

Photonics Product Development

Innovation through new
technology exploitation

SAGENTIA



Photonics and optics technologies lie at the heart of many market-leading products in almost all industry sectors, from consumer products to medical instruments, retail technologies to security systems.

We have a long established track record in photonics-based product development. We can bring together technical expertise with a fundamental knowledge of product design, backed by a comprehensive in-house product development capability. As a result, we can develop highly competitive, innovative new products, and within short timescales.

Aimpoint

We have added a number of innovative enhancements to the Aimpoint AB range of red dot weapon sights, most recently extending battery lifetimes. This was achieved by replacing LEDs with a more energy efficient light source driven by custom-built low-power electronics. The development has improved Aimpoint's competitive edge, and will lead to increased market share. Aimpoint is now incorporating the technology into a new gun sight, which will soon be in mass production.

Bar code scanners

We also helped a major manufacturer of CCD-based bar code scanners to stem losses in its core market by enhancing the performance and reducing the cost of its flagship product. To achieve this, we replaced the scanner's main imaging lens with a low-cost, custom-designed, injection moulded plastic aspheric lens. Cylindrical optics were introduced, resulting in greater efficiency and an increased depth of field for the bar code reader. Low-cost LEDs provided a sharp illumination source, and the optical system was reduced in size and re-designed in order to simplify assembly. The resulting product was successfully transferred to mass production, and regained significant market share.

Inspection system

We developed an inspection system for a high-value paper product which had to be measured very precisely. Previous attempts at conventional imaging-based solutions

had been unsuccessful – our approach used an innovative illumination system to produce extremely clear images of the features of interest that could be measured automatically. This system is now used in production in several countries.

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