

BTR: Small and Mid-sized Manufacturers Must Rethink Digital Transformation to Remain Competitive

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Small and mid-sized manufacturers—long considered the backbone of industrial supply chains—are facing a moment of reckoning. Pressured by rising costs, aging infrastructure, and relentless global competition, these companies are being forced to modernize or risk

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irrelevance. Yet for many, the traditional digital transformation playbook—engineered for billion-dollar enterprises—is ill-suited to their operational and economic realities.

This disconnect is driving a new wave of “right-sized” innovation, where scalable, integrated, and AI-enhanced solutions are emerging to meet the distinct needs of mid-sized firms. According to Bobby Cook, Senior Director of Global SMB Strategy at Siemens Digital Industries Software (DISW), the shift is not just timely—it's existential.

“SMB manufacturers are being asked to do more with less,”

said Cook in a recent BizTechReports executive vidcast interview. “Resource constraints, workforce gaps, and fragmented legacy systems are limiting their ability to compete. Digital transformation has become a force multiplier, not a luxury.”

A Fragmented Digital Landscape

Despite growing urgency, many SMB manufacturers remain stuck in analog-era workflows. Most operate with a mix of aging equipment, disconnected systems, and inherited software tools—creating what Cook describes as “islands of information” that obstruct real-time decision-making and innovation.

“Legacy constraints are a serious drag on operational agility,” said Cook. “They can keep the lights on, but not much more. These manufacturers need to centralize their data, connect their operations, and extract actionable insights if they want to thrive in a more volatile

marketplace.”

Studies from Deloitte and the Manufacturing Leadership Council confirm that while 70% of SMBs see digital transformation as essential to competitiveness, less than 30% report being ready to execute. The gap between intention and implementation continues to grow, especially as newer technologies like AI and edge computing become more prevalent.

The Integration Imperative: IT Meets OT

A major structural hurdle for many SMBs is the historical divide between operational technology (OT) on the factory floor and information technology (IT) in the front office. OT teams are typically risk-averse, focused on uptime, safety, and machine reliability. IT, by contrast, has embraced cloud services, agile development, and data-centric experimentation.

Bobby Cook, Siemens Digital Industries Software

“The cultures are very different,” said Cook. “But the opportunity for value creation lies in bringing them together.”

AI and IT/OT integration are emerging as unifying forces. Real-time data captured from production assets—ranging from modern sensors to decades-old PLCs—can be centralized, analyzed, and acted upon via cloud-based systems enhanced by AI agents.

“Once we connect the dots, AI becomes an incredible workforce multiplier,” said Cook. “It bridges knowledge gaps, supports decision-making, and helps extract value from assets companies already own.”

Operational Headwinds and Hidden Potential

The push toward digital modernization is often hampered by limited IT capacity, workforce shortages, and the sheer complexity of modern manufacturing ecosystems. Yet, paradoxically, these same challenges make SMBs prime candidates for automation and AI-enhanced decision systems.

“The irony is that the companies most in need of digital transformation are the least likely to



have the resources to pursue it,” said Cook. “That’s why our approach focuses on accessibility, scalability, and minimizing disruption.”

Siemens’ answer is the Accelerator marketplace—a modular ecosystem of cloud-based, domain-specific tools designed to be deployable in “bite-sized” phases. From product design and quality verification to shop floor optimization and post-sale customer feedback loops, the platform seeks to make end-to-end integration attainable for firms with limited bandwidth.

This modular approach resonates with a broader industry trend. According to a recent IDC report, 61% of mid-sized manufacturers prefer incremental adoption paths over wholesale system replacement, citing reduced risk and faster ROI as key drivers.

Competitive Urgency in a Volatile World

In an era defined by supply chain volatility, shifting consumer demands, and environmental scrutiny, digital transformation is increasingly tied to competitive viability.

“Agility is no longer aspirational—it’s mandatory,” Cook noted. “You need to be able to reroute production, adjust sourcing, and adapt workflows in near real time. That requires a data-centric infrastructure that most SMBs don’t yet have.”

Cook pointed to compelling internal benchmarks: manufacturers that have adopted a full digital thread across their operations report up to 30% improvements in productivity and 30% reductions in operational costs. Such figures underscore the cost of inaction.

“Digital transformation isn’t about getting ahead anymore—it’s about not falling behind,” he said.

A New Economic Model for Digital Investment

One of the historical barriers to digital modernization has been the capital expenditure model. Expensive software licenses, custom integration projects, and on-premise infrastructure all put digital investment out of reach for many SMBs. But the rise of subscription-based SaaS platforms and cloud-native architectures is upending that model.

“We’re seeing a change in how SMBs think about IT budgeting,” said Cook. “They’re moving away from CapEx-heavy investments toward operational spending models that are more flexible and results-driven.”

As a result, many mid-sized manufacturers are beginning to self-fund their transformation through operational gains. Reduced downtime, better product quality, and shorter time-to-market create efficiencies that can be reinvested into further digital maturity.

“Transformation can and should be self-sustaining,” Cook emphasized. “The initial improvements create space in the budget for the next wave of innovation.”

Measuring Success and Scaling Smart

Despite the appeal, digital transformation can falter without the right foundation. Cook points to three critical success factors: clear business objectives, scalable platforms, and measurable outcomes.

“Digital transformation isn’t just a technology initiative—it’s a strategic journey,” he said. “The most successful companies are those that treat it that way from the outset.”

Clarity on goals—whether it’s reducing scrap rates, increasing throughput, or improving design cycles—enables both solution providers and internal teams to align efforts and measure progress.

Scalability is equally essential. “Most SMBs want to grow,” said Cook. “They need tools that grow with them—not ones they’ll outgrow in 18 months.”

The SMB Opportunity Gap

With more than 250,000 mid-sized manufacturing firms in North America alone, the SMB segment represents both a technological challenge and a commercial opportunity. While enterprise vendors historically overlooked the space, newer strategies from players like Siemens are repositioning SMBs as the next frontier of smart manufacturing.

“What we’re seeing is a structural shift,” said Cook. “The tools are finally catching up to the realities of SMB operations. And those who move early are going to reap the benefits in resilience, agility, and growth.”

As global supply chains grow more complex and customer expectations rise, the ability to adapt, integrate, and optimize is fast becoming the new baseline. For SMB manufacturers, digital transformation isn’t a matter of “if”—it’s a matter of how fast and how well they can make the shift.

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