FORGING AHEAD IN FIBRE

Now part of II-VI, Highyag has been a leader in the 1µm for almost 20 years, as Warren Clark discovers

Highyag’s history can be traced back to 1995, when the company was founded in Berlin to provide beam delivery systems and tools for laser materials processing. At that time, this was in response to the increasing number of laser applications in the advanced manufacturing industry.

Dr Robert Kuba, managing director of Highyag, attributes the company’s growth and success to its portfolio of reliable products, covering both laser processing heads and fibre beam delivery systems. ‘Our products are used for laser cutting and welding, as well as for brazing,’ says Kuba. ‘Our core customer base remains in the automotive industry as well as cutting and laser machine manufacturers, where our solutions have consistently offered precision in harsh environments. We have always worked with customers in this area to develop products that precisely meet their needs. That core of high precision and high reliability that we developed back in the early days of the company remains in our hearts.‘

As well as laser processing heads for cutting, welding, brazing and surface treatment, Highyag’s other specialist area is in fibre-based beam delivery systems, comprising laser light cables, fibre-to-fibre couplers, and fibre optics modules. Customers for these products include major providers of beam sources. It also provides accessories for laser heads and beam delivery, as well as auxiliary devices for process alignment and setup.

During the first decade of its existence, Highyag developed an excellent reputation in the 1µm market, and in 2008, this attracted the attentions of II-VI Incorporated, who purchased a 75 per cent stake in Highyag. John Ryan, vice president sales and marketing for the II-VI Infrared Division, says: ‘We invested because though we [II-VI] were a leader in CO₂ optics, we recognised that the market for 1µm fibre lasers was growing significantly and that Highyag is a major player in this growing market segment.’

II-VI itself has been around for 40 years, and has followed a pattern of expanding its capabilities through a combination of acquisition and organic growth. ‘The key to our organisation is vertical integration,’ says Ryan, ‘and having the capability from the raw material right through to the finished component.’

Leading products, highly-qualified employees and the investment of II-VI have contributed to Highyag’s success and strong growth in recent years. As global markets recovered in 2010, it enjoyed a period of double digit growth and expanded its workforce considerably. In addition to its headquarters in Germany, Highyag now has sales offices in the US, Italy, Benelux, UK, China, Japan and South Korea.

New laser cutting head BIMO-FSC with machine controlled adjustment of focus position and focus diameter
Highyag works closely with its customers to develop a perfect solution for them. ‘When customers come to us, it’s for an innovative, reliable and high-quality solution for any type of fibre laser processing application.’ says Kuba.

The company continues to innovate with new products, including its latest laser cutting head, the BIMO-FSC. Its major advantage is that focus position and focus diameter can be adjusted independently in a fully automatic process by moving optical elements. In practice, that makes it suitable for cutting different material thicknesses without manual intervention. The product will be shown at the upcoming Euroblech event in Hannover.

Looking ahead, Kuba sees several challenges. ‘It’s important for us to stay ahead,’ he says. ‘We need to keep track of how our customers are using lasers, whether that’s in automotive, shipbuilding or flat sheet metal cutting. This means we need to stay on track with innovations, and continue to build on our reputation of reliability. Ultimately, we aim to have a huge set of components and features beside the core of the product, enabling us to suit any customer need.’

The confidence in Highyag and fibre laser technology was further demonstrated in 2013, when II-VI became the 100 per cent owner of Highyag. The beginning of 2014 saw the opening of a new 6,000sqm building in Kleinmachnow, just outside Berlin. It includes a production hall of 3,500sqm, two clean rooms, optics laboratories, applications laboratories, and offices, all equipped with specialist technology to enable the continued development of high quality laser processing heads and beam delivery systems. There has also been continued growth in the number of employees, which stood at 140 at the beginning of the year.