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An Industry "In Play"

THE FUTURE OF INDEPENDENT PRECISION MACHINING

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FOCUS is a leading investment bank with special expertise in advanced manufacturing and supply chain automation.

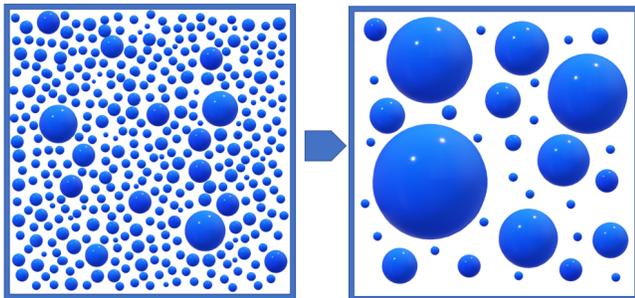
Made in America! That's the watchword of our precision machining industry, which is enjoying a major upturn driven by the need for ever more sophisticated components required to support new technologies in manufacturing, automation, life sciences, aerospace and defense. Most shops we visit report good revenue growth and many see more new business opportunities than they can support, given the perpetual shortage of qualified workers throughout the industry.

While most owners are happy to enjoy the current prosperity, an increasing number are unsettled about what the future may bring. Faced with increasing demands for new capital equipment, robotic automation and Industry 4.0 transformation, many owners are increasingly concerned that they are at risk of falling behind.

Having recently advised on our sixth precision machining industry sale, with a growing number of additional transactions in the pipeline, we see an industry in the early stages of change that will fundamentally reorder its ownership structure over the next few years.

The precision machining industry is now clearly “in play” and failure to develop a forward-looking strategy could be costly for your long-term prosperity.

In our recent cover article published in [A2Z Manufacturing](#), we highlighted the entry of new capital pools into the precision machining space, building larger, highly-advanced digital manufacturing enterprises that will soon set the rules of competition for the industry. Technology/capital transitions inevitably lead to winners and losers and, in a consolidation, losers usually considerably outnumber the winners. With 18,000 metalworking and fabrication shops in the US, averaging less than \$5mm revenues, massive consolidation is inevitable, leaving the majority of shops highly vulnerable to the new ultra-efficient “digital factory” business model. Past patterns tell us that more doors will close than be acquired, yet most owners will typically (i) over-estimate their chances or (ii) mis-time the market.



Consolidation of a Fragmented Industry is Disruptive to the Majority of Participants

Why worry when the industry is seemingly healthy? Simple: it’s deeply fragmented, composed of mostly family-owned independents where the owners “grew up in the industry”. Major technological catalysts, the likes of which the industry has not seen in decades, have substantially altered the competitive possibilities and most smaller firms are not prepared. The forward-looking battleground isn’t inside the CNC, it’s inside the data center. “Big Capital” has identified a massive market in transition with a vulnerable ownership structure. The lesson from the vast majority of similar industrial transitions—Big Capital rarely fails.

Overcoming fragmentation can be a very significant strategic opportunity. The payoff to consolidating a fragmented industry can be high because the costs of entry into it are by definition low, and there tend to be small and relatively weak competitors who offer little threat of retaliation.

(Michael Porter: “Competitive Strategy: Techniques for Analyzing Industries and Competitors”)

The Competitive Model of the Future is Here Now

Consider this question. If you were tasked with spending \$100 million to design, from scratch, the most advanced, most efficient, most connected precision manufacturing operation, from the front office and engineering, through the shop floor to the shipping bay, and picking the staff to run it, how much would it look like your current operation? More importantly, could your company compete head-to-head on price, specs, services and delivery time against this new idealized “digital factory” running 24/7/365, and at the same profit margin?

It’s no longer just a speculative exercise, because such operations are cropping up more frequently, and they are successful. Success is a magnet that attracts even more capital and the United States is awash in surplus capital. Most of it resides in private equity funds and public corporations in nearby industry verticals. The managers of the money are hungry to sponsor aggressive enterprises with big aspirations on how precision components are manufactured and delivered. The investment bravado that encouraged Blue Origin and Space X to take on NASA/Boeing/Lockheed and Tesla to take on the world’s biggest automakers has begun to gain a foothold in your neighborhood. Over the past year or two, we have seen the balance sheets of the new competitors continue to get even bigger.

Real World Competition

Protolabs is a prime example of what FOCUS sees as a “new scale” competitor in top tier manufacturing. The company is a quick prototype / small volume goliath operating in seven countries and offers injection molding, CNC machining, additive manufacturing and sheet metal. Technically, it’s not a newbie, starting in injection molding in 1999, (by a computer geek incidentally), but its successful model has grown revenues in just 20 years to approach \$500 million. Using this capital strength and formula for success, Protolabs is now expanding its service offerings in every dimension.



Photo via Protolabs

Few shops can match the digital capability, efficiency, cost of capital and response time of an operation of this scale. Protolabs fully embraced IOT 4.0 early on and developed over 20 Teraflops of computing power, extensive proprietary software and an impressive end-to-end customer support operation. Where Protolabs initially concentrated on just rapid prototyping, it is now expanding its offerings into “small volume” runs, which it considers to be anything under 20,000 pieces. That brings it into competition with a great deal of a typical small shop’s order book. Protolabs now has approximately 500 CNC’s operating 24/7 supported by the best available digital automation. The company does not even strive to compete (yet), on the cheapest cost/piece, but competes formidably on every other aspect of service to reduce the total all-in cost to its customers. It has aggressive plans for expansion, and we expect production (vs prototyping) to become an increasing proportion of the revenue stream.

Another interesting consolidator is **NN, Inc.**, which was formed in 1980 as a ball and roller manufacturer in East Tennessee. NN went public in 1994 and, commencing in 1999, it began an aggressive series of acquisitions that resulted in it becoming a global components manufacturer with revenues of \$700 million produced in 51 plants on four continents.

Xometry has raised over \$100 million from the likes of BMW, Dell and GE, but is tackling the industry from another angle using Uber’s model of distributed supply. Xometry is a quoting portal / marketplace where customers can get instant bids and connect with Xometry’s 2500 suppliers. While a potential benefit to smaller shops, we see the ease of price transparency and bidding compressing margins much as True Car has done for the automotive dealership market. Rather than a saviour for the small business, it may well accelerate the transition to the well-capitalized ultra-efficient shops.

Private-equity players are long time masters of the industry roll-up strategy. The enhanced financial interest in the machining sector is due in no small part to the dramatic success of **Arch Global Precision** which has grown from a base in cutting tools acquired in a 2011 corporate spinout to a 17-facility national precision machining consortium with over \$200 million in revenues. (FOCUS assisted Arch on some of these acquisitions). Strength Capital, a mid-sized private equity group and Arch’s initial backer, recently concluded that even this scale of operation was not optimal, and the end game would exceed their resources. This April, Arch was acquired by **The Jordan Company**. With \$11 billion in capital, Jordan eyes a much bigger piece of the machining industry. Yet Jordan is not the biggest balance sheet to enter the fray.

Even bigger players, such as **Jabil Inc.**, are increasingly targeting the machining space as well. Jabil is a \$22 billion annual *revenues* global juggernaut, usually associated with manufacturing electronics by the millions for major global firms such as Apple and IBM on tiny margins. Recently however, Jabil instituted an additive manufacturing initiative. New management has shifted the company’s big contract focus and they are increasingly looking down the vertical to mid-size

volumes with higher margin potential. Jabil's acquisition of **True-Tech** continues Jabil's quest to dominate the precision machining space geared towards the semiconductor and aerospace markets and brings their machining footprint to nearly 300,000 sq. ft. in Northern California. Jabil has traditionally shied away from small/medium run contracts, but now sees that the digital technology and capital landscape has shifted in favor of the larger player, and with \$45 billion of machining revenues available to capture from small/medium players (at better margins than Apple offers), it views machining as an attractive diversification strategy.

The logistics giants have also entered the fray because technology advances caught their eye. Most people aren't aware that **FedEx** established an additive manufacturing operation, initially to make parts for its own aircraft, but soon it went beyond inhouse. FedEx currently prints well over 1,000,000 custom parts per annum for clients. Perhaps FedEx is eyeing UPS's partnership and recent \$48 million investment in Fast Radius, another "new tech" Additive/CNC/Injection Molding manufacturer, which has established a state-of-the-art manufacturing facility right inside UPS's Worldport facility in Kentucky to go along with a similar facility in Chicago. The Fast Radius leadership team came from executive positions at the Digital Manufacturing and Design Innovation Institute (Chicago), McKinsey, and Amazon. Fast Radius's goal: build one of the globe's most advanced on-demand ("virtual inventory" they call it) automated manufacturing networks and achieve revenues in the billions.

It will eventually compete with you using leading edge, multi-process technology options and perhaps most importantly, an ever-expanding comprehensive data reference library and pipelines to cutting edge research institutions.

(The *science* of manufacturing, both technology and materials, is also in a major investment boom, rapidly advancing how stuff *can* get made).

This type of management team speaks the language of "Industry 4.0" that private equity firms love, and therefore attracts the enormous amounts of capital to

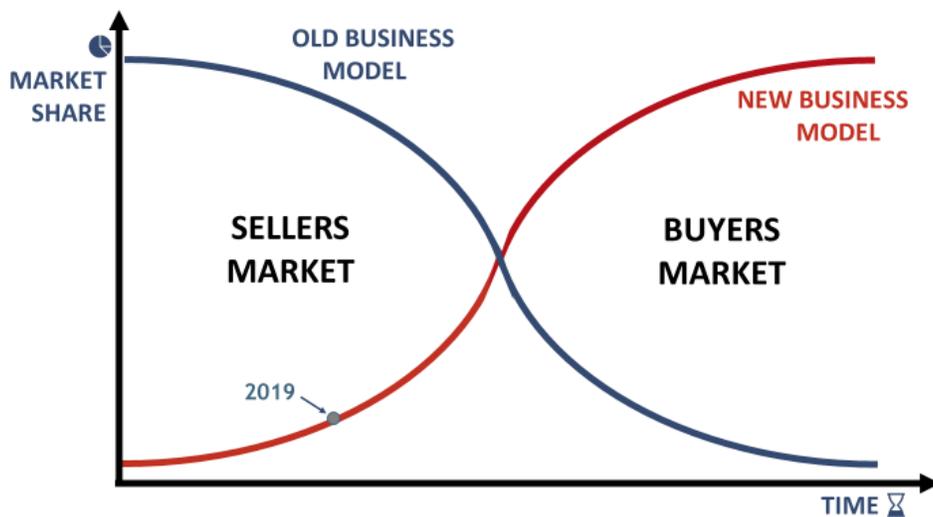


Photo via Fast Radius

build that hypothetical Next-Gen digital factory for real. Scale + data typically confers productivity advantages across the board, but new software has afforded the possibility of managing much more complex manufacturing organizations than we could before. **Siemens recently introduced its new *Mindshare* concept, which would afford full data tracking of all machine kinematics and production, regardless of brand, function or usage, inclusive of robotics and additive technologies in any location globally.** Leadership is no longer just about manufacturing efficiencies, the Next-Gen executive now also needs to be conversant in blockchain, cybersecurity (and sadly, ransomware), and augmented reality technologies to make well-informed investment decisions.

The Nature of Industry Consolidation

At this relatively early stage of the transition, only a minority of independents will have experienced the disruption this new competition can bring as the small market share captured has been masked by a rising tide in the industry as a whole. However, the interest of Big Capital in the precision machining space is an unmistakable marker of the early stage of the transition ramp. Following the history of dozens of similar consolidated industries, in the not so distant future the pace of "digital factory" capacity additions will exceed the industry growth rate, at which point the ripples in the sea develop into whitecaps for the undercapitalized.



This is what the typical industry consolidation of a fragmented industry looks like, moving from an “old business model” to the “new business model”.

What’s important is how the adoption curve typically accelerates (slope of the curve steepens) early to mid-cycle. Most of the ownership valuation damage is done long before the transition matures. This is especially true if the catalysts involve a significant advance in available and expensive technology. Print shops went digital and became nationally franchised seemingly overnight, killing the independent printer rather quickly. The number of automotive parts suppliers declined from 30,000 to around 3,000 (Kiplinger), a total decline of nearly 90%, over a period of 20+ years. At first glance, that rate might not seem worrisome, but in fact, 2/3’s of existing firms disappeared every 8 years. If you were informed 2/3’s of companies in metalworking would disappear in the next 8 years, planning to fish in the same hole for another 3-4 years looks like an increasingly risky plan of inaction.

Somewhere before the cross-over point, when the industry disruption begins to become widely apparent to most participants, the value destruction (owner equity) is already well under way. To our eye, the canary in the mine shaft is margins. Margins are critical in determining the sustainability and valuation of a business. When margins succumb to the relentless pressure of more efficient competitors, the value of an owner’s equity, and his/her strategic options, can collapse very rapidly. **A decline in EBITDA margins from 20% to 15% could lead to an astounding 40% drop in the valuation of the business. A seller’s**

market quickly turns to a buyer’s market and viable strategic options become scarce.

The peak in M&A activity (and valuations) is typically stronger earlier in the cycle, as the new entrants bid for highest quality additions to get up to scale ahead of competitors. M&A slows late in the cycle as the strong simply outcompete the weak and undercapitalized holdouts for their customers. To an independent owner, we doubt that is a comfortable prospect. Waiting for the value collapse is not the best time to formulate a response: the capital market will have already forced your hand. Independents in the tire business, collision repair and lube centers, a sector in which FOCUS has represented many successful sellers, don’t see the same valuations today as they did a few years ago, as they are further along in the consolidation cycle, and for many, it is simply too late to find a partner.

Can the traditional independent business survive? Certainly, many will, but that won’t be by standing still. We are often struck that, when visiting a high performing shop, some of the most impressive management we meet didn’t cut their teeth in the machining industry. They come from software development, IT services, or management at much larger firms, often in other industries and have had to learn metalworking from scratch. The common thread is that they are data hungry and accustomed to searching out, or creating inhouse, digital solutions to

efficiency challenges. We are not surprised to see they have achieved higher margins on average than comparably sized operations with more traditional approaches. It is also no coincidence that we hear a lot fewer complaints regarding the ability to hire young people into a digitally driven business than in the “traditional” shop due to what we can only describe as a “technology vibe” on an immaculate shop floor. So even at the lower revenue scale, the new business model is validating the transition catalysts.

“My Customers are Happy”

For many independents, long standing customers are rightly a source of pride, but ultimately imaginary comfort. In fact, the customer will willingly facilitate this transition. For all the local community anger that big box stores like Walmart and Best Buy (and now Amazon) created, it was the customer who chose to take their business from the independent to the chain store because the economics and convenience trumped the personal relationship. Modern day buyers are increasingly habituated to easier, faster, cheaper, online choice and real time data tracking and business-to-business transactions are proving no different. We have seen more than one transaction disrupted when the loss of a major customer caused everything to grind to a halt.

What are my options?

This is THE question. With the benefit of having worked in numerous industries at various stages of consolidation, FOCUS is comfortable acknowledging the metalworking transition is only partway through the first quarter. However, while the final score may be quite a few years away, the game will likely be determined for the majority of independents by half time. While the clock has started, most independents do have some time to do their internal SWOT analysis and consider their options. Typically, the choices are to sell/partner with a bigger balance sheet, acquire other businesses to build competitive scale, or continue to grow organically. Those choices are best formulated in conjunction with an owner’s lifestyle considerations of course, but they must be seasoned with a dose of reality as well.

How we can help

The FOCUS Advanced Manufacturing & Automation Team is here to help business owners navigate the new and unfamiliar terrain they face as a result of the digital disruption underway. We provide M&A advisory services (buy and sell side) and locate the capital businesses need to grow. Our team is composed of seasoned investment bankers and advisors with extensive operating experience in manufacturing and distribution backed by a deep research team. We have substantial experience in precision machining, having closed six transactions in the sector with an equal number of deals currently in negotiation. Our goal in the sector is simple. We strive to be known as the middle market firm that that the owners of the world’s leading precision machining firms can trust to represent their interest fairly, competently and with great vigor. Certainly, if you’re a potential seller or acquirer give us a call. If you’re not yet ready to make a move, but need to better understand the forces at work, we’re happy to share our perspective, objectively and in confidence. We’ve organized our team to be here for the long haul. Key to that plan, we are anxious to develop relationships with as many industry leaders as possible and we’ll invest our energies to do so.

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How Does a “Buy and Build” Private Equity Roll-up Strategy Work?

Private equity firms are no longer just owner/manager/restructuring of good businesses, but increasingly into building national and regional franchises through acquisition. Typically, a PE firm will identify an attractive highly fragmented market and acquire a suitable **platform** company; in this instance a high-performance shop with revenues typically in the \$50mm or more range. Then, the PE backer will fund multiple **add-on** acquisitions and substantial capital investments, which may target diversifying the client base, service capability, geographic locations and leading-edge technology. An add-on transaction is usually much smaller, perhaps \$7-20mm in revenues.

The payoff is a combination of acquisition multiple arbitrage and synergistic and efficiency gains. Small shops attract lower transaction multiples of EBITDA (usually 3-5X), while larger firms may be valued at double that (6-9X). Each acquisition therefore adds considerable value to the buyer as the acquiring firm grows its way up the multiple ladder. In addition, scale brings the advantages of lower capital costs, technology and operational efficiencies across the operation, and the ability to bid larger contracts, all leading to revenue and margin expansion...and increased valuation. In effect, over time the strong get stronger and the weak fade away.

Today, it's getting harder to get PE backed firms to entertain add-on acquisitions below \$10mm. As more and more large, consolidated machining franchises are built, it will take a larger add-on to move the needle, so longer term, this threshold will increase. Likely, it will increase faster than industry average revenues, which will increasingly leave the majority of shops behind. Eventually, our experience tells us the market will begin to bifurcate between those businesses that transitioned into a scaled operation, and those that did not. At a certain point in the industry transition, the PE-backed firms no longer concentrate on continued acquisitions to fuel growth, but rather on organic investments in the most advanced technologies and productive capacity, enabling them to grab the best opportunities from the remaining, weaker (lower margin) firms. It's a business model that has been successful in many fragmented industries and it has arrived in the machining space.

Independent shop owners need to understand this industry dynamic and to make a plan to ensure the hard-earned equity they've built in their businesses continues to have value when they need it.

This announcement appears as a matter of record only.



has been acquired by



The undersigned co-managed this transaction with Rickett Mitchell of Manchester, UK. This transaction won the November 2016 M&A Worldwide Deal of the Year.



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has been acquired by



The undersigned initiated this transaction, assisted in the negotiations and acted as financial advisor to Smiths Machine, LLC.



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has acquired the assets and business of



The undersigned initiated this transaction, assisted in the negotiations, and acted as financial advisor to TSS Technologies, Inc.



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The undersigned initiated this transaction, assisted in the negotiations and acted as financial advisor to Strength Capital, LLC.



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has merged with



to form



financing was provided by



The undersigned initiated this transaction, assisted in the negotiations, and acted as financial advisor to HL Precision Manufacturing, Inc.



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The undersigned initiated this transaction, assisted in the negotiations and acted as financial advisor to Embee, Inc.



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Critical Technologies, Inc.

dba



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The undersigned initiated this transaction, assisted in the negotiations and acted as financial advisor to Opti-Forms, Inc.

