Weekly Brief June 09, 2026

The New Economics of Manufacturing

The combined power of AI and advanced processing capacity is coming to manufacturing, not just the world of desk work. Imagine a coffee-roasting factory that works like this:

Robots feed the roasting ovens with beans, then package and store the finished product in automated high-bay warehouses. It's a continuous production process, with automated material flows, handling, and production coordination. Sensors detect any wear on machines and robots, so AI-driven systems can schedule repairs and prevent interruptions. Manufacturing costs fall 43%, which makes local production highly competitive with any foreign imports and likely leads to lower prices for consumers.

A new report from BCG, based on proprietary quantitative modeling and a global survey of 1,000 manufacturing executives, finds that AI-enabled production setups—what we call the Factory of the Future (FoF)—can unlock productivity gains of up to 60%.

The FoF represents a structural shift in what it costs to make things, and where it makes sense to make them, thanks to a convergence of three breakthroughs:

- **Agentic AI systems** can now orchestrate complex, end-to-end redesigns of production in ways that were simply out of reach before.
- **Physical and virtual AI** have together cut robot training time by 70% while expanding the work that can be automated by 50%.
- **Computing power** has increased a thousandfold over the past decade, making system-level simulation economically viable at scale.

This shift matters whatever sector you're in. The question of where to produce has always been about relative labor and input costs and logistics—a calculus being upended by what these technologies can do together on the factory floor. The report highlights our Manufacturing Competitiveness Index, which integrates 42 cost and qualitative factors across 54 countries and 47 industries. The results show that in some sectors, upgrading to an FoF in a high-cost manufacturing country can

now be more competitive than offshoring, even if lower-cost countries upgrade, too.

One example is a German food-processing company with upstream inputs coming from China. Deploying FoF capabilities to serve its domestic market can achieve a 14-percentage point cost advantage over relocating to China. The combination of FoF-driven cost compression and proximity to end markets flips the traditional offshoring logic.

The same logic applies in automotive, a key sector for Germany, where upgrading an existing factory can make it just as competitive as relocating to China. In other sectors, such as battery cell manufacturing, competitiveness gaps remain; the FoF narrows but doesn't close them.

Tariffs can also shift the economics of offshoring. For 90% of manufacturers, a 25% tariff rate makes offshoring uncompetitive, the survey found. But relying on high tariffs does not strengthen a manufacturer's resilience. Manufacturers that shelter behind trade protection without upgrading their operations face the compounding risk of structurally higher costs relative to competitors that continue to modernize, with no cushion if trade conditions shift again.

There are three questions every leader should consider:

How exposed are you to lagging infrastructure? Whether you're a manufacturer or not, your supply chains almost certainly depend on production systems that are being stress-tested right now. The manufacturers in your ecosystem who invest in FoF capabilities will be better partners: more adaptive, more responsive, and less vulnerable to trade shocks.

Are you treating footprint and technology as a single decision? Companies tend to ask "Where should we produce?" and "How should we produce?" as separate questions with answers coming from different teams. The FoF changes that. Where you can effectively deploy FoF capabilities is now the primary variable in manufacturing competitiveness. Footprint and technology have to be evaluated together, or you may get the wrong answer on both.

Are you building structural advantage? The biggest temptation right now is to optimize for the short term: react to the latest tariff and other global developments and put off the factory upgrade. Instead, it's important to build plans around clearly defined scenarios, identify trigger points for action, and make investments that perform across a wide range of future conditions.

The good news is that for many companies in many sectors, the numbers are genuinely compelling. In automotive, our modeling shows that payback periods in high-cost countries such as the US and Germany can be significantly shorter than equivalent deployments in lower-cost

markets.

The stakes are significant. For example, roughly $1 trillion of manufacturing value is at risk of relocation out of Western Europe, with a further $440 billion at risk in the US. Avoiding that outcome requires an investment-oriented mindset and embracing the FoF technology wave now reaching manufacturers around the world.

Until next time,

Rich Lesser
Global Chair

Further Insights

How the Factory of the Future Is Reshaping the Economics of Manufacturing Competitiveness

AI is narrowing the cost gap between countries. Leaders must ask: upgrade or relocate? Getting this right will define competitive advantage in the years ahead.

ASSESS YOUR FOOTPRINT

Reshaping Industrial Automation with Physical AI

To lead in the next industrial era, CEOs must treat physical and agentic AI as strategic assets—not costs.

TREAT AI AS AN ASSET

How Physical AI Is Reshaping Robotics Today—and What Comes Next

Progress is real, but so is the uncertainty. A five-level framework helps leaders distinguish proven capabilities from emerging bets and sequence investments with discipline.

EXPLORE THE FIVE LEVELS