

Publication for the  
Peening, Blasting,  
Cleaning and  
Vibratory Finishing  
Industries

# Separate Print

[www.mfn.li](http://www.mfn.li)

Vol. 17  
January  
Issue  
Year 2016

Publication for the  
Peening, Blasting,  
Cleaning and  
Vibratory Finishing  
Industries

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(see page 65)



MFN Shot Peening  
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(see page 65)

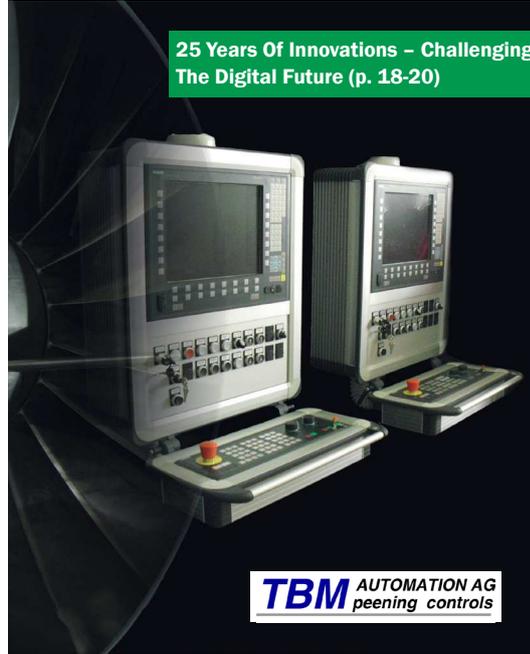
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Metal Finishing News  
INTERNATIONAL

# MFN

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25 Years Of Innovations – Challenging  
The Digital Future (p. 18-20)



**TBM** AUTOMATION AG  
peening controls

**Vol. 17, January Issue, Year 2016**

**Interview with Scott Nangle, VP,  
Marketing and Sales of Empire Abrasive  
Equipment Co.**

## Engineering Your Competitive Edge



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## Engineering Your Competitive Edge

**Characterising a company that's been serving the surface preparation industry for over 70 years isn't an easy task. The MFN team recently met with Scott Nangle, VP, Marketing and Sales of Langhorne, PA (USA) based Empire Abrasive Equipment Co. to learn about their mission, "Engineering your competitive edge". Scott explained that though "everything airblast" is probably the most popular characterization Empire has earned over the years, this was set to change with their purchase of Gibson, a company specializing in wheelblast equipment, in 2012. Empire has seen significant growth in all their product lines over the past 5 years, prompting an expansion of their manufacturing facilities to accommodate larger and more sophisticated cleaning and peening equipment.**

**(?) MFN:** Scott, can you expand on Empire's mission of "Engineering your competitive edge"?

**(!) S. N.:** Empire's business has traditionally been in four sectors - (1) Portables including blast tanks, (2) Airblast Rooms, (3) Cabinets - standard and modified, and (4) Automation. Empire has eagerly serviced all these sectors with not only the standard, off-the-catalog fare but also customized solutions based on customer needs and requirements. In such cases, the customer and our technical team work towards the vision of increased productivity through a customized solution. Our goal is to "engineer" this vision into reality by blending proven designs from the past with newly engineered sub-systems. This results in a product that provides

the customer the much-needed "competitive edge" in their business.

Empire was quick to recognize that customization wasn't restricted to automated equipment alone. Even low-cost equipment could benefit from customization; let me explain. About 5 years ago, our distributors identified a market need for low-cost manual airblast rooms. At that time, Empire was already a prominent player in Airblast Rooms. However, this newly identified need required a fresh approach to making it more cost-effective and presentable to a new market segment. This led to the inception of our PEB line. The Pre Engineered Booths (PEB) provided a low-cost alternative to our customers who didn't necessarily want all the frills of a conventional airblast room. These



**Empire PEB airblast rooms - modular and cost effective solution**

were customers who would otherwise have carried out manual blasting in their existing makeshift rooms, containers etc. The PEB design gives them the option of purchasing a professionally engineered, balanced system, or parts of a room such as just the reclaim system, a set of swing doors with air inlets, wall and roof panels etc., all unpainted to save on costs. This is a classic example of us "engineering to enhance our customer's competitive edge" in their operations.

**(?) MFN:** What has been your approach to automation, particularly given your growth in peening equipment and robotics?

**(!) S. N.:** I'll be happy to elaborate, this is a favorite topic for discussion! As mentioned earlier, our approach to sales has always been highly consultative. In order to facilitate this process, we invested a significant amount into modernizing our Demo Lab. We now have a demo facility that customers and distributors have endorsed as being second-to-none in the industry. The entire Empire product line is available for testing parts at this lab, including automation and robotics. Our approach to automation has always been to reduce ambiguity and get as close as possible to actual production process parameters. Whenever feasible, our prospects for automated equipment visit the demo facility with their parts and expected results for finish and productivity. In some cases, they also have a concept of the type of equipment. Empire engineers and technicians work with



**Scott Nangle, VP, Marketing and Sales of Empire Abrasive Equipment Co.**

them closely to design their process, whether it be cleaning, grit blasting or shot peening with automated equipment. We are proud of the fact that this lab has been home to developing process specifications for numerous applications for both new and existing customers. During the course of selling automated equipment, most times the customer is buying into a concept. Our first approach is to eliminate as many unknowns as possible for both of us at this stage.

Secondly, there could be several solutions to an engineering problem. At Empire, we have the luxury with our demo facility to test as many such solutions as possible. For instance, Robotics may not be the answer to all automation projects. A cell machine with a nozzle carriage might be all that a particular application requires. Our next approach is to provide as many options as practical for an application. If a particular application does require a robotic solution, our investment in Robotmaster (software) allows us to simulate robot path with your actual part. This powerful tool helps us size up the blast cabinet, check for interferences, and carry out a large part of the path program long before designing the machine.

Lastly, at Empire we strongly believe in education and training. This goes well beyond employing educated and well-trained personnel, to spreading it out to our distribution channels as well. The Empire Distributor's School is conducted every spring and continues to attract over 25 students every year. Over three days, the students learn every aspect of our business and technology, with theoretical and practical sessions. Armed with expertise, we can then ex-

« **As the level of education in shot peening increases, we anticipate a greater degree of sophistication and internet connectivity in equipment to hit the market.** »

**Scott Nangle, VP, Marketing and Sales of Empire Abrasive Equipment Co.**

pect precise collection of data when our distributor channel members go out to meet with customers and report back on an application, once again eliminating ambiguity and reducing risk.

**(?) MFN:** Where do you see the industry going and particularly for Empire?

**(!) S. N.:** At Empire, we see growth in almost all sectors of our business. The trend in our industry is stratified by product line. In Portables and Airblast Rooms, there is a certain amount of saturation in technology with manual blasting. Therefore, our initiatives into low-cost PEBs are a perfect solution for this marketplace. Manual blast rooms are commodity type products, and we expect this to remain so for the foreseeable future. However, we are increasingly being asked by our clients to engineer fully automated and robotic air-blast room systems to process large families of parts formerly manually blasted in a room. As for Cabinets, we expect the growth in what we label "Modified". This is Empire's term for customizing our incredibly durable and productive Pro-Finish® cabinets to meet a customer's individual work piece or process requirements by blasting either

manually or with a certain degree of automation. Modified Pro-Finish cabinets offer a solution that's affordable and ideally suited for lower production volume environments requiring a robust product. The growth and sophistication that we have seen in this segment have blurred the lines between manual cabinets and automation!

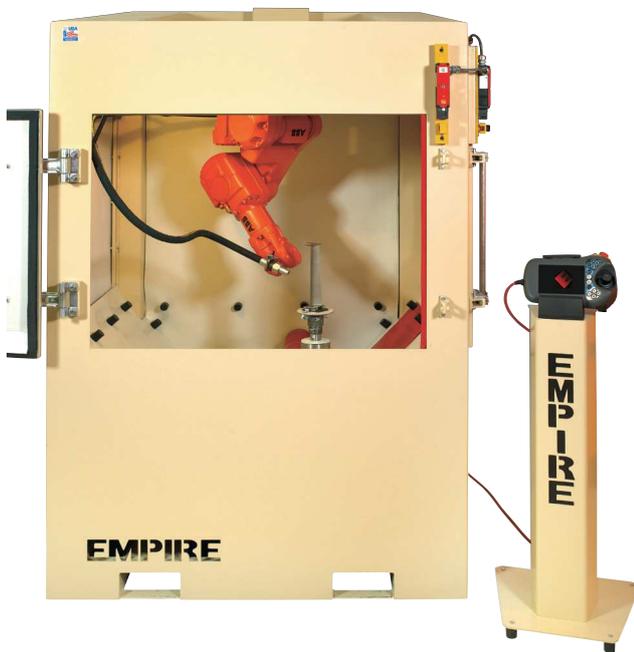
Growth in automation has meant a lot for Empire, to the extent that we are in the process of expanding our manufacturing facility to support this demand. Our automation is split into standard and custom/advanced automation. The standard line has seen continuous and healthy growth. This includes products such as our flexible Cell Machines (CM), Indexing Turntables (TT), and the ever-popular Rotary Head style machines. These machines continue to lead us into projects that one wouldn't readily anticipate the application of such equipment. That's the trend we are noticing - new applications for existing standard automated equipment. To us, this indicates an increase in awareness of the process of cleaning and peening in particular, use of new types of blast media, and general acknowledgement of the benefits of the process.



Empire's demo facility in Langhorne, PA showcasing the entire product range for testing



**Empire rotary head – a popular addition to standard automation solutions**



**Empire compact and cost-effective standard robot cell**

Custom automation is the reason our engineers stay challenged. Custom automation is not just restricted to aerospace and automotive shot peening applications. Empire has seen remarkable growth in automated grit blasting projects in the Power Generation, Medical, Oil & Gas and such advanced manufacturing sectors. The reasons, as we see them, are several – repeatability, productivity, accuracy and speed to highlight the most critical on the list. Aerospace customers demanding all the above features in their equipment is quite common. This has now spread to other sectors too. As a result, it is not unusual for us to build grit blasting equipment with closed loop process control for air pressure, media flow, monitoring the condition of blast media, and reporting all these variables real-time, just as it were a peening application.

We see growth in shot peening applications. This will lead to greater thrust towards specification conformance, equipment design and its readiness for audit requirements, sophistication in controls and the need for traceability. As the level of

education in shot peening increases, we anticipate a greater degree of sophistication and internet connectivity in equipment to hit the market. Empire is prepared for this growth by strengthening its in-house team of electrical engineers, programmers and design engineers.

**(?) MFN:** How is Empire prepared for competition from low-cost producers?

**(!) S. N.:** Empire equipment is built to last. We have been around for the last 70+ years and will continue to be a dominant player to supply and service our equipment for years to come. You will agree that longevity is important in this type of equipment. This is one of the differentiators when compared with low-cost producers. Empire has made a major thrust in export markets with a relatively recent addition to our team. As we increase our focus in export markets, particularly in Asia, our customers are able to clearly differentiate our equipment in terms of sturdiness, innovation, return on investment, pre- and post-sale support.

No manufacturer can afford to ignore the threat from low-cost manufacturers. We have an effective plan in place that starts right from the initial response time to application validation, proposal generation leading to an order. In the post-order stage, we have dedicated project managers and a professional team that continuously streamlines our manufacturing process with an effort to reduce costs.

Innovation is key in maintaining our competitive advantage and passing on that edge to our customers. Empire engineers, fuelled by customer requests, are constantly researching and experimenting better ways to solve traditional problems. Our goal continues to be to develop at least two new and innovative products to add to our portfolio every year. We believe that our legacy helps us to achieve this goal, something that is inimitable, and found throughout the Empire organization.

**(?) MFN:** About Gibson...

**(!) S. N.:** Gibson has been a great compliment to our existing product line. They're a small wheelblast manufacturer supported by Empire management and their unique product line continues to enjoy niche market support. We regularly share ideas between the two engineering teams, learn from each other on lean manufacturing techniques and, take advantage of design commonalities that can be applied to both equipment types.

We invite the MFN readership to experience Empire by visiting us either in person or online at [empire-airblast.com](http://empire-airblast.com) and see how we can engineer your competitive edge.

*MFN would like to thank Scott Nangle for this interview!*

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