable when required throughout its life.



Earth Kind helping free the Earth from its reliance on plastic bottles. Our products are manufactured from materials that are recyclable.



99.99% Clean and safe drinking water



Eco friendly, reduce plastic waste



Instant on/off, low power



Modular, intelligent



Low maintenance, cost effective



No taste altering chemicals, no odour

Customers that trust us include:



GENERAL DYNAMICS

BAE SYSTEMS

aselsan



Johnson & Johnson
Vision Care



PRINCESS

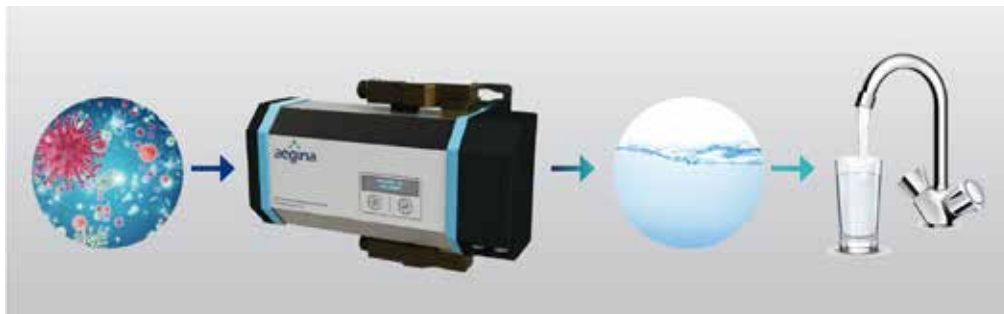
OYSTER


Esterline



ONTIC

Kodak





"Having Aegina on board our campervan gave us total peace of mind whilst travelling.

It made such a difference we didn't have to think about our water source at all."

Rachel

**It's not bottled ...
It's better!**



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Making Life Better