

# ***CLOUD-SMART FACTORY INNOVATION***

Placing Workloads Where They Perform Best: Private, Multi-Tenant or Public Cloud —without Complexity or Compromise



**A GTT SOLUTION BRIEF  
MANUFACTURING**

# CLOUD-SMART FACTORY INNOVATION

Placing Workloads Where They Perform Best: Private, Multi-Tenant or Public Cloud — without Complexity or Compromise Operations

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THE LANDSCAPE

Cloud-First Has Given Way to Cloud-Smart — and the Infrastructure Needs to Keep Up

Manufacturing’s relationship with cloud has matured. The early instinct to move everything to public cloud has collided with the operational realities of the factory floor: production workloads that require millisecond-level responsiveness cannot tolerate the latency of a round-trip to a distant data center. Industrial data sets too large to move economically across borders. MES and ERP systems that were never designed for public cloud deployment. Legacy OT infrastructure that sits at the edge of the network, not the core of it.

IT leaders across the sector are resetting their cloud strategies, selectively rebalancing workloads between private, multi-tenant and public cloud environments based on actual performance and cost outcomes rather than architectural convention. 95% of manufacturers are using or evaluating smart manufacturing technology, yet only 20% have scaled beyond the pilot stage, with 56% still stuck in piloting due to gaps in governance, data readiness and infrastructure consistency.<sup>1</sup> Only one in five manufacturers has scaled smart manufacturing beyond the pilot stage, with architectural inconsistency and fragmented governance cited as the primary barriers.<sup>2</sup>

<sup>1,2</sup> Rockwell Automation, 10th Annual State of Smart Manufacturing Report, 2025

The constraint is structural. The infrastructure was designed for a world that no longer exists.

Global manufacturers simultaneously managing multiple cloud environments with different management tools, OT systems that generate data closer to machines than to cloud, connectivity that was not built for the latency requirements of digital twins and real-time analytics, and IT teams stretched too thin to orchestrate it all. Leading manufacturers that have built integrated data and technology foundations implement new AI use cases significantly faster than earlier cohorts — in some cases skipping the pilot stage entirely.<sup>3</sup> The manufacturers that cannot achieve that unification remain stuck, unable to scale pilots or realize anticipated cost and performance outcomes.

<sup>3</sup> McKinsey / WEF, "How Manufacturing's Lighthouses Are Capturing the Full Value of AI," December 2023

|                                                                                                                                                                              |                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>95%</div> <div>95% of manufacturers are using or evaluating smart manufacturing technology, with 56% still stuck in piloting.</div> <div>Rockwell Automation 2025</div> | <div>1 in 5</div> <div>Manufacturers has successfully scaled smart manufacturing. Architecture and fragmented governance are the primary barriers to moving beyond pilot.</div> <div>Rockwall Automation, 2025</div> | <div>FASTER TO SCALE</div> <div>Leading manufacturers with integrated data and technology foundation implement new use cases faster than earlier cohorts — in some cases skipping the pilot stage entirely.</div> <div>McKinsey/WEF, 2023</div> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## THE PROBLEM IS NOT CLOUD ADOPTION



The problem is **NOT** cloud adoption. It is the absence of an infrastructure designed to make cloud work for manufacturing operations.

Public cloud alone cannot meet the latency, sovereignty and integration demands of a global factory floor. The answer is not less cloud — it is smarter placement, private interconnects and unified management across every environment.

### Latency-sensitive workloads

Digital twins, robotics and MES systems require real-time responsiveness that public cloud routing cannot reliably deliver for distributed plant operations.

### Fragmented environments

Legacy OT infrastructure, multiple cloud providers and on-premises servers create a management landscape with no single source of visibility or control.

### Unrealized ROI

Many lift-and-shift migrations failed to deliver on cost and performance. AI-driven workloads are now exposing those architectural gaps further. The infrastructure, not the intent, was the limiting factor.

## WHERE GTT COMES IN

### Built for the Hybrid Infrastructure Complexity of Global Manufacturing

GTT manages network and security infrastructure for manufacturers across automotive, chemicals, food and beverage, electronics and industrial automation — across Europe, the Americas, Asia-Pacific, the Middle East and Africa. We understand the operational reality of distributed factories running workloads across private, multi-tenant and public cloud environments simultaneously, and the infrastructure required to make each environment perform at optimal levels.

We make cloud-smart infrastructure achievable at global scale through GTT's top ranked Tier 1 global IP backbone and Cloud Connect, providing private, high-bandwidth interconnects to AWS, Azure, Google Cloud and Oracle Cloud, as well as connectivity to marketplace and colocation providers like Digital Realty and Equinix, eliminating performance variability of public internet routing. The GTT Envision platform gives operations, IT and leadership teams unified visibility across every workload, every environment and every site. And GTT takes end-to-end accountability for hybrid infrastructure delivery and in-life management, so internal teams are not absorbing the orchestration complexity of a multi-cloud, multi-site estate themselves.



In manufacturing, GTT positions workloads where they perform best, connects every environment with private high-bandwidth interconnects, and simplifies the management of it all, across every country, sub-vertical and stage of the modernization journey.

THE APPROACH

Why Cloud-Smart Factory Innovation Is an Infrastructure Argument, not a Cloud Strategy Discussion

Manufacturers evaluating cloud architecture typically frame the decision as a choice between environments — private, multi-tenant, public cloud— rather than as an infrastructure design question. The result is workload placement driven by convention or cost assumption rather than actual latency, sovereignty and performance requirements, managed through multiple consoles with no unified view of how the whole estate is performing.

GTT delivers an integrated hybrid infrastructure architecture, ensuring workloads are placed correctly, interconnects are private and high-performing and every stakeholder has a current, accurate view of cost and performance across the entire estate.

| WITH A FRAGMENTED HYBRID APPROACH                                                                                                | WITH GTT CLOUD-SMART FACTORY INNOVATION                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Workloads placed by convention or default, without visibility into actual performance, latency or cost outcomes                  | Workload placement decisions informed by real-time performance analytics and aligned to operational requirements at each site                                    |
| Public internet routing to cloud providers introduces latency variability and compliance risk for sensitive industrial workloads | Private, high-bandwidth Cloud Connect interconnects to AWS, Azure, Google Cloud and Oracle Cloud deliver predictable performance and data-sovereignty compliance |
| Pilot deployments succeed in isolation but fail to scale due to architectural inconsistency across sites                         | Standardized architecture and centralized change management enabling consistent replication across every plant and region                                        |

THE SOLUTION

One Hybrid Architecture. Optimized Across Every Environment.

GTT's cloud-smart factory innovation is built on a single integrated architecture that positions workloads where they perform best — edge, private cloud or public cloud — with private high-bandwidth interconnects, expert-led application management and unified platform visibility across the entire estate.

Unlike providers that offer cloud connectivity as a standalone product, GTT delivers hybrid infrastructure as a managed service spanning network, cloud access, application management and platform governance from a common architecture managed through the GTT Envision platform. In environments where workloads span legacy OT systems, on-premises servers and multiple cloud providers, GTT's integrated architecture provides the consistency and visibility that fragmented, independently managed cloud tools cannot.

Core Capabilities Supporting Manufacturing Cloud-Smart Innovation:

- Managed Hybrid Cloud Services

➤ Cloud Connect (AWS, Azure, Google Cloud, Oracle Cloud)
- Application & Database Management

➤ Managed SD-WAN with Cloud-Optimized Routing

➤ 24/7 Global NOC Support

## THE PLATFORM ADVANTAGE

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### Unified Workload Visibility and Control Across Every Environment

The GTT Envision platform delivers hybrid cloud governance without adding operational complexity. It adapts to the infrastructure reality of each site — from a modern cloud-connected design center to a legacy OT environment with limited change windows — while maintaining centralized performance visibility and workload orchestration.

#### GTTENVISIONEDGE

Real-time network and cloud performance monitoring at every plant edge. Latency variations, throughput issues and connectivity deviations across GTT-managed infrastructure are visible as they occur, enabling GTT to align connectivity with workload demand before production is affected.

#### GTTENVISIONCORE

Centralized network policy, configuration and service control across all GTT-managed infrastructure. Network and security policy changes made centrally propagate consistently to every site, eliminating the configuration drift that occurs when regional teams manage workloads independently.

#### GTTENVISIONDX

Analytics and visibility into application performance, cost and utilization across all locations and environments. Operations, IT and finance teams share the same current view of hybrid infrastructure performance without manual reporting cycles.



THE PROOF

What Manufacturing Customers Achieve with GTT

The manufacturer below has deployed cloud-smart infrastructure with GTT across globally distributed operations. Their results are drawn from verified, publicly available case studies and direct customer account.



ETEX | Building Materials Manufacturing — Europe, LATAM, Africa, Asia-Pacific

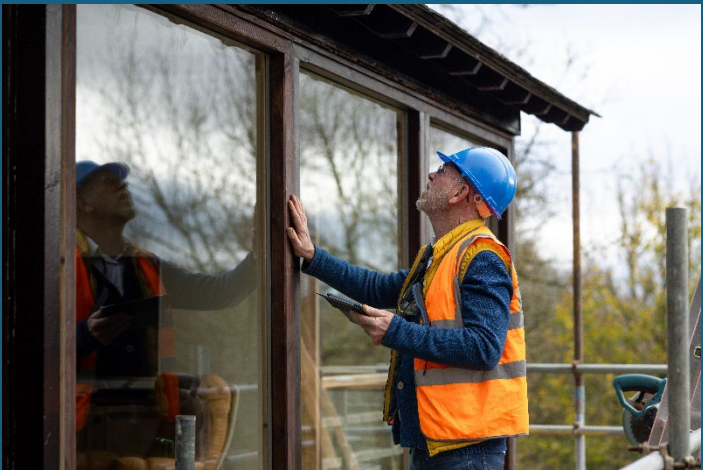
Etex operates a rapidly expanding global manufacturing footprint across multiple continents. Multiple regional networks and inconsistent local ISP performance created variability in application experience — particularly for cloud-based collaboration tools and ERP platforms that production teams and corporate functions depend on daily.

GTT delivered global managed SD-WAN and high-performance backbone connectivity across Etex locations, providing reliable cloud access from all sites, centralized visibility and simplified operations, with GTT field engineering support for standardized deployments across regions.

*“Together with GTT, we have been able to build a future-proof network, which accommodates our existing firewall estate as well as delivering all the benefits of an agile and resilient managed SD-WAN solution.”*

— Bert Janssens, Head of Technology, Etex

**Outcome:** Improved global network performance for multi-cloud and SaaS applications, increased reliability across manufacturing plants and offices in diverse regions, and a stronger foundation for digital transformation supporting collaboration tools, ERP performance and future automation initiatives.



CONNECT



SECURE



SIMPLIFY

WHY GTT

Built for the Cloud Infrastructure Demands of Global Manufacturing

Most cloud connectivity providers can deliver a reliable interconnect to one cloud environment in one region. The challenge that determines whether a manufacturing cloud-smart transformation succeeds or fails is different: can a provider deliver consistent, high-performance hybrid infrastructure across hundreds of sites, spanning legacy OT environments and modern cloud platforms, with different local carrier environments, different data-sovereignty requirements — GDPR in Europe, data-residency obligations in Southeast Asia, sovereign network mandates in the Middle East — and different levels of on-site IT capability, without the orchestration complexity falling on the customer’s internal team?

This is the problem GTT is specifically built to solve. Three capabilities — aligned to GTT’s core commitment to connect, secure and simplify — combine to make that possible:

| TIER-1 GLOBAL BACKBONE & CLOUD CONNECT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | GTT ENVISION PLATFORM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | END TO END DELIVERY OWNERSHIP                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GTT’s top-ranked global IP backbone covers 400+ points of presence across six continents, with private Cloud Connect interconnects to AWS, Azure, Google Cloud and Oracle Cloud. Approximately 80% of customer traffic remains on-net, eliminating public internet variability for cloud-bound workloads. In markets where local carrier quality is variable, GTT’s on-net architecture delivers the performance consistency that public internet routing cannot. Manufacturers do not need to manage cloud connectivity arrangements in each country. GTT does. | <p>The GTT Envision Platform is the operational difference between managing a hybrid estate and simply owning infrastructure.</p> <p>GTT EnvisionCORE unifies orchestration and policy across hybrid and multi-cloud environments.</p> <p>GTT EnvisionEDGE monitors real-time network and cloud performance at the plant edge.</p> <p>GTT EnvisionDX delivers analytics on application performance, cost and utilization across all sites. Together, a manufacturer with facilities across four continents has one accurate, current view of its hybrid infrastructure performance.</p> | GTT’s teams own hybrid infrastructure deployment, ongoing configuration management and in-life service management across the entire estate, not just initial implementation. This includes Cloud Connect provisioning, application and database management, NOC support and continuous performance optimization. Internal IT teams retain strategic direction. GTT retains accountability for delivery, performance and governance. |

## MANUFACTURING SUB-VERTICALS SERVED

### Cloud-Smart Infrastructure Adapted Across Every Manufacturing Sub-Vertical

Cloud-Smart Factory Innovation addresses distinct hybrid infrastructure challenges across manufacturing sub-verticals, with architectures adapted to the operational, regulatory and technology environments of each:

|                                   |                                                                                                                                                                                                   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Automotive & EV                   | Low-latency edge connectivity for robotics and plant automation, private cloud access for PLM and design systems, TISAX-compliant data handling across multi-region engineering environments.     |
| Food & Beverage                   | Cloud-ready WAN across 100+ global sites, private interconnects for supply chain and ERP platforms, consistent performance for production planning, logistics coordination and supplier systems.  |
| Chemicals & Materials             | Secure site-to-cloud connectivity for safety-critical OT environments, data-sovereignty compliance across multi-region operations, cloud-optimized routing for R&D and laboratory systems.        |
| Packaging                         | Scalable hybrid architecture supporting SAP and cloud collaboration workloads, private cloud access for distributed manufacturing and logistics operations across European and global sites       |
| Building Materials                | High-performance connectivity for multi-cloud ERP and design tools, consistent plant-to-cloud performance across European and global manufacturing estates with support for rapid site expansion. |
| Industrial Equipment & Automation | Cloud-ready infrastructure for PLM, engineering collaboration and digital-twin platforms, reliable connectivity across distributed production and field service operations worldwide.             |



## NEXT STEPS



### Starting the Conversation

The network is the foundation every cloud workload depends on. To modernize your manufacturing cloud infrastructure:

- ✔ **Map workloads against performance requirements:** Identify which production systems, analytics platforms and cloud applications have latency, sovereignty or availability requirements that current connectivity cannot reliably meet.
- ✔ **Audit cloud connectivity architecture:** Evaluate whether workloads reach cloud providers over private interconnects or public internet routing and whether current performance outcomes reflect what those workloads actually require.
- ✔ **Assess hybrid visibility:** Determine whether your operations and IT teams have a unified, current view of application performance, cost and utilization across edge, private cloud and public cloud environments.
- ✔ **Engage GTT:** Contact GTT to map Cloud-Smart Factory Innovation to your manufacturing infrastructure and establish the hybrid architecture your modernization require

## THE NETWORK IS THE FOUNDATION EVERY CLOUD WORKLOAD DEPENDS ON.

GTT connects global manufacturers to every cloud environment — with private high-bandwidth interconnects, unified platform visibility and a single point of accountability for hybrid infrastructure performance across the entire global estate.

## ABOUT GTT

GTT is a leading networking and security as a service provider for multinational organizations, simply and securely connecting people and agents to data and applications — anywhere in the world. We serve thousands of organizations, bringing together the right people, partners and technology to reduce the burden on IT teams and solve the most pressing networking and security challenges. Built on our top-ranked global Tier 1 network, GTT Envision is a single global technology platform to connect, orchestrate, virtualize and automate enterprise networks, enabling customers with consumable solutions to achieve business missions and meet ongoing demand when, where and how needed. Our portfolio includes SASE, SD-WAN, security, internet, voice and other connectivity options, complemented by a suite of professional services and exceptional sales and support teams in local markets around the globe. We partner with our customers to deliver Greater Technology Together. For more information, visit [www.gtt.net](http://www.gtt.net).

