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FIELD REPORT

Improving The Process

Lean manufacturing program prompts revamp

By Erika Flynn

DES PLAINES, ILL. — Seizing opportunities is key to growing a business. Executives at **United Displaycraft** recognize that, and within the past year have taken an aggressive approach to grow the company — despite the economic downturn — through streamlined processes, new equipment, cost-cutting measures and an acquisition of Arlington Wire Products, Chicago. "The strong will get stronger and some of the weak might fall by the wayside," says Rich Carrigan, president. "We knew which category we wanted to be in."

Adopting a lean manufacturing approach, the company began analyzing its processes from top to bottom late last year, says Carrigan, resulting in a floor layout enhancement project that prompted the moving and revamping of a variety of departments within its headquarters facility.

A total of 80 machines are now in a more productive layout, reducing material handling, improving quality and shortening lead times. "Just the material handling itself we estimate to be about $90,000 a year in savings," says Carrigan.

The company's two portable Panasonic mig welding robots operate 250% faster than previous equipment. "And with the newer technology, we can actually run them more often because the setup hurdle is less," says Carrigan.

Top and right: Engineering, graphic design and industrial design teams discuss a project. Below left: Another meeting space holds past and current display programs.

Taking advantage of available tax-break incentives as well as marketplace discounts, the company also invested in a new laser. It runs 30% faster than its old machine, which he says "isn't the wow factor you get from the robots, but it's just enough to make us a little more efficient."

The company's sample room — now double in size — houses additional sheet metal handling capabilities, including a CNC break press, and box folders and notching devices.

Carrigan says there were many reasons this department was one of the main beneficiaries of the facility's revamp, one being a big push over the past three years to become one of the few direct manufacturers to manage the front end of retail stores.

"Because the units are much larger than what we're normally accustomed to — at 6 and 7 feet long — we decided

Go to www.uniteddisplaycraft.com or contact Tim Richardson at 847-375-3800.

it was time to expand our prototype department to be able to pass more prototypes through in a bigger space more efficiently. In the process, we were trying to identify as many of the inefficiencies as we could," adds Carrigan, "from the hardware all the way through to the machinery and the individual workstations."

Speed-to-market issues have been addressed with the new space, adds Paul Eifert, vice president of development, who notes that particularly in the development phase — when it comes to renderings, quote pricing and prototypes — this has been a key factor of late for customers.

"Through some recent hirings in our design and engineering departments, we've been able to significantly decrease our turnaround time on concepts, quote drawings and the data needed to create quick estimates.

"Another pinch point we recognized a few years back was our ability to quickly turn prototypes to prove out concepts," he adds. That's changed. While designers might create a quick mock-up to get an initial idea, "our goal is to create a very production-accurate prototype to test the load of the sample, ensure that it's easy to assemble, and that it looks as good as or better than the renderings on the initial creative."

Tim Richardson, vice president of sales and development, says this is a critical juncture in a company's success. "It used to be that we could do a prototype maybe two or three times. Now we have to get it right almost the first time because timelines are so compressed."

These display components for a liquor display await their next operation: powder coating.

United Displaycraft redesigned its sample room to make it more efficient and cost-effective while producing production-quality prototypes.

Richardson says front-end research has been taken to a new level, with both designers and account executives striving to "get to the point quicker" through more detailed field research.

The company's designers and design engineers spent a lot more time in the model shop in the past, he notes. "Now they don't have to do that as much because they're able to do things more proactively."

Traditionally used only when creating single, pre-production samples, the paint booth in the new sample room is now larger and improved, a necessity since the company began working with its clients more on short test runs. "We want the sample room to work in conjunction with our factory," says Eifert, to do some limited test runs.

With the lean manufacturing improvements, as well as a few key personnel moves, Carrigan says the added costs of doing these smaller test runs is no longer an issue. "We knew that if we could reduce setup costs, it would have exponential benefits, not just in each unit cost, but also in lead times." A formal setup reduction program was put into place, which just recently hit its goal of cutting setup costs by 50%. Carrigan says that required an investment in new tools, equipment and thought processes throughout the company.

"We adopted a kind of pit crew mentality to change machinery over as quickly as possible," he says, which has resulted in shorter lead times and lower overhead costs. "Our pricing in lower quantities is much more attractive as a result." Richardson says many of the changes – as well as those yet to come – were prompted by listening to its customers. "Times have changed the ways we have to do business," he says. PD

One of two newly acquired robotic mig welders allow for high speed and high-quality output.