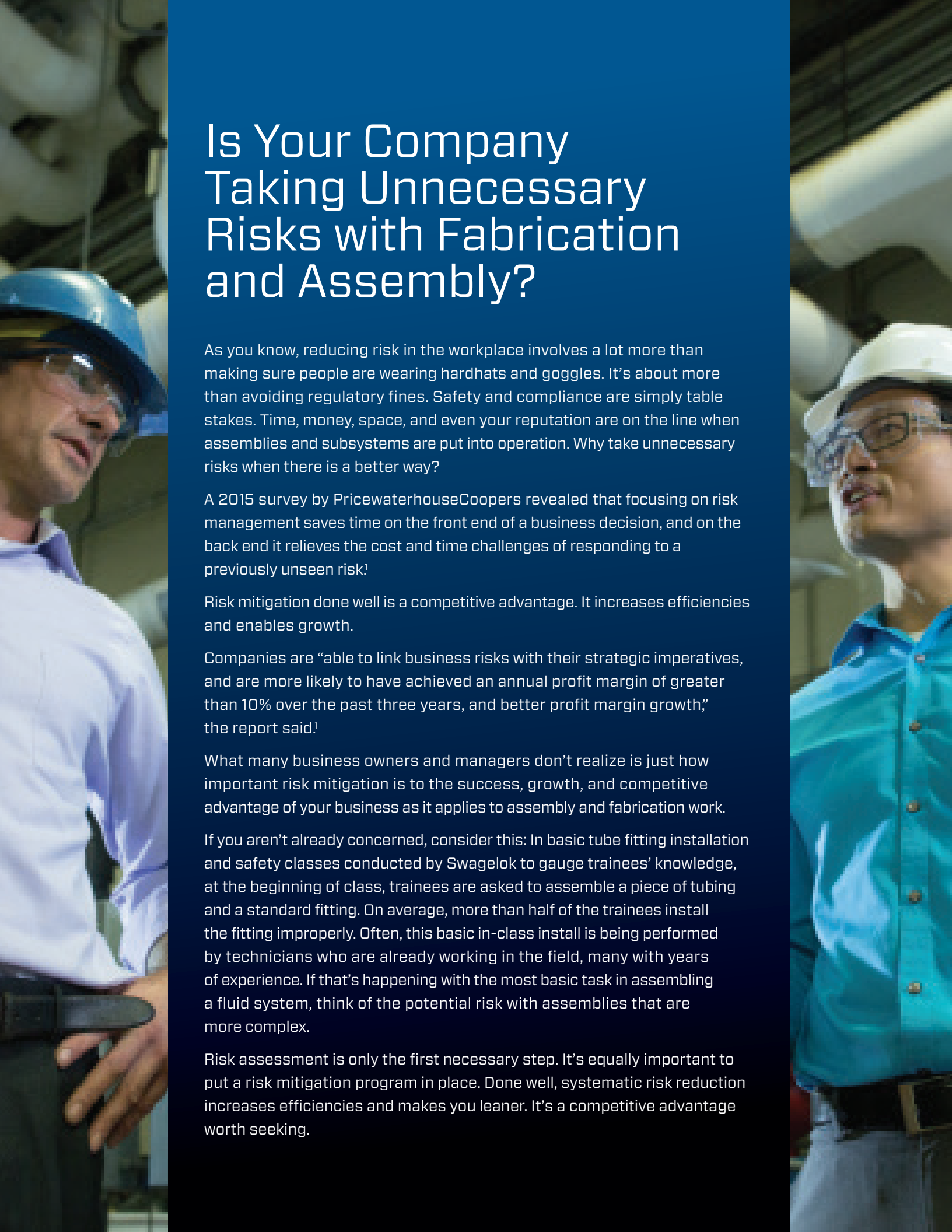




WHITE PAPER

# Is Your Company Taking Unnecessary Risks with Fabrication and Assembly?

Swagelok®



# Is Your Company Taking Unnecessary Risks with Fabrication and Assembly?

As you know, reducing risk in the workplace involves a lot more than making sure people are wearing hardhats and goggles. It's about more than avoiding regulatory fines. Safety and compliance are simply table stakes. Time, money, space, and even your reputation are on the line when assemblies and subsystems are put into operation. Why take unnecessary risks when there is a better way?

A 2015 survey by PricewaterhouseCoopers revealed that focusing on risk management saves time on the front end of a business decision, and on the back end it relieves the cost and time challenges of responding to a previously unseen risk!

Risk mitigation done well is a competitive advantage. It increases efficiencies and enables growth.

Companies are "able to link business risks with their strategic imperatives, and are more likely to have achieved an annual profit margin of greater than 10% over the past three years, and better profit margin growth," the report said!

What many business owners and managers don't realize is just how important risk mitigation is to the success, growth, and competitive advantage of your business as it applies to assembly and fabrication work.

If you aren't already concerned, consider this: In basic tube fitting installation and safety classes conducted by Swagelok to gauge trainees' knowledge, at the beginning of class, trainees are asked to assemble a piece of tubing and a standard fitting. On average, more than half of the trainees install the fitting improperly. Often, this basic in-class install is being performed by technicians who are already working in the field, many with years of experience. If that's happening with the most basic task in assembling a fluid system, think of the potential risk with assemblies that are more complex.

Risk assessment is only the first necessary step. It's equally important to put a risk mitigation program in place. Done well, systematic risk reduction increases efficiencies and makes you leaner. It's a competitive advantage worth seeking.



## BEWARE OF DESIGNS WITH LOW-QUALITY OR HARD-TO-GET PARTS

Whether you are an OEM, a company designing and assembling your own systems or subassemblies, a business using third-party vendors, or a company looking for an outside fabricator and assembler, you need proper product selection, preferably involving the component manufacturer who knows their products best.

Your assembler and parts should meet the following standards:

- Rigid quality control on the raw materials
- Materials are compatible with the fluids you are running
- Alternative parts available to mitigate production delays

For example, a particular part might be a perfect fit for the job but have a long lead time for delivery. It takes an expert in fluid systems to know a two-part solution that can shave weeks or even months from the production schedule. Additionally, if your company doesn't normally deal with special alloys or specific types of parts, it takes time and money to train your associates so that they can acquire the skills to produce high-quality work.

Another important aspect to consider is leveraging a vendor with years of experience in designing components and assemblies. Engineering a design that merely works isn't good enough. It should work efficiently, have a minimum number of potential leak points, and take up as little physical space as possible.

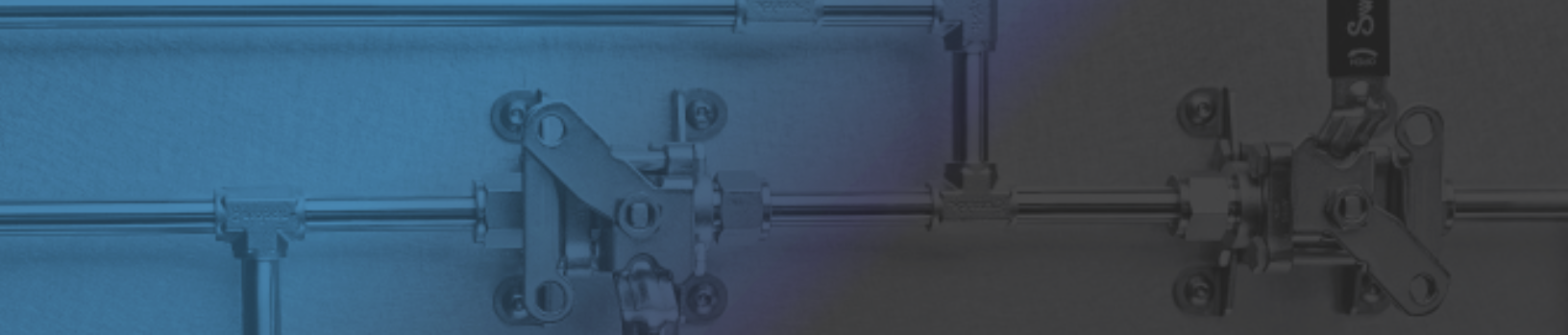
Choosing a vendor with experience taps into their ability to tune their performance to the demands of different markets and can yield improved results for you.

## AN UNRELIABLE SUPPLY CHAIN CAN STOP YOU COLD

If your primary business doesn't involve assembly and custom fabrication, you might have to make several major line item investments before you can even begin to do the work for yourself.

In many companies, other departments will get involved, such as Procurement and Operations. Once you have a design, you'll need to order the parts, each with its own SKU, possibly from multiple vendors, which requires several purchase orders. Someone has to receive the shipments when they come in. Where will you put all the parts until the time comes to assemble them? Do you already own the right tools? If you don't, you will have to invest still more time and money before the work can begin. If this is a custom assembly or not part of your regular manufacturing process, you will have to take people away from their primary jobs to put everything together.

Maybe you are an OEM, with all the space and tools that you need. And you have enough work to keep four or five people busy for a while. Then a big order comes in and you suddenly need 10 people. If you can't respond instantly, you stand to lose your customer's trust, which means losing the customer's next order. Even a small disruption can create a big headache for a customer, potentially affecting your reputation with them.



A more efficient approach is to turn the job over to a company with the skills, tools, and space to do this specific part of the job right. One that can take action with only one purchase order and remove headaches and risk from your list of concerns. Then, you don't need to stock parts, clear out workspace, rent expensive tools, or pull people away from their regular jobs. This allows you to allocate your resources where they can be better used for the efficiency and profitability of your business. You can focus on the big picture.

“Managers will often consider the giant risk, but ignore the smaller risks that create friction in the supply chain,” said M. Eric Johnson, director of the Center for Digital Strategies at Dartmouth College. Writing for the California Management Review, Johnson noted that a single-minded pursuit of low overt costs can blind a company to other risks that approach can create.<sup>2</sup>

## POOR QUALITY CONTROL CAN DOOM THE BEST PARTS AND DESIGN

When systems experts assemble high-quality parts using an efficient design, you expect good results. For example, if fluid systems are vital to your design, look for a company that can demonstrate deep knowledge of parts essential to your application, as well as additional expertise to draw from. Look for a company that tests each fluid system assembly to make sure it meets agreed-upon standards. Some companies may not have a quality system for in-house work and can't be expected to have such a rigorous quality control system.

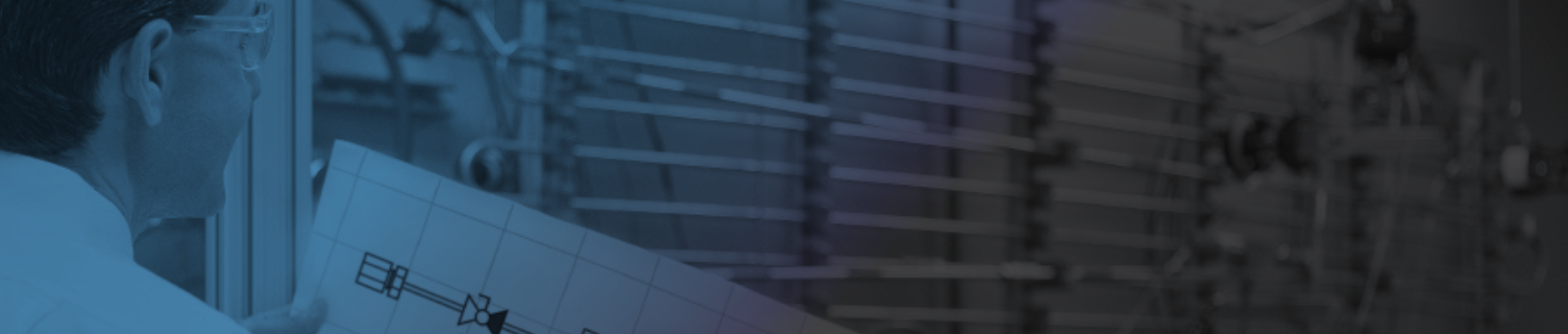
Customers researching for a fabrication or assembly solution should look for a supplier that meets the following qualifications:

- Meets your jurisdictional certification requirements, such as local safety codes
- Quality system is audited by a certified registrar to an internationally recognized quality standard
- Has a comprehensive internal audit program

If a solutions partner can exhibit an exhaustive quality system, they have been deliberate and have either removed or assumed much of the risk associated with fabrication and assembly. They have spent countless hours creating safe, lean processes throughout their entire supply chain to provide you with a seamless and pain-free experience.

## DON'T EXPOSE YOURSELF TO UNDUE RISK WITH A DEFICIENT WARRANTY

A comprehensive warranty is a simple way to mitigate your potential risk. What kind of backup will you have on parts and labor? For an OEM, the guarantees on components can be either non-transferable or limited to a certain period of time, typically 90 days to a year, or a certain number of hours of use. If a company does all its own fabrication and assembly for in-house use, there's no warranty at all on that work. Using an outside assembler and fabricator can remove those burdens, provided that the final assemblies are backed by a strong warranty.



Essentially, you are transferring the risk associated with the quality and durability of the components and assembly work to your solution partner, if they are offering an extensive warranty covering your solution. What better way to protect your profitability, and potentially solvency, than selecting a supplier that offers this broad coverage.

## A LACK OF SUPPORT COULD LEAVE YOU HIGH AND DRY

In evaluating a vendor, particularly those you rely on for assembly and fabrication, pay extra attention to its “bench strength.” If your project demands an uncommon skill, does your vendor have the experience and global connections necessary to access it? Can the company send CAD drawings of your project to another location where it can be assembled, tested, and then shipped directly to you? Commerce rarely stops at geographical boundaries anymore, and you should never have to worry that your vendor is in over its head or cannot support you as your business expands.

Also, consider the level of support a vendor can furnish you in order to empower you to reduce internal risk. Are they committed to providing training and other post-sale support on a consistent basis, especially if you need help troubleshooting? A solution partner with a strong global support team is head and shoulders ahead of ones who are unable to assist your team after the sale.

## GAIN A COMPETITIVE ADVANTAGE WITH THE BEST, MOST EFFICIENT PROCESSES

It is tough getting and maintaining a competitive advantage in today’s volatile business climate—risk mitigation done well is one way to set your company apart. When considering your operational risks, like those related to fabrication and assembly, keep in mind the importance of:

- The quality of your parts
- The system design
- A robust supply chain
- Certified assembly work
- The warranty of the parts and final assembly
- Supplier support

These insights will help make sure you are not taking unnecessary risks in fabricating and assembly work while maintaining your reputation and giving your business a better opportunity at profitability.

1. PricewaterhouseCoopers, “Risk in review: Decoding uncertainty, delivering value,” <http://www.pwc.com/gx/en/audit-services/publications/assets/pwc-risk-in-review-2015.pdf> PricewaterhouseCoopers April 2015.

2. California Management Review, “Learning From Toys: Lessons in Managing Supply Chain Risk from the Toy Industry,” <http://cmr.ucpress.edu/content/43/3/106>. M. Eric Johnson Spring 2001.





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