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WHERE INNOVATION MEETS PRECISION

WHAT TO CONSIDER WHEN CHOOSING A MACHINE SHOP

1712 Genesis Dr, La Porte, IN 46350 | 219.324.2978



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INTRO

Choosing a machine shop is an important decision for your company. Making the wrong choice can result in the loss of a great deal of money and doom your once promising project to abject failure. With so many machine shops from which to choose, it's not an easy task to know the right questions to ask when evaluating potential machine shop partners.

What are they capable of? What is their quality level? Are they the right fit for my company's project?

In this guide we will discuss the most important aspects to consider when choosing a new machine shop partner.



MACHINING TECHNOLOGY

What machining technology is best suited for your project's needs—and does the machine shop offer that service? The principle elements of machining haven't changed much, but the technology surely has. High quality machine shops are up to date with the latest machining technology in order to ensure accuracy and efficiency.

Ask if the shop uses the latest technology or if they are still using older, outdated processes—or if they'll have to outsource the job to a third-party machine shop. Don't trust your project's success to off-brand and/or out-of-dates equipment.

Do your research. For instance, a quality CNC shop should be using well-known industry brands like: Toyoda, Hitachi Seiki, Mori Seiki, Okuma, Haas and Fadal. Don't be afraid to inquire about the age of the equipment the shop uses as older equipment is less efficient and subject to breakdowns—possibly costing your company time and money.



QUALITY CONTROL

Companies with ISO certification have demonstrated that they are capable and committed to producing high-quality products and services. Today, most shops are ISO 9001 certified while others have other certifications such as Medical ISO 13485 or Aerospace AS9100.

Regardless of the certification, it's important to inquire as to how long the shop has maintained this standard of operation. Does this machine shop update from older versions of their certification(s)? If a shop can't or doesn't keep current with their certification(s), this is cause for concern. How many other things will this shop let fall through the cracks?

What does the shop do on-site? Do they offer a quality assurance guarantee?

Don't be afraid to ask for a tour of the facility. How clean is the environment? A clean and well organized machine shop is a prime indicator of quality. If you ask for a shop tour and they balk, this should raise concerns on your part.



CAPABILITIES

Not every shop is created equally. Machine shops have a range of capabilities that they do best. Does your project require only a small run of parts or are you in need of a larger run? Are you in need of prototyping? It's important to determine if the machine shop you are in contact with can handle your project in a timely and cost-effective manner.

Machines usually have several functions. Machine shops with more variety of turning machines are able to accommodate a larger offering of parts and sizes. The more axes that a milling machine possesses—from two to five axes—the more precise the machining work.

Inquire into the shop's versatility as you'll want to make sure that the shop is set up to handle your project's specific production requirements no matter the size of your project.

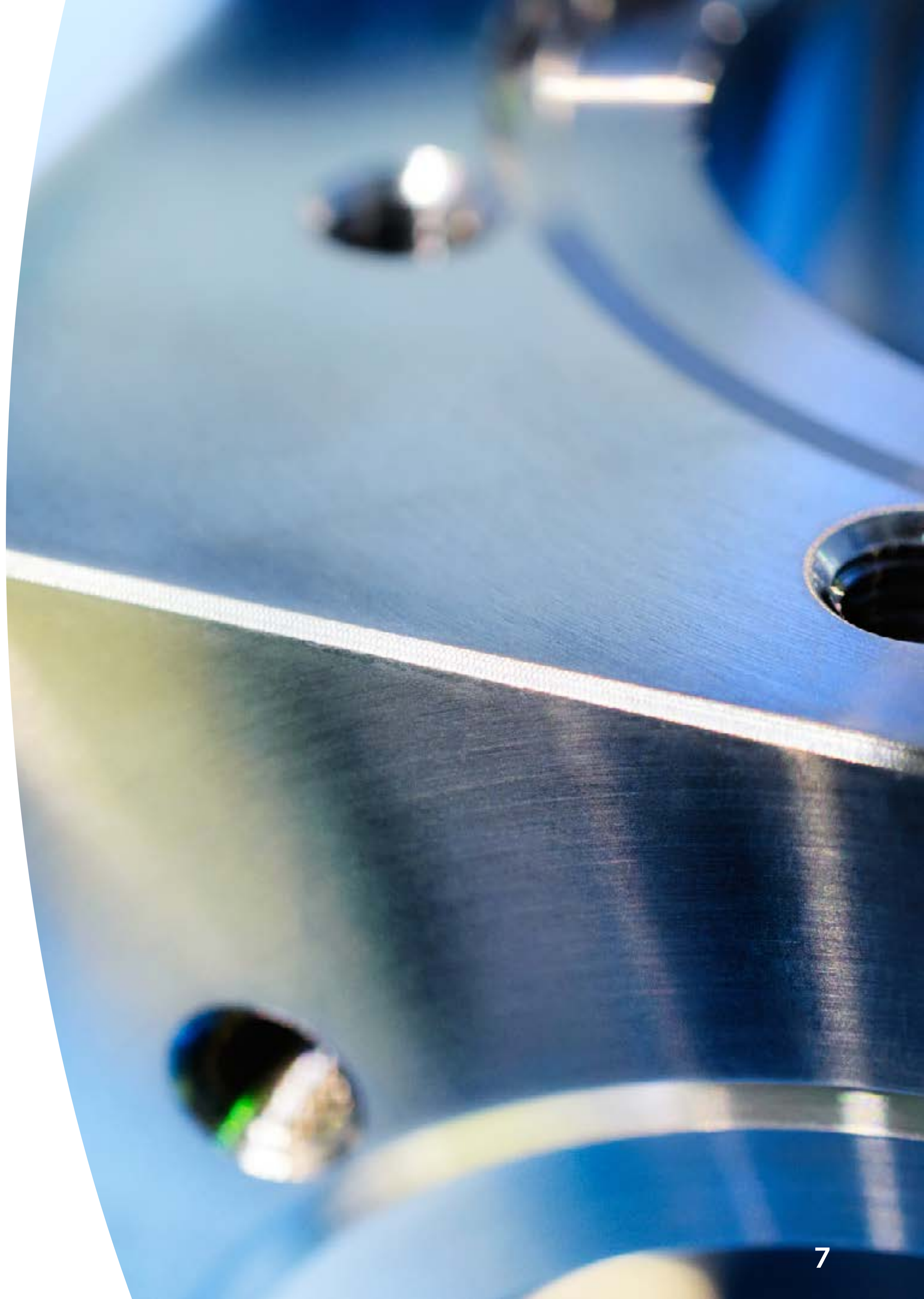


MATERIALS

As mentioned with capabilities, different shops use different machines and have different areas of expertise. This directly affects the types of materials that shops work with. You'll need to confirm that the machine shop that your are in talks with can handle your specific needs.

For instance, if the material that your company's project requires is fragile or brittle, the machine shop will probably need to offer Electrical Discharge (EDM) services. Using an EDM will allow the machine shop to cut intricate shapes into delicate materials.

It may seem like a no-brainer, but make sure that material is a topic of conversation when dealing with a potential machine shop partner.



RELIABILITY

Ask tough questions. Has the machine shop in question struggled to meet the requirements of its customers? How long has the shop been in business? Has the shop struggled to fulfill customer orders in the past?

The machine shop's recent and current clientele can give you a sense of the shop's reliability. Ask who the machine shop has worked for in the past. The shop's website should have information on past customers and reviews. Request testimonials as these will give you an idea of what to expect.

Ask them if they have a policy that ensures on-time delivery of the order. Inquire about their supply chain—any delays in acquiring the parts for your projects can cause your company to fail to deliver on your promise to your customers. To avoid a situation such as this, inquire on the machine shop's delivery policy.



TOLERANCES

Does the machine shop have the ability to meet your project's needs when it comes to tight tolerances? How do they measure and what system is in place to ensure these tolerances?

Do they ship the finished parts to a dimensional lab to gage the pieces or do they have that capability in house?

Does your project require extreme tolerance requirements? Parts for the aerospace, defense and computer industry require perfection when it comes to their machined parts. Keep these variables in mind when evaluating a potential machine shop partner.



CUSTOMER SUPPORT

Quality of service is an important factor when choosing a machine shop. Unfortunately, missed deadlines and quality errors can occur. When choosing a shop, you want a partner who will work closely with you to ensure your satisfaction with their products and services.

Make sure to inquire about the shop's quality policy. Do they even have one? What is the plan of action if the machined parts fail to meet your expectations?

It's hard to gauge what the relationship with a machine shop will be like before doing actual business with them. Asking a few questions to see if the responses are friendly and helpful will go a long way into telling you how a particular machine shop operates.

Do they seem evasive or unwilling to answer your questions? If so, this shop is most likely not a fit for your project.



CLOSING TIPS

A high-quality, versatile machine shop will offer services to your satisfaction level in order to ensure that you never feel the future need to take your business elsewhere.

But, be sure to do your part. Asking the right questions will enable you to choose a partner who has the proper equipment, the knowledge, expertise and is committed to keeping their technology up to date.



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