

# GUIDANCE ON NEW TECHNOLOGY IMPLEMENTATION



**WILLIAM SHAMBLEY**  
President  
METAL FISH LLC

“New Technology” - it’s all the rage. The funny thing is that new technology has been all the rage since the Stone Age. Those guys who made the first bronze knife? Game changing early adopters. There’s a few shades of “new” depending on your perspective:

- New to the World
- New to the Market
- New to the Company
- New to the Customer

New to the World products are the truly innovative ideas - the first electric car, 3D printer, or cloud video rental service. They are usually the highest risk to develop, and they are frequently the riskiest to buy. The rewards for successfully launching a new product to the world are the stuff of legends.

New to the Market products have been vetted for other applications. Robotic assembly, CNC machining, and 3D printing are technologies that have been proven as robust, reliable, and flexible in non-

foundry markets. As time moves on, costs have dropped, ease of implementation has improved, and now sand routers, 3D Printed molds, and robotic core assembly have found their way into the foundry market.

New to the Company products are valuable product line additions. Palmer Manufacturing was originally a foundry, then they made the now ubiquitous no-bake sand mixing & mold handling equipment. Over the last couple years, they have added Klein transporters, bulk handling equipment, and 3D printing. Did they invent those technologies? Were they the first to introduce those ideas to the foundry market? No. But, they did introduce solid, well supported products to the Palmer lineup. The risks for this strategy are low. Generally it begets very well designed products that benefit from the learning of others. Innovation usually goes into cost reduction, usability, or quality improvements.

New to the Customer can be a product of ANY age. Selling any 3D printer or robotic solutions to the foundry market, regardless of the manufacturer, is an exercise in “new to the customer” every time. The same can be said for adopting non-silica sand. Other companies may have already tackled the learning curve, but your company still has to train on each tool as you bring it in house.

My observation is that there's a short group of activities required to successfully adopting new technology at any phase of growth, for any customer.

They are outlined below:

- Do your homework first!
- Understand the real project needs!
- Carefully controlled release!

Do your homework first! OSHA silica rules make running a business challenging, regardless of the existing worker safety conditions. Even if housekeeping is perfect, you'll always have to prove that it's perfect. How much does it cost to stay with silica? How much does it cost to clean the foundry, switch to non-silica sand, and validate the change to your casting process? What are the impacts on resin usage and disposal? How long will it take to make the change? Do you have an engineer with bandwidth to see you through the conversion? Does it make sense from a safety, management burden, ROI, and product quality perspective to do this? Ask the questions up front. Discuss them with your team. Know the playing field because there's always more than one option. Synthetic ceramic sand, or mined minerals? Or can you start converting casting production to direct metal 3D Printing?

Understand your real needs! Do performance benchmarks. Make sure that you and your team are painfully aware of what you are getting, and what you aren't. If your vision for implementation doesn't match the advertised capability of the system, then you need to be 100% on the same page with the supplier about any changes of direction. Otherwise

there's a high probability of failure, with poor experiences for supplier and customer alike.

Discuss the business needs, payment plans, team requirements, performance guarantees, and the support requirements for both parties. Technology adoption requires discipline and open communication. The vendor must know your critical performance factors. The customer needs to know what real training, space, environmental, support cost, and operator time commitments are required. This is the least clear with new to the world products. Sometimes the customer wants to be an early adopter, but doesn't have the right staff or resources to do the job. Clear and honest communications can lead to great launches, great case studies, and be the stepping stone for expansion on both sides. Poorly managed, these projects can kill any new technology at the pilot stage.

Make sure training and support are well funded. The newer the product is, the higher the risk that extra funds will be needed. That fact makes it extremely difficult to bring new-to-the-world products to life in the foundry market. Customer validation costs and safety have to be taken into account. Customer use is the only way to learn about real-world implementation issues, and the project will be dead if either vendor or the customer isn't prepared to pay for their share. Cash is the fuel of business, and running out of reserves on a new project will kill it more surely than anything else.

Carefully controlled release - making and inspecting customer

parts ensures that the project will be a success. Time, team, and budget need to be allowed in the project in order to have a positive experience for all parties involved. Pilot testing must be planned for, but not on a mission critical project. The phrase "I need a really hot customer project to try this new technology on," is one that puts knots in my gut. If you need to find a customer project to justify exploring a new technology, your company probably isn't ready. It's critical to make sure that customers experience success on their first exposure to a new product or service. Many technology companies have blown the reputation of their products by putting them into the field without sufficient validation.

In Summary - Do your homework, communicate requirements, and make sure the support is there to do the validation testing. Pop wisdom says that profit, and notoriety, are exponentially greater for the first few adopters. I disagree! History is written by those who do the best job of implementation. Customers like to work with vendors who are moving forward confidently with new technology, reinvesting in themselves. Including your marketing group in the adoption process will let them get great content and add a dose of authenticity to any news you publish.



Contact:  
**WILL SHAMBLEY**  
wbs@themetalfish.com