

Branding the beam

Tim Gillett traces the 25-year history of Duma Optronics, from its origins as an OEM innovator to its ambitions to become a self-branded market leader



Shmulik Barzilay,
vice president for sales
and marketing

They say location is everything – and since its formation in 1989 the development of Duma Optronics has been influenced and guided by its proximity to Technion, the Israel Institute of Technology in Haifa.

The company was established in 1989 by Oren Aharon – who still heads up the concern as chief technical officer – along with his business partner Jacob Cohen and the pair's respective wives. Aharon had previously graduated from the nearby Technion of Haifa, and spent a couple of years working at Israel's department of defence, working in optics and electro-optics – which is when, he says, he began to get an understanding of the industry.

From the early days the company has been located in Neshar, ideally situated close to Technion – which has been home to several Nobel Prize-winners and has supplied Duma with a ready supply of engineer employees over the years.

Aharon says that, from the earliest incarnation of the company, the focus was on innovative instrumentation: 'We spent two or three years developing our very first instrument, which was a beam profiler; it was unique at the time. There was a lot of government assistance available for the development of innovations, of which we took full advantage until we were able to launch our first product – a tomographic scanner

beam profiler. This patented, state-of-the-art technology offers beam profiling at various intersection angles, followed by a tomographic reconstruction of the spatial intensity distribution at the intersection plane. Later on the company developed a unique CCD based beam profiler for microscopic beam analysis, down to a sub-micron beam diameter, which serves as a powerful beam diagnostics station.

He continues: 'From the beginning we decided that we wanted to be an OEM type of company; our first major customer was Melles Griot, who carried our instrumentation for many years.

'Later on Newport Corporation became a customer, as did Coherent, so our products

were in these companies' catalogues for many many years.'

Though there has been something of a change in direction in recent years, with Duma moving away from being a pure OEM to creating and marketing its own branded products, its main focus has always been on innovation and beam profiling has always been a key technology for the company.

Aharon explains: 'We are still very innovative in this area and we are still leading the way with our technology. Recently we introduced a high-power product line; high-

power laser applications are growing fast all across the industry, and we are now able to measure focused laser beams of less than 20µm with a power of several kilowatts.

'This is very challenging, but definitely reflects accurately the demands coming from the market. In our specific area of photonics, the market is being driven by innovation. So companies like ours are going to the market and making people aware of what we can do, and then the market is finding ways to apply this technology. Having said that, the market's demands are pretty clear in general terms; it mainly wants smaller beams and more power!'

Looking back over a quarter of a century of business, Aharon says the market has become tougher, largely because of increased competition – but also, he says, because of the fact that the company has always concentrated on innovative products in a high-end market.

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The main competition within Israel comes from Ophir Optronics, which operates in the same areas as Duma. Ophir was recently acquired by Newport Corporation, which since then has sourced most of its beam profilers from Ophir.

These days the company's main markets are in Japan, the United States and Europe (with a particular demand from Germany). In terms of beam profiling, the industry is rushing headlong towards nanotechnology, with Duma no exception.

According to Aharon: 'High-power lasers and nanometric machine processing is going to explode. At the moment it's only in its infancy, but in automotive products and in many day-to-day applications big-power and nanometric machining is fast becoming a key applications area. There's no doubt we will have to dedicate more resources to research and development – our standard model is to outsource

the production of an instrument once it has been designed, but we still carry out the final assembly and testing in-house.'

For Shmulik Barzilay, vice president for sales and marketing, moving from being an OEM to an 'active, self-branded company' increases the importance of creating awareness of the company's products.

He tells *Electro Optics*: 'Customers are seeing us at exhibitions more and more worldwide, we are publishing more articles and advertising more. We are also very active



Oren Aharon

in social media; it's very important these days and we use all the available platforms to touch base with customers and to let them know of the latest technological developments.

'We are exploring new markets and we are offering a greater range of products in the scientific and industrial markets, as well as in homeland security and defence applications. It's also vitally important to us to be able to provide as good a service as we can. We have great confidence in our products and have recently applied a 24-month warranty to all of our products, while at the same time widening our worldwide distribution network.'

After 25 years at the heart of the photonics market, Duma Optronics seems well placed to remain focused on its future direction, wherever that might be. ●

