

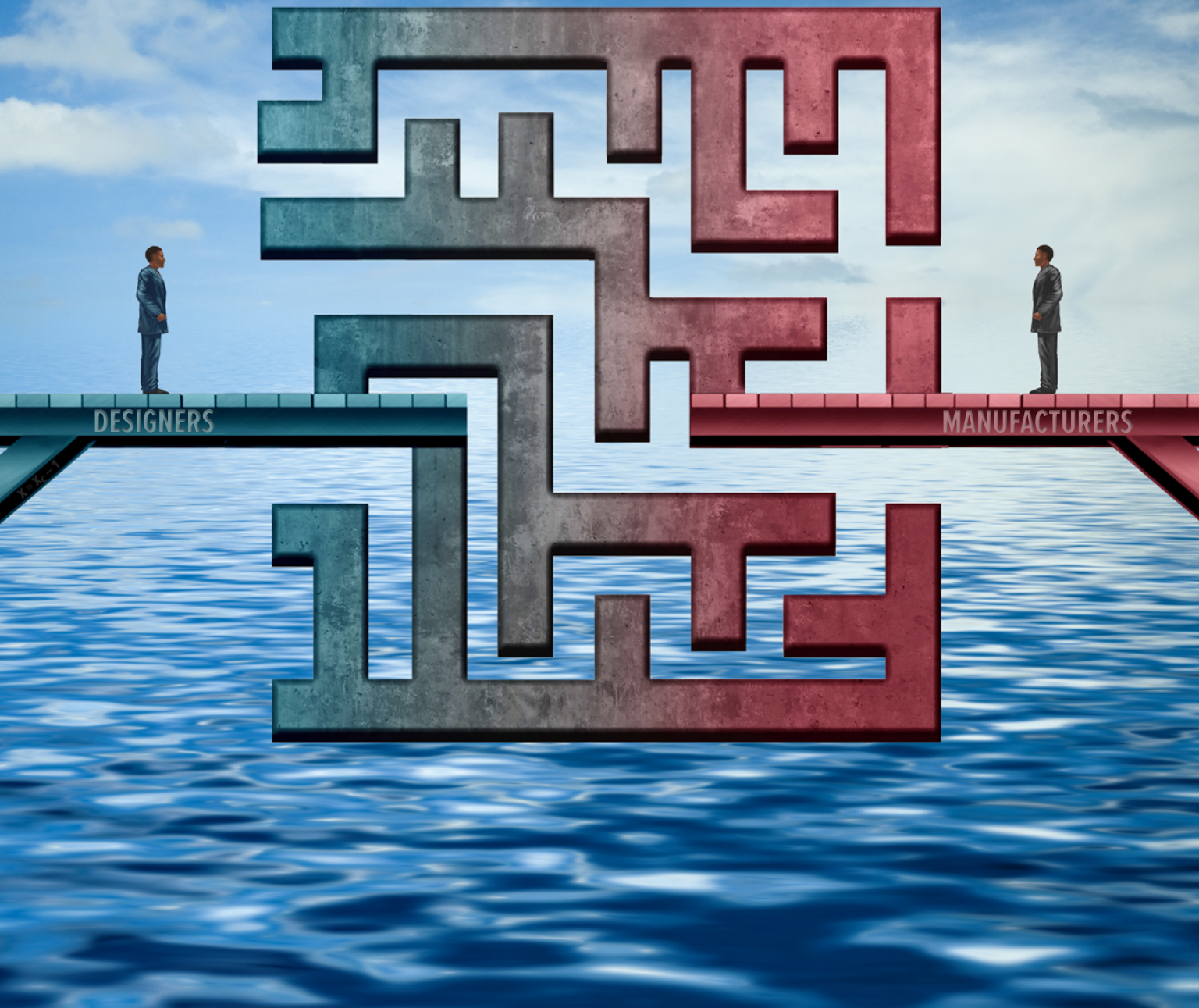
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A How-to Guide: Avoiding Pitfalls When Purchasing SMT Equipment

The Manifest

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The purchase of equipment for your SMT line should be an efficient and pleasant experience. In this column, we will discuss how to ensure that procuring your new SMT equipment contributes as much enjoyment—as well as increased profit margin—just by following these two key steps.

Step 1: Decide if You Want New or Used Equipment

When weighing your equipment options, you first must decide what you want more: a lower up-front cost or ensured reliability. Choosing used equipment will save your company money, but unexpected problems with the purchased machine may occur. With new equipment, the initial investment will be more, but you can set high expectations for the longevity and quality of the machine.

If you choose used equipment

The main risk you take when choosing pre-owned machinery is that major, unforeseen problems may end up costing more (through services, repairs, and equipment downtime) than buying new. To avoid this issue, there are some things you can consider and receive documentation to safeguard your purchase.

Before buying, you should ask:

- When was the machine built?
 - Look for an official ID tag with the date-of-manufacture listed (Figure 1). If it was built 10 years ago or more, there is a chance the manufacturer may no



Figure 1: Example of an official ID tag.

longer support it and replacement parts may be difficult to find.

- How many hours was the machine run?
 - The more use a machine has had, the more wear and tear it has received. It is best if the seller replaces all heavily worn parts and updates the machine.
- Are there signs of a degraded physical condition?
 - Check for evidence of rust, chipped paint, or broken plexiglass on the machine; these superficial issues could be indicators of deeper problems with the equipment and should be addressed. Plus, after sitting for an extended time, the equipment may need a recalibration.
- Did the previous owner keep service logs?

A machine that received regular maintenance will likely be in better shape, and the logs will demonstrate the frequency.

Does the machine come with a warranty?

- When purchasing from a used equipment dealer, they often will not make any guarantees.
 - Look for a supplier who offers at least a six-month warranty to be sure you are purchasing from a reputable seller. Check with the original manufacturer to see if it is supported.
- Is the software up to date?
 - Review the operating system the machine is running and check whether it is obsolete. If it runs Windows, there likely will not be an issue. If it is something like DOS or Linux, there may be some difficulties. Further questions include: What version is it running? Can it be run with a newer version? What hardware does it use? Many older machines can only be run with older computers, so it is important to find out these answers.
- Does the supplier have a presence in your country?
 - To avoid the fees and delays of importing, make sure the supplier has a physical location in your country, and check that they will be transferring the machine from within your country. It is also important to note that used equipment might not have its original shipping brackets, which can result in the machine being incorrectly secured during shipping.

Expert Tip: In instances where a machine fails to meet certain standards or is missing important materials (such as the manuals or service logs), but you would still like to buy the machine, failure areas can be used to negotiate a deal.

If you choose new equipment

With new machines, the main goal of the buyer should be to ensure they are purchasing from a reliable equipment supplier. If the supplier is providing equipment directly from the original manufacturer (or are the manufacturer themselves), it will be more likely that they will understand their products. Having access to those knowledgeable technicians—especially ones who can speak English—will make a world of difference, because your team will have help if anything goes awry.

Before buying, you should ask:

- What does the equipment purchase include?
 - Reputable providers will typically include a standard one- to two-year warranty (which covers all necessary part replacements), setup of the equipment and training for your team (whether in-person or remote), and virtual demos of the software prior to purchase. It can also be good to ask if an extended warranty is available, and what it would cost to receive it.
- Will this equipment meet your company's needs?
 - Speak with a representative at the equipment supplier who can field your concerns and expectations for the machine; they should be able to explain whether the equipment you are interested in will meet your company's specifications. If some specs are not met, this should be made clear to you, agreed upon, and included in the contract you are provided.
- Is the software user-friendly?
 - If possible, you should review the software in real-time. Seeing it run virtually will allow you to gauge the difficulty and determine the expected learning curve for your team members. It is also important to note whether the software will be regularly updated and whether

there will be an on-call technician available to help with troubleshooting.

- Will the machine be able to integrate with existing equipment?
 - If your company has existing SMT equipment in use, you should check that the machine being added is from the same manufacturer—or at least is compatible when run in-line. It is usually best to purchase your entire line from one vendor so they can guarantee integration.
- When will the machine be delivered?
 - The timeline from date of purchase to the equipment being up and running should be outlined for you by the supplier. If the machinery is coming from overseas, there may be long delays prior to install. It is best to choose an equipment supplier that already has your machine in your area to reduce the length of time before receiving the shipment.
- At what point does the machine transfer to FOB delivery?
 - The supplier should specify when the obligations, costs, and risk involved in the delivery of the machine will shift from being their responsibility to yours. This will help you understand up front what it will cost to get the equipment to your facility and who will be responsible for any damages at different points in the process.

Step 2: Do Your Due Diligence

Whether you choose new or used equipment, you should be confident in the reliability of the machine and the reliability of the support you will receive. This combination of reliable equipment and reliable customer service from your supplier will make the entire experience of having in-house production easier and more fruitful. By knowing what signs to look for in a reliable machine, and what services to expect from your SMT equipment provider, you will have less equipment down-

time and on-call technicians at-the-ready for any rare problems that do occur.

Expert Tip: Before purchasing any machine (new or used), you should ask what requirements your facility will have to meet to accommodate the equipment.

Aspects of that accommodation include:

- What power connection is needed?
- What types of hardware are required?
- Does it need controlled air and humidity levels?
- Will the temperature be suitable?
- Will plumbing be required for operation?

Machine Reliability

The reliability of a machine being purchased is of utmost importance (Figure 2). No one wants to go through the entire buying process of a major piece of equipment only to have it fail on them. Machine downtime is a costly and, unfortunately, a common problem facing businesses with in-house production. This can be especially impactful on small businesses running limited equipment. If you are depending on a single pick-and-place machine and it is suddenly not in working condition, the entire ecosystem of production is thrown out



Figure 2: It's important to have a machine that's reliable.

of balance. To avoid this detrimental situation, finding equipment you can rely on is essential. But, to find it, you need to know what to look out for and what to expect.

What to Look For

Warranties

Aside from parts that frequently require replacement during routine maintenance (such as nozzles, belts, filters, bulbs, etc.), all elements of your newly purchased SMT equipment should last for a long time. Most high-quality equipment suppliers will guarantee at least a year of running their machinery problem-free, and if anything happens, it should be covered under a standard warranty. This standard warranty should be included in the price of the machine, and should be good for a year or more, depending on the product being purchased. When it comes to used equipment, the warranty lengths vary. It is common to see a reduced warranty period for used machines, simply because they have experienced more wear and tear. Due to the lower up-front costs of pre-owned equipment, the trade-off of a shorter warranty period may be worth it to some customers. When looking at used equipment, make sure the supplier is reliable, not a dealer without the ability to run or train personnel on the machines being sold. If no warranty at all is offered at the time of purchase, or if the only warranty available is a big extra expense, this may be a red flag that the machinery in question is not reliable.

Good References

While looking for the best equipment for your business, you should choose a supplier that has good references. Honest reviews and feedback directly from real people who currently use the same machines can be an impactful resource for customers. If an equipment supplier is not willing to provide contact info for their referrals, you may want to look elsewhere. A good sign from a company is a long

list of customers willing to back up their claims of quality products.

Helpful Materials

Purchasing SMT machines from an unreliable dealer often leads to major issues with the materials that can be difficult to overcome—it may even make it impossible to use the equipment purchased. For instance, you may receive instruction manuals that are not written in English, making the machine unusable. From the product descriptions on the company's website, to the documents provided before the sale, to the instruction guides delivered with the machines, each element should be understandable and helpful. When deciding on a machine for your company, review the documents provided. If the information makes sense and is helpful, that will likely be a good indication of whether the machine itself will be reliable.

Reliable Support

Many SMT equipment suppliers offer little or no customer service. Without considering the level of support you may receive from a company; you may be faced with an offshore manufacturer who is unable to help with programming or troubleshooting issues. Your supplier should be easy to contact, helpful, and should understand their own products well. Rather than going through the hassle of making the switch to a more supportive supplier down the line, customers can instead find reliable support from the start by setting reasonable expectations.

What to Expect

A Great Buying Experience

Some key points that you should expect as a customer include clear communication, honest information, and high-quality products. These three aspects of the buying experience are important for showing that the products being purchased are ones you can feel confi-

dent about. If a company does not consistently remain in contact with customers, does not answer your questions or field your concerns, and does not provide helpful materials on the products for you to look over, they may not be an equipment supplier that should be trusted.

Some red flags to look out for during the buying process are false promises, misinformation, unclear product materials, and a lack of response from customer service.

Money Transfer

If possible, it is best to negotiate payment terms so that 100% of the cost is not due until after the machine has been delivered and inspected. Once you have ensured that the machine is in good working order, then is the time to pay in full.

Exceptional and Lasting After-Care

Once you have made your equipment purchase, the help should not stop there. A big area where many SMT suppliers fall short is in providing satisfactory after-care, and this can be a crucial element of production success versus failure.

The after-care process can be seen in two parts: services and materials.

Services that customers should expect to be available include:

- Remote diagnostics
- A variety of warranties
- Equipment installs and trainings
- Software updates and trainings
- A 24/7 customer service line

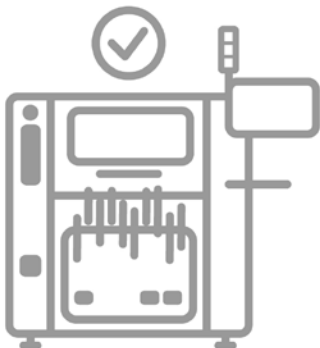


Figure 3: A machine line drawing.

Materials that customers should expect to be available include:

- BOM analyses
- Live equipment demos
- Helpful instruction manuals
- Custom floorplan layouts
- Informative blogs and videos

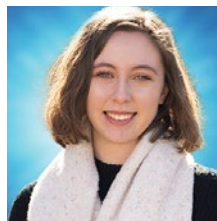


Figure 4: A materials line drawing.

Without these services and materials, a company bringing production in-house may struggle if/when they need training, repairs, or even simple advice.

A Final Word

Overall, customers can end up with reliable equipment and support by choosing a company that offers quality machines, thorough and honest communication, and a combination of helpful materials and services. If you are thinking about choosing an equipment supplier that does not offer the above—especially machines from equipment resellers with prices that seem too good to be true—it is best to proceed with caution. Finding a supplier that goes the extra mile, having that slightly more intangible trait of fostering lasting customer relationships, will be worth your time and effort in the long run. **SMT007**



Emmalee Gagnon writes about SMT-related topics and customer stories for Manncorp. To read past columns or contact Gagnon, [click here](#).

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