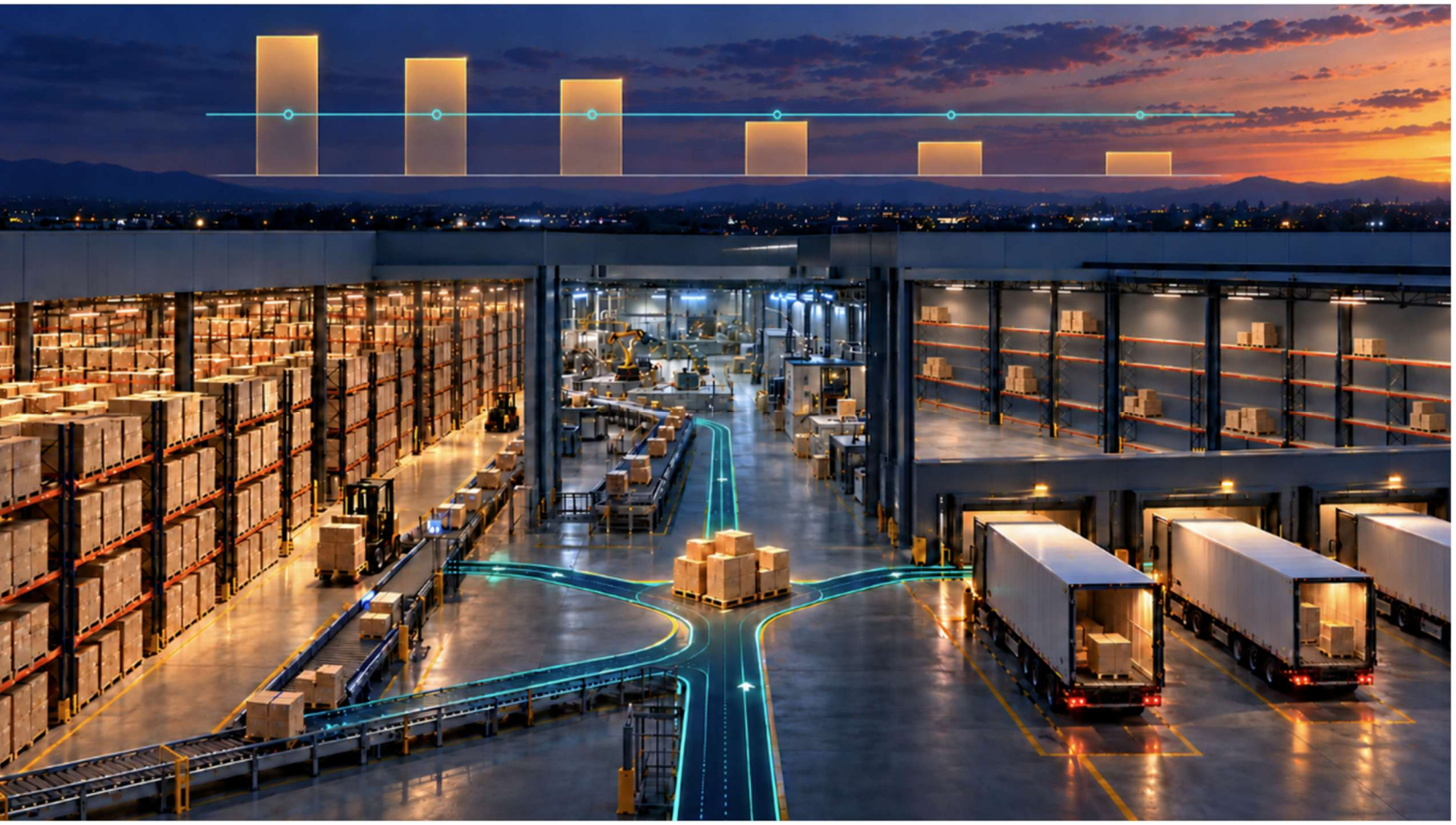
TRINITY SOLUTIONS LLC

The Inventory Paradox

Why Placement, Not Quantity, Decides Both Service and Cash



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IN BRIEF

The paradox	Overstocked and short at the same time. Excess on slow movers, shortages on the products that drive revenue.
The real question	Not how much to hold, but where stock sits, in what form, and who decided it should be there.
The discipline	Treat every buffer as a decision. Give it a named owner, a purpose and an exit condition.
The stakes	AI will scale whatever objective leaders hand it. Set the boundaries before you automate.

Executive Opening

North America's largest companies just delivered one of their strongest years in more than a decade, and trapped more cash than ever doing it. The Hackett Group's 2026 survey of the 1,000 largest nonfinancial companies found operating cash flow at a 13-year high of 17% of revenue. In the same year, excess working capital rose 12% to a record $1.94 trillion. The inventory share grew 6% to $616 billion as companies kept buffer stock against tariffs, supply uncertainty and sourcing changes.

17%	**$1.94T**	**$616B**
Operating cash flow as a share of revenue, a 13-year high	Excess working capital, a record, up 12%	Of that excess tied up in inventory, up 6%

Many enterprises are overstocked and short at the same time: excess on slow-moving items, shortages on the products that drive revenue. That is the inventory paradox. More inventory has not guaranteed service, and less inventory has not guaranteed cash.

Leaders keep debating how much to hold. Trinity's position is that the level is the wrong question. Placement — where stock sits, in what form, and who decided it should be there — determines both service and cash.

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Functional Excellence, Enterprise Underperformance

The inventory paradox typically arises as an unintended consequence of a sequence of individually rational decisions made in each functional area. While the individual decision supports the attainment of a local performance target for that function it weakens service and working capital performance enterprise wide. Purchasing may purchase large quantities at lower prices. Production will run continuously or produce multiple products simultaneously to reduce set-up changes. Logistics will consolidate shipments to better manage transportation costs. Sales will agree to specific delivery commitments. Then finance will ask for an inventory reduction. Each decision may be correct and would help individual departments to meet their targets, but the combined decisions put inventory in locations that are not needed and create gaps where it would be useful. Working capital is reviewed and analyzed every month while committed every day.

EXHIBIT 1 | LOCALLY RIGHT, ENTERPRISE WRONG

Function	The "right" local decision
Purchasing	Buys large quantities at lower prices
Production	Runs continuously to cut set-up changes
Logistics	Consolidates shipments to manage transport cost
Sales	Agrees to specific delivery commitments
Finance	Asks for an inventory reduction
Combined result: inventory sits where it isn't needed, and gaps open where it would be useful.	

> Working capital is reviewed every month. It is committed every day.

Both common fixes have failed. Inventory increases feel like increased resilience however if you position your inventory to protect against previous years' demand you do not increase the protection. Decreases in inventory also seem like discipline, however reducing buffers at the point of variability absorption does not eliminate the variability; it merely moves the cost. In Gartner's 2026 report there are two types of disruptions identified: chronic turbulence which includes fluctuating demand, labor variability and cost swings, and major disruption. Chronic turbulence has associated costs including: premium freight costs due to less than full truck loads, excess inventory related costs, overtime costs resulting from having too much work to complete within a given time period, and production changeover costs. Removing inventory from the incorrect location results in these costs being moved into another department's budget.

EXHIBIT 2 | TWO FIXES THAT FAIL

	Add inventory	Cut inventory
Feels like	**Resilience**	**Discipline**
What actually happens	Stock positioned against last year's demand adds no protection.	Cutting buffers where variability is absorbed doesn't remove the variability. It moves the cost.

THE HIDDEN BILL OF CHRONIC TURBULENCE (GARTNER, 2026)

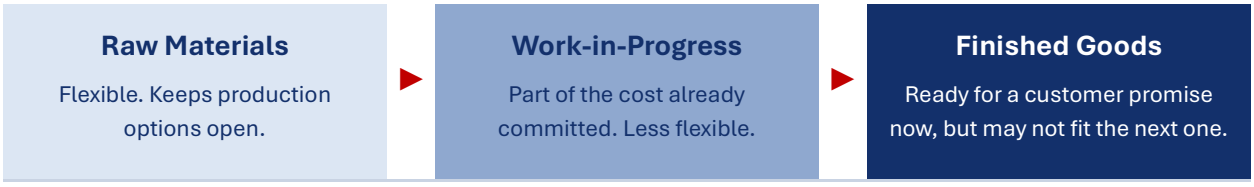
- Premium freight on less-than-full truckloads
- Excess inventory carrying costs
- Overtime when the work outruns the time
- Production changeovers

Pull inventory from the wrong place and these costs don't disappear. They land in another department's budget.

Placement Is an Economic Decision

An inventory unit has different uses depending on its current location. Inventory units stored as raw materials are flexible and keep options available for potential production. Work-in-progress (WIP) units have some portion of their costs committed and therefore have less flexibility. Finished Goods (FGs), while providing immediate support for customer promises, may be unable to provide immediate support for other customer promises. The value of a WIP component supporting a bottlenecked line is much greater than a FG item that supports no constraint in an overstocked warehouse. Planning and implementing inventory buffer types, sizes and locations are recognized by ASCM's planning knowledge base as key planning decisions which need to be evaluated and compared. According to ASCM's 2026 research into the planning maturity levels of organizations, those with higher planning maturity rates perform better than peer organizations with respect to total inventory, total service and total cash flow.

EXHIBIT 3 | SAME UNIT, DIFFERENT VALUE DEPENDING ON WHERE IT SITS



SAME DOLLARS, VERY DIFFERENT VALUE

A WIP component feeding a bottlenecked line is worth far more than a finished good protecting no constraint in an overstocked warehouse.

That is why Series #011 (From Customer Promise to Cash), published in August '26 is important. It can take only a few seconds to create a customer promise but whether that promise will be able to be met will depend upon the placement of inventory weeks prior. Mature S&OP and IBP systems determine placement based on specific segmentation of service policies, lead time variability, margins and constraints; not through applying a single rules-based weeks-of-supply formula across all segments. Immature systems allow the APS to recommend, record the recommendations within the ERP system, and accumulate position without any formal decision-making process.

EXHIBIT 4 | HOW PLACEMENT GETS DECIDED

Mature S&OP / IBP	Immature planning
• Segmented service policies set where stock sits • Lead-time variability is priced in • Margins and constraints shape every position	• One weeks-of-supply rule applied across every segment • The APS recommends, the ERP records • Position piles up with no formal decision

The APEX framework presented in Series #007 (Strategic Optimization) in May '26 provides an opportunity to find the optimal balance between profit, service, resilience and working capital. That optimal balance is achieved through the placement of inventory units; the same dollars spent on inventory can provide resilience at a decoupling point and can become pure drag at the wrong distribution center.

Every Buffer Needs an Owner

If placement is a decision it needs a decision-maker. The inventory opportunity identified in The Hackett Group's 2026 survey reflects, in part, buffers accumulated in response to tariffs, supply uncertainty, and sourcing diversification. Buffers created in times of crisis are rarely assigned a specific time frame to review those buffers. As stated by Gartner supply chain leaders revisit final network decisions at least once in 72% cases and suggest to be ready to stop reverse or repurpose investments when conditions change. Inventory positions deserve the same discipline.

72%

of supply chain leaders revisit final network decisions at least once (Gartner, 2026).

The advice: be ready to stop, reverse or repurpose an investment when conditions change. Inventory positions deserve the same discipline.

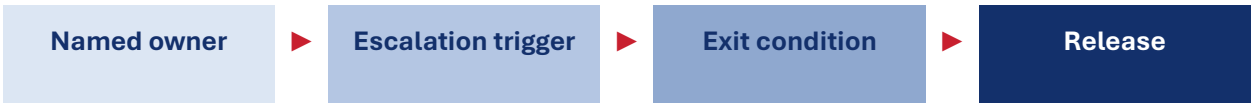
This test can be applied directly from series #010 (From Systems of Decision to Systems of Action), published in July '26. Each material position should have a named leader that can view where the item exists and what it protects, change its size or relocate it, account for its carrying cost and service contribution and release it when its reason has expired. Creating an escalation trigger and exit condition for each inventory position in the Action Ownership Register establishes clear capital boundaries. Purchase orders also belong on the registry: cash generation potential often lies within the pipeline of incoming goods not warehouse.

THE BUFFER OWNER TEST

Every material position needs a named leader who can:

1. See where the item sits and what it protects
2. Change its size or move it
3. Account for its carrying cost and service contribution
4. Release it when its reason has expired

EXHIBIT 5 | AN INVENTORY POSITION ON THE ACTION OWNERSHIP REGISTER



Purchase orders belong on the register too. The cash is often sitting in the inbound pipeline, not the warehouse.

AI Raises the Stakes

A few of the findings from Series #012 (Who Signed That Purchase Order) include how AI agents are able to generate purchase orders within pre-established parameters. Although AI can test more placement scenarios than any planning team, if they are programmed solely to minimize inventory, then they will provide a logically efficient solution that ignores customer priorities. The primary advantage of AI is its ability to scale whichever objectives are provided by the leaders of the organization. Therefore, prior to implementing automation into their organizations, leaders must clearly define which aspects of each job function should be protected or else their organization will most likely have a much larger quantity of unnecessary inventory located in the wrong places.

AI TOLD ONLY TO MINIMIZE INVENTORY

A logically efficient answer that ignores customer priorities, and more of the wrong stock in the wrong places.

AI GIVEN CLEAR BOUNDARIES

Leaders define what must be protected first. AI then tests more placement scenarios than any planning team could.

In the next 3-5 years, the advantage is likely to shift to enterprises that run replenishment inside defined capital and service boundaries, with humans owning replenishment as opposed to owning individual transactions.

THE NEXT 3–5 YEARS

The edge moves to enterprises that run replenishment inside defined capital and service boundaries. Humans own replenishment, not individual transactions.

Closing Insight

Can we say whether or not "our inventory is too much"? No, we cannot. A better question would be: Who made the decision to keep each major item in stock? What was the promise he made with that decision? Is his reason (for keeping) still valid today?

ASK THIS INSTEAD OF "IS OUR INVENTORY TOO MUCH?"

01

Who decided to keep this item in stock?

02

What promise does that decision protect?

03

Is the reason still valid today?

Inventory is capital assigned to a purpose. Capital is put against various functions such as margins, services, continuity, etc. And, of course, sometimes no function at all. Companies able to identify which one they are working on will find that the paradox disappears.

> The $616 billion inventory opportunity is not simply a question of excess stock. It is a challenge of capital allocation, placement, and decision ownership.

Key Takeaways

1	**The level is the wrong question.** Placement, meaning where stock sits, in what form, and who decided it, drives both service and cash.
2	**Every function can be right and the enterprise still wrong.** Local wins put inventory where it isn't needed and leave gaps where it is.
3	**More stock doesn't buy resilience, and less doesn't buy discipline.** Without changing placement, the cost simply moves.
4	**Every material position needs an owner.** That includes open purchase orders, each with an escalation trigger and an exit condition.
5	**AI scales whatever objective it is given.** Define what must be protected before you automate.

WHERE THIS PAPER FITS IN THE SERIES

#007	**Strategic Optimization** May '26	The APEX balance of profit, service, resilience and working capital
#010	**From Systems of Decision to Systems of Action** July '26	The ownership test and the Action Ownership Register
#011	**From Customer Promise to Cash** August '26	A promise made in seconds depends on placement decided weeks earlier
#012	**Who Signed That Purchase Order** September '26	AI agents generating purchase orders within set parameters

Disclaimer

This publication presents the perspectives of Trinity Solutions LLC for general informational and executive discussion purposes. References to third-party research are provided for context. The observations and recommendations should be evaluated against each organization's specific operating environment.

Work With Trinity Solutions

Trinity Solutions LLC helps enterprises move from systems of decision to systems of action — inventorying where AI already executes, running the Ownership Test™ across every action class, and standing up the Action Ownership Register as a board-level discipline.

trinitysolutionsglobal.com | *Human-Led. AI-Assisted. Wisdom-Driven.*

References

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- Gartner — Survey Shows 72% of Supply Chain Leaders Revisit Final Approvals for Network Decisions — 2026
- ASCM — From Reactive to Orchestrated: Your Ascent to Supply Chain Maturity — 2026
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