

10 Things We Are Seeing in Machine Shops Right Now

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Travel has been limited, of course, but the *Modern Machine Shop* team is still getting into shops and still in conversation with them. Here are some general thoughts on what we are seeing in machining facilities now, with emphasis on where the opportunities might be for companies serving this market:

1. GENERAL IMPRESSION: DOING OK

Ask a shop about business right now and the prospects ahead, and the typical answer is liable to be cautious optimism, with stress on cautious. For many, their work was not disrupted as much as they were bracing for. Some customer orders have continued with barely any interruption. However, it is hard to anticipate what this will mean for the next several months or the year ahead, and this gives shops pause.

2. LIGHTS-OUT IS BEST OPPORTUNITY FOR NEW CAPACITY

A shop that expands is unlikely to be able to do so by staffing or organizing an additional shift. The better option — increasingly the winning option — is equipment and systems allowing shops to keep producing into the night hours with zero employees present. This means bar-fed machines, HMCs set up with lots of work, pallet systems, etc. But there is more to it than that: Lights-out also calls for tools with long tool life, a tool monitoring system in some cases, cameras for the shop, etc. Technology that speaks to lights-out is liable to meet a need.

3. SHOPS WANT ROBOTS IF THEY ARE VERSATILE

Robots are unattractive if they have to be dedicated to a job, because the mix of work is now changing too rapidly for this to make sense. But robots that are easy to redeploy are attractive. Collaborative robots (cobots) are part of this — shops are accepting cobots and using them more. But standard robots have also been engineered into systems that make them easy to setup and reprogram and easy to use both while employees are present and into the night. (The latest case I've seen: The Gosiger "Load & Go" system is a great example of this.) For robots, the promise of ease of use and easy redeployability is a win.

4. ATTENTION TO ERP

I can't tell you exactly what's going on here, but I am hearing shops taking ERP more seriously. They care about using the right one and making good use of its features — a change from years past. My guess at what might be happening: Acquisition activity (see point 9) has challenged the informal tribal procedures that formerly prevailed in shops; overall uncertainty has produced an attitude of "don't hire but use your existing people and resources well"; and covid has shown us all that we have useful digital tools we were never using.

5. POLYMER 3D PRINTING IS ON JOB SHOP'S WISH LISTS

Most shops now get it that they could probably benefit from 3D printing. They know there is tooling and short-run work they should be producing this way rather than on their machine tools, parts that often need not be metal but can be polymer. The kinds of printers I am referring to here come from Markforged, Stratasys, Ultimaker, etc. Many shops hold back

because 3D printing is so different, and they are not sure their people and their shop will make use of it. The 3D printer provider that can speak compellingly to the needs of job shops has an opportunity.

6. METAL 3D PRINTING HAS AN OPENING WITH OEMs

The MMS readers who oversee OEM companies (meaning their machine shop is captive, not a job shop) are thinking on some level about whether metal 3D printing as a mode of production offers significant design and efficiency opportunities. For suppliers of production metal AM systems, there is an opening to nurture this interest and build brand credibility.

7. WORKHOLDING WILL BE INVESTMENT IF BUSINESS DECLINES

If things get tighter, shops will be more and more willing to take on short-run and one-off work they otherwise have had the chance to turn away. Producing these jobs cost-effectively will be a challenge. The solution often involves quick-change workholding that makes setups faster, or workholding solutions that leave the sides of the part free for machining so fewer setups are needed. Special workholding solutions that save time are purchases shops are still liable to make during a lean year.

8. CYBERSECURITY, SECURITY IN GENERAL

Shops are under increasing requirements to keep customer information confidential and controlled. Sensitivity around commercial product launches is one factor; ITAR is another. Cybersecurity, previously a distant concern, is becoming more of a foreground concern. Something similar can be said of security in general. Shop owners are like other business owners, wondering lately whether unsettled times have arrived. The difference is, a machine shop is a business with significant capital assets within their facility. Plant security is a meaningful concern.

9. SHOP OWNERSHIP IS CHANGING

From different directions, there are new shop owners coming into our space. Acquisition activity is happening — shop owners who want to retire are being bought out by other shops who want to diversify or expand, by OEMs who want more control over manufacturing, by investment groups, and by manufacturing engineers with an entrepreneurial spirit. In addition, another class of up-and-coming owner is the one-man shop. There have always been garage shops, but this is different: Technology lets the one-man shop function at a higher level today. As our content goes out into the world now, increasingly it is reaching fresh eyes.

10. CERTIFICATION, MARKETING

Machining businesses are catching up with other types of companies in terms of business development. In the past, MMS's readers have been weak in this area — local or regional connections got them much of their work. Now, shop owners are more likely to be serious marketers. They're more likely to invest in certifications that give them credibility in markets they want to serve, and more likely to see value in investing to build their brand and to be purposeful about pursuing and qualifying prospects. This is not an area that speaks directly to equipment or tooling, but I am adding this to the list as another area of meaningful advance for our readers.