

A meeting of minds

On hearing the news of the merger between Phillips and Medisize, a number of keywords sprung to mind, such as Euro-US transatlantic cooperation, what a great idea and why didn't they do it earlier? What I didn't expect was that the new logo would be everywhere at MD&M West, including on the room key of the Marriot hotel at the Anaheim Convention Center.

Medisize have to offer in terms of technology, innovation and regional prowess, synergy really is the only word that springs to mind.

Already the combination of key strengths are shining through — Medisize is renowned for its industry-leading automated assembly, particularly in the lucrative mid to high volume assembly runs while Phillips's expertise in multi-shot moulding is second to none. To give you the full picture, Bill Welch, the newly formed company's Chief Technical Officer, and Matt Jennings, President and CEO, write exclusively for MPN.

Bill Welch, Chief Technical Officer on Multi-Material Moulding and Automation

Multi-Material Moulding

Multi-material (multi-shot) moulding has been extensively used in the commercial markets for over 25 years, but has had slower adoption in medical. When properly integrated into a design, it can be the elegant solution to reduce overall cost and improve quality, being mindful to balance the upfront tooling costs with the manufacturing savings and quality improvement. While multi-material moulding was initially focused on two materials, we today have examples of four materials being used in a single injection mould. In cases such as this, multiple benefits are being realised in a single part, including integrated sealing, reduced part count (eliminates assembly), integrated graphics (eliminates secondary printing operations), soft touch (improves tactile feel and



However, the most obvious outcome of the event is synergy, the buzz word that describes when the combined effect of a merger is greater than the sum of its parts. And after analysing what Phillips and

grip) and dampening — sound and vibration isolation.

Another specialty within multi-material moulding is the creation of a Moulded Interconnect Device (MID). An MID is created by moulding two materials — one that can be plated and one that resists plating — to form a 3D circuit board. This can be very effective in eliminating the need for multiple flex or hardboard circuits, and provides the added benefit of creating complex shapes.

Phillips-Medisize has also developed a system for hardcoat (a common requirement for PC lenses) that enables digital printing of the hardcoat, effectively reducing cost and lead time, and masking requirements when a multi-material component requires a hardcoat.



<< The OmniPod is a modern diabetic meter and drug delivery device. It contains a multi-material, multi-shot MID electronic component manufactured by Phillips-Medisize. >>

Automated Assembly

The Phillips-Medisize approach is to offer customers both technology and market-focused facilities in multiple, convenient locations. Consistent with this approach is the development of Centers of Excellence for varying levels of automated assembly.

Several Phillips-Medisize facilities have unique expertise in advanced assembly, for example, the new Richmond, Wisconsin facility is focused on lower volume, complex single-use products, and heavily leverages low volume "smart" assembly.

The Menomonie facility, also in Wisconsin, is focused on mid- to mid-high volumes and has demonstrated expertise in complex flexible automation cells with many operations, and higher volume automation modules with compact machine footprints.

World English Dictionary
synergy

— n , pl -gies

1. Also called: synergism, the potential ability of individual organisations or groups to be more successful or productive as a result of a merger
2. The interaction of two or more agents or forces so that their combined effect is greater than the sum of the effect of their individual parts.

[C19: from New Latin synergia, from Greek sunergos; see synergism]



Matt Jennings, President and CEO on Partnerships Through Innovation

Today there's continued pressure for our drug delivery and medical device manufacturers to innovate with new products appropriate for the global markets to drive top line growth, continually improve quality, stay compliant with the changing

regulatory landscape and simplify the supply chain to reduce costs. That is a mouthful but true.

As a result, our customers are looking for partners that understand the market challenges and that can be a valued resource to help them achieve their goals. Partners that can help them design, develop and industrialise their ideas to help with accelerating products' time to market is critical.

Our customers are also looking for partners that can reduce supply chain length and complexity by offering locations close to end markets. Partners that proactively find ways to take out costs in the supply chain and improve quality is always a requirement. That's what Phillips-Medisize does well every day. We take a customer-centric approach and align our strategy from design and development through manufacturing with what they're trying to accomplish around the globe. But true partnerships need to be a two-way street, with the OEM willing to share their strategy and objectives, be open about resource constraints and limitations and have a willingness to share the responsibility.

Medical devices are becoming smaller and smarter and OEMs are placing more focus on cosmetic and human factor engineering into the product design in addition to the traditional form, function and fit of medical design elements. As a result, drug delivery devices and diagnostic devices that must maintain very high tolerances and quality standards while incorporating cosmetic finishes is something we see more and more, particularly with high-volume patient use items. Another important development is people are increasingly integrating electronics into their devices. It's something that we've been positioned well to do with our advanced capabilities in multi-shot moulding, automated assembly and quality control and advanced inline coatings and finishing technologies to help achieve the desired design intent and user experience.

Today we offer advanced multi-material (multi-shot) capabilities that include up to four different materials in a single, complex mould. We also have the capability to have one or two of the materials be a silicone. This provides an elegant solution to sealing issues, while reducing part count and creating a shorter supply chain. Also, our metal injection moulding (MIM) is a great process for components that require tight tolerances, with surface finish that is much improved compared with the industry's early years. ■■

The plant in Kontiolahhti, Finland, is focused on high volume, fully automated assembly and is best-in-class in managing and validating complex systems that have many moulded and purchased components.

All Phillips-Medisize facilities leverage robotics and press-side automation to reduce cost and lead time by working within the machine cycle time.

Customised production — partnerships built on innovation

The primary benefit of the Phillips-Medisize approach is to develop a customised solution based on programme volume, complexity and risk. By offering our customers options from manual assembly in low-cost countries to highly automated and engineered solutions, Phillips-Medisize is able to select a manufacturing strategy that is in the customer's best interest. Further, by gaining early involvement via its design centres, Phillips-Medisize can scale operations, starting with low-volume clinical or pilot builds and ending at the desired scale, managing capital cost and manufacturing risk along the way.



<< The images show the automation capabilities of the company. Notice the blur in the first image, reflecting the speed at which devices are being assembled. >>