



innovation

Dürr Ecoclean's gantry system delivers components to and from Cummins' CNC machines by means of an overhead rail and a traveling carriage.

Flexibility **cleans up** global assembly challenge

By: Steve Barclay

Globalisation does not mean a “one size fits all” solution on the assembly floor. Companies are having to adapt to different cultures, skills sets and working conditions around the world.

One of the leaders is Dürr Ecoclean, which offers standard cleaning, deburring technology and tailor-made systems to the automotive industry and its suppliers, as well as to the diversified industrial market. From its roots in Germany, Dürr Ecoclean has grown into an international presence operating and maintaining sites all over the world.

The company's products include liquid filtration systems for reliable, eco-friendly and efficient processing and reconditioning of cooling lubricants and industrial liquids. The automation division specializes in developing systems for the flexible handling of work pieces and solutions for smooth material flow and the interlinking of manufacturing lines to ensure an optimized production process.

Dürr Ecoclean's SnapPlanner software tool supports the planning of complex production lines by allowing them to be visualized in a 3D model. This helps detect any potential snags at the planning stage which helps cut costs as well as assisting engineers to deliver the best production methodologies. One of the first customers to collaborate with Dürr Ecoclean on the development of integrated systems using SnapPlanner was US-based Cummins, the world's largest independent manufacturer of diesel engines. Subsequently, Cummins' joint venture, ZAO Cummins Kama (ZCK), chose Dürr for its plant in Russia.

Automotive Industries (AI) asked William Bell, CEO of Dürr Ecoclean, to talk about the company's approach to flexibility.

Bell: The challenge for a company like ours becomes one of differentiation in an arena where many claim to offer flexibility. At Dürr Ecoclean, we challenged ourselves and our customers to agree to a definition of flexibility that has relevance and can be measured. Through information-driven consultations and integration of the Snap-

Planner tool, we are able to demonstrate tangible, long-term cost benefits when selecting one piece of equipment over another. Similarly, we can evaluate different manufacturing philosophies and examine how these dissimilar approaches can influence a plant's competitiveness.

We also pioneered the concept of the R Factor out of our commitment to develop standard equipment that is reusable, reconfigurable, retoolable, and redeployable. The R Factor concept drives our organization to design and build equipment that enhances the long-term competitiveness of our customers, thereby giving us a competitive advantage. If the equipment has a low R Factor, this means it costs very little to retool.

AI: Why is flexibility so important in this business?

Bell: Building lines dedicated to high volumes, and which are costly to retool, are too risky. A system's facility for retool is therefore a decision factor which should influence the equipment purchased for the line. This is why the R Factor is so important to consider.

With regard to SnapPlanner studies, the process is as much about listening as it is about crunching numbers. A manufacturing system is complex, and many companies are forced to make critical business decisions by interpreting data from disparate sources such as engineering packages, ERP systems, Excel spreadsheets, and even people with competing internal interests. The complexity can become overwhelming as planners struggle to make a case for one purchase decision over another. Considering a company's profitability and long-term viability - which should be the ultimate goal of any manufacturing solution - sometimes gets lost in the confusion. With SnapPlanner, we aim to bring greater clarity to the planning process. For a typical SnapPlanner study, the goal is to identify the customer's own Key Performance Indicators (KPIs), and then to examine how the customer's choices influence those measurable criteria.



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“Dürr Ecoclean is the only global company able to offer all products in the engine manufacturing line, excluding the CNC metal cutting machines.”



Dürr Ecoclean's EcoCTrans cleaning machine (right) with external TRVD vacuum filter (left).



Dürr Ecoclean's Henry Filters brand filtration gallery.

AI: Tell us how your company's experience with Cummins will help advance your business in new markets like China and Russia?

Bell: Our relationship with Cummins was strengthened by our ability to support them with their programs in China and Russia. Although we like to develop fully automated systems for our customers when the solution calls for it, Cummins' needs in Russia called for manual assembly and test stations. However, our system supply to Cummins in Jamestown in the US called for automated assembly and test, in addition to the integrated cleaning, filtration, and automation. This demonstrates that a global company needs to be able to scale the best solution to the environment or region being serviced. One size does not fit all when you consider the variances in labor rates, experience, and investment in disparate locations such as Western and Eastern Europe, North and South America, India, and China.

AI: How do the North American and European markets differ from emerging markets?

Bell: North American and European automakers drive decisions in emerging markets through their corporate headquarters. From a strategic point-of-view, it is therefore important to maintain support for customers at every level from the corporate office down. In emerging markets, our strategy has been to focus on local support. This has meant not only growing local service technicians to support new installations in BRIC countries, but also allowing complex industrial equipment to be localized for best support within a specific region. It is important to our customers that a supplier be able to build, install, and support equipment locally within each region.

Dürr Ecoclean's standard equipment is designed to permit localization, meaning it can be manufactured in any region of the globe, preventing high shipping costs and time delays. The equipment also favors a modular, building block approach over dedicated designs. Modular designs permit greater reusability (R Factor) and improved economies of scale by reducing or eliminating the need for custom engineering or manufacturing.

AI: What are some of the critical issues in the industrial cleaning, automation, filtration, assembly and testing systems market in the automotive sector?

Bell: One of the challenges in a cost-competitive market is to provide customers with choices that balance short-term gain with long-term profitability. One way that we achieve this is to communicate the value of our product benefits in terms of dollars. Understanding how a product's benefits impact future dollars spent can influence the buying decision and encourage decisions that result in greater longevity.

Another avenue that maximizes the benefit to customers, while at the same time reducing their overall cost, is our capacity to provide complete systems. By purchasing a complete system that includes cleaning, filtration, automation, and assembly and test equipment, the system-wide cost-sharing and pooled labor resources can level the cost of high-quality equipment that would otherwise be more expensive when purchased alone. Dürr Ecoclean is the only global company able to offer all products in the engine manufacturing line, excluding the CNC metal cutting machines.

There are few companies that can demonstrate real value in terms of downstream processes and operating cost impacts. This is an area where Dürr Ecoclean excels, and it is one reason we see a high percentage of returning customers. **AI**

