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It is three decades since five Phd students founded Fusion UV Systems with the invention of microwave lamp technology, pioneering its use for UV curing. Kate Morley spoke to Dwighd Delgado, vice president of operations, about the company's leading role in the industry

It might be a bit of an old cliché, but right time, right place really does play an important part in why some great ideas get to grow and grow while others disappear into oblivion. For the five founders of Fusion UV Systems, the time was certainly right. "I think you could say they were blessed with the right product at the perfect time," explaines Dwighd Delgado, vice president of operations at Fusion. "The UV chemistry they were working on offered exciting solutions to a wide variety of applications that were there to be developed."

Impressive technical accomplishments, a commitment to product development, and a dedication to working in partnership with customers have ensured the growth of Fusion over more than thirty years in business. Just as UV curing revolutionized the drying process, the Fusion UV system has revolutionized UV curing with electrodeless lamp systems which are more efficient than conventional arc lamps and offer a whole range of benefits.

Fusion offers a variety of spectral outputs in several lamp system designs, enabling customers to match the lamp output to the ink or coating being used. An added advantage is that there are no limitations on cure widths either. Modules can be placed end to end for uniform wide cure or turned on independently to save energy costs for narrow width runs on wide systems.

There are three key elements to Fusion's systems—an electrodeless bulb for consistency and long life, the irradiator for efficient cooling and output, and a user-friendly power supply for maximum convenience. And the applications are wide ranging, as Delgado explaines: "Walk down the aisle of any grocery store and take a look at the range of packaging, like the bricks of juice where the inks on the packaging have often been cured by Fusion systems. Or the CDs and DVDs where UV curing has

provided enabling technology for sandwiching the layers of poly carbonate together. Fiberoptic cable is an important market too, and a new growth area for us is the automotive industry where we are currently working on a project to clear coat vehicles to improve scratch and mar resistance designed to keep them looking newer for longer."

It's an exciting development which Fusion has been working on in partnership with an automotive consortium, and the primary results are looking good. "We're testing the process at the moment, driving a treated Audi around Europe, and already feedback from people like Mercedes suggests they're delighted with the results."

It's another feather in the cap for Fusion. Today the company has main offices (each one featuring sales, service, and application lab) in the UK, Germany, and France, three in China and another in Japan, as well as the headquarters in Maryland and an office in California. The recent growth into China has provided the company with a unique challenge.

"So many of our customers were moving parts of their operation to China, we needed to have a presence there to support and service them on site," says Delgado. "Our three offices give us pretty good coverage over the main industrial centers, and on a percentage growth basis, our China operation is pretty fast growing. In Japan too, where the economy is showing signs of re-bounding, we've made important gains in market share."

"We have about 35,000 installations around the world, a reflection of our steady growth which has seen only a couple of hiccups in the last decade, most notably the nosedive of the telecoms industry. Our double digit compound annual growth rate is looking good, and with so many diverse markets to operate in, we foresee a continuation of this growth."

Developing new applications in new markets, and new technology in core requirements are the key to Fusion's growth strategy. A significant percentage of sales is invested into R&D. "We don't mortgage our future by not investing in R&D," says Delgado. "And our parent company, Spectris plc, has been very supportive in furthering that."

Identifying new applications and growth areas requires serious investment of time and money. The automotive market already looks set to develop with Fusion's new clear coat project and Delgado refers discreetly to two more strong applications for new markets currently being developed.

Fusion's strong position in UV technology has facilitated some of the most advanced products on the market. Like the high selling video game which wouldn't be possible without Fusion equipment, or the coatings on new monitors or cutting edge optical applications. But although much of the company's work is focused on the high end of the market, no job is turned away. When a pet food manufacturer was looking for a way to improve the graphics on their 50-kg packs of dry dog food, they turned to Fusion to facilitate developing a higher gloss on the graphics while maintaining a non-slip resistance to allow them to be piled high in the stores.

"It's all about providing solutions to our customers, and problem solving, and that's what we do best," says Delgado. "Research into cust-omer requirements to understand the cost drivers and the value proposition on every project is given top priority. We use a whole range of techniques like QFD (Quality, Function, Deployment) in that process to understand the spoken and unspoken needs of the customer. Lean manufacturing has been an important tool for us too. We started working on it back in spring 2001 and it has allowed us to improve output with the same staff and without expansion of the site. In fact, we've seen a dramatic improvement in output, and avoided having to hire the equivalent of around 20 manufacturing employees. Combine this with our strong supplier relationships, and our internal cross-functional problem solving teams with a focus on customer satisfaction, we're maintaining standard lead times of around 2 to 3 weeks and maintaining on-time delivery at about 94 percent, and that's world wide. The end result benefits not only us of course, but down the line our hard work means we can help our customers reduce their operating costs and increase their competitive edge and that's got to be a good thing for all of us."



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