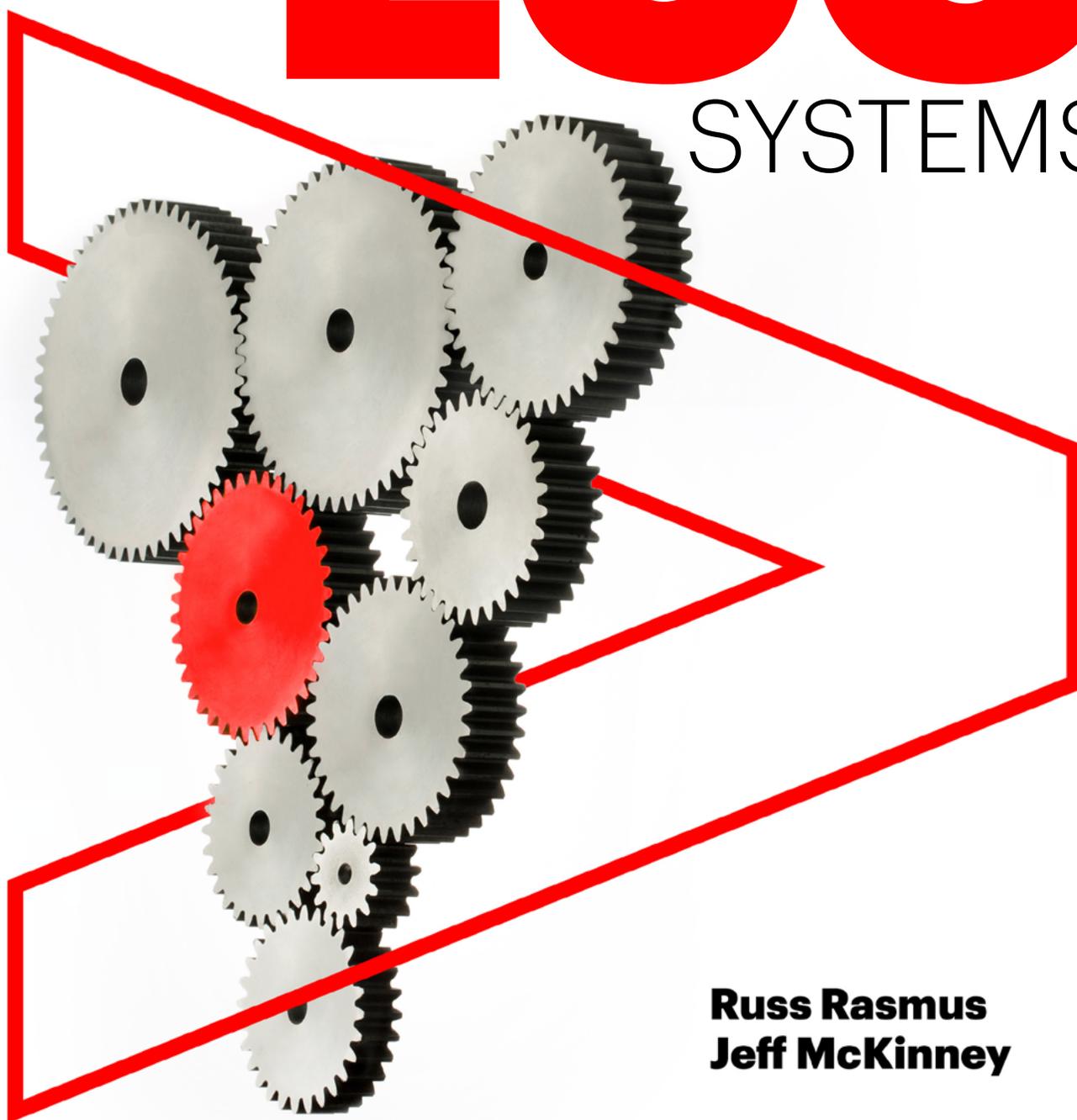


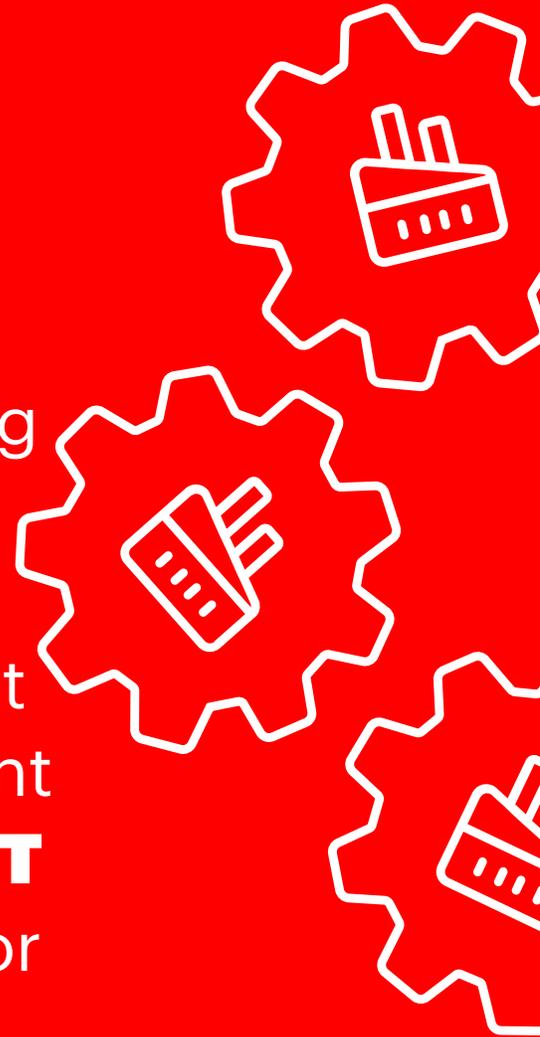
MANUFACTURING **ECCO** SYSTEMS



Russ Rasmus
Jeff McKinney

CUSTOMERS

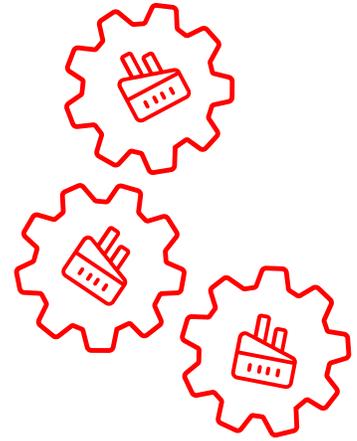
have always expected the companies they buy from to respond to their needs. But now they're more unpredictable and demanding than ever. They expect the companies they do business with to do a lot more than just sell them a product. They want more **FREQUENT PRODUCT LAUNCHES**, and they clamor for ever-more **EXTREME PERSONALIZATION**.



Manufacturers struggle to meet these more challenging demands profitably. Why? Their current production networks are rigid, capially constrained and geographically misaligned.

Accenture Strategy research found only about one-quarter of manufacturers globally have an operating model that enables them to dynamically shift resources and activities around their manufacturing network in response to market developments or changes in demand.¹ This is particularly true of manufacturers that primarily operate their own facilities. Such manufacturers are also less productive, less profitable, and generate less revenue than those whose network is significantly balanced by contract manufacturers.² Tepid adoption of digital is further hampering manufacturers' ability to respond to changes in demand. Only about three in 10 manufacturers we studied have implemented key digital manufacturing related technologies.³

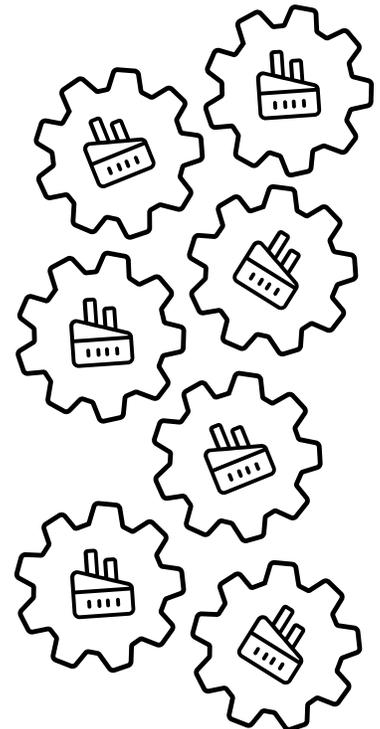
With customer demands becoming more and more complex, manufacturers that choose to "go it alone" will find themselves increasingly marginalized. They'll get elbowed to the sidelines by competitors that recognize the future of manufacturing is ecosystem driven. Accenture Strategy research found manufacturers that use a higher percentage of third parties are more likely to have higher productivity, revenue, and margin than those that try to build and own the entire network.⁴



ONLY ABOUT

3 IN 10

manufacturers we studied have implemented key digital manufacturing related technologies.



MORE CREATIVE WITH **PARTNERS**

Third-party partners bring an increasingly diverse set of capabilities to the table that can help manufacturers enhance their flexibility, responsiveness, and overall performance. But capitalizing on those capabilities requires manufacturers to think much more creatively—about how to use traditional players in unique and distinctive ways; bring on new entrants they currently overlook; and apply new concepts that may change the ecosystem and how it's used.

OLD PARTNERS IN NEW ROLES

Contract manufacturers

One of the most time-honored partners are those that make finished goods or key sub-assemblies. In the future ecosystem, such partners can play a much bigger role by providing a variety of value-added services. These include product design/redesign services, product management, direct order shipment to customers and customer-requested customizations or bundling.

Third- and fourth-party logistics providers

Another well-established partner, 3PLs and 4PLs are key players in the ecosystem. They can provide location flexibility as well as value-added services in a significantly postponed position in delivery. Advanced offerings include last-mile delivery for logistics and digital customer information services for status and tracking.

Postponement centers

With postponement centers, manufacturers can customize or finalize products and packaging late in the order cycle to meet specific customer requirements. Such centers currently are the norm in the electronics industry, but they're quickly assuming new roles in other industries' ecosystems. One example: bundling consumer products around last-minute promotions or across multiple manufacturers to meet individualized customer needs.

NEW PLAYERS WITH NEW CAPABILITIES

Third-party innovation and design

Third-party product and manufacturing design services can strategically complement manufacturers' own capabilities. Some manufacturers use them for fast innovation cycles, faster than what they can achieve in house. That helps innovation concepts become reality more quickly. Some use them as design capacity for mature products undergoing renovations or revisions. And some rely on them for only part of the innovation cycle, such as technical documentation or testing.

Third-party labor

Key skills have become harder to find, and third-party labor pools have stepped up to fill the void. They offer services from advisory to full operational control in manufacturing functions such as quality, engineering, safety, and maintenance. As current manufacturing workforces continue to age and retire, freelance and contract workers could be a bigger chunk of a company's workforce.

NEW CONCEPTS AND NEW DIRECTIONS

Maintenance, Repair and Operations (MRO) centers

Most businesses either ignore MRO parts or manage them in a distributed model, and that raises costs and dampens performance. In the future ecosystem, manufacturers can use MRO hubs for common parts or assets within an industry or a manufacturing process type. For example, in the oil and gas industry, refineries in high-density United States production regions could share a common MRO parts center. The payoff: equal or better parts availability and less investment required in inventory, warehouse space, carrying costs, and labor to plan and stock.

Digital marketplaces

As additive manufacturing gains momentum, manufacturers will be able to buy digital representations of products (standard and proprietary) through emerging digital marketplaces and augment them via value-added digital services to meet specific marketplace needs. Once designs are completed, products can be produced in-house, via a contract manufacturer, or through an ad-hoc 3D printing service. These marketplaces and services will help manufacturers dramatically reduce costs and time across innovation, design and production.

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MORE SOPHISTICATED WITH **DIGITAL**

Identifying the right partners and the roles they play is critical. But so is the use of digital. Manufacturers are deploying new and emerging digital technologies to significantly enhance transparency and collaboration. And that's helping them develop and operate increasingly exotic, inclusive and flexible ecosystems.

A manufacturing control tower is one example. It can provide critical visibility across the network—from the manufacturer's requirements to the production status at any contract manufacturer. Another is telemetry monitoring of contract manufacturers' production assets assigned to a manufacturer. It can deliver much greater real-time visibility so a manufacturer can keep tabs on production status and make decisions accordingly. And sensors integrated with IoT can support extensive product traceability across the ecosystem and broader supply chain.

On the design side, engineering collaboration tools allow product designs to be digitized. That speeds design and prototyping, makes incorporating changes easier, and introduces the products into manufacturing more seamlessly. Also helpful are advanced technologies, through which a manufacturer can create a digital representation—i.e., “digital twin”—of a physical asset. Using this twin, product designers, manufacturing engineers, and production operators across the ecosystem can simulate critical and complicated decisions prior to acting.

MORE STRATEGIC WITH **ECOSYSTEM MANAGEMENT**

Working with the expanded ecosystem of the future will be very different from how manufacturers operate today. That’s why manufacturers will need to challenge themselves to determine the best ecosystem approach to meet both short and long term strategies.

For instance, at a fundamental level, manufacturers will have to define a manufacturing strategy that explicitly encompasses their company’s business goals and their upstream and downstream partners. They’ll also have to clearly define a manufacturing asset strategy that both delineates the manufacturing organization’s goals and ties those goals to current and future production asset classes, capabilities, and vendors. And they’ll need a strategic approach to how they merge their ecosystem partners with their owned network—which may mean a change in perspective for many. Accenture Strategy research found that while more than half of global manufacturers plan to increase their use of third parties in manufacturing,⁵ too many are using them to solve short-term issues instead of to create long-term advantages.

Two other critical strategic needs: strong governance that clearly calls out how and when the ecosystem plans and implements changes to ensure they continue to meet the manufacturer’s goals; and potentially a measurement and mindset shift for manufacturing executives to manage the broader ecosystem, not just their owned assets and resources.

THE **FUTURE** OF **MANUFACTURING**

In the coming years, manufacturers across industries will undergo a steady evolution toward a new manufacturing model: one in which third parties assume increasingly greater responsibility for various facets of innovation, production and distribution. In some cases, manufacturers may own no facilities at all and may never even touch a product. In most, manufacturers will still retain ownership of core facilities and capabilities, relying on an increasing number of ecosystem partners to “fill in the gaps.”

We already see evidence of this movement today, especially in the rapid development/short-product lifecycle consumer electronics and computing segments. It’s here that companies have boldly embraced hybrid ecosystems in which they heavily leverage third parties. These companies are at the forefront of a fundamental shift in the manufacturing industry—one that will redefine what it means to be a manufacturer a decade from now. It’s time for manufacturers in other industries to start planning for this future and begin creating the ecosystem they’ll need to dominate their markets. If they don’t, someone else will.

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www.linkedin.com/company/accenture-strategy

CONTACT THE AUTHORS

Russ Rasmus

russell.rasmus@accenture.com

Jeff McKinney

jeffrey.i.mckinney@accenture.com

CONTRIBUTOR

John (Jack) Edmondson

john.o.edmonson@accenture.com

NOTES

¹ Accenture Strategy 2015
Global Manufacturing Study

² Ibid

³ Ibid

⁴ Ibid

⁵ Ibid

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