

FROM GATEWAY TO GUIDING LIGHT

THE FUTURE OF TRADE IN PANAMA

Why the Western Hemisphere Needs a Digital Supply Chain Command Center to Orchestrate Global Trade Flows

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Executive Summary

Panama has long been the bridge of the world. But in an era of disrupted supply chains and shifting trade patterns, being a crossroads is no longer enough. It is time for Panama to move from gateway to guiding light – transforming into the Digital Supply Chain Command Center of the Western Hemisphere.

Key takeaways:

- **From visibility to orchestration:** Panama must evolve beyond simply tracking cargo to actively directing the flow of trade.
- A digital backbone for supply chain: AI, blockchain and real-time data will empower Panama to anticipate disruptions and optimize flows.
- **Resilience and sustainability:** Predictive planning and greener routing make trade faster, smarter and more sustainable.
- A once-in-a-century opportunity: Like Singapore before it, Panama can leverage geography, vision and innovation to become the supply chain brain of its hemisphere.
- **Leadership for the hemisphere:** Panama's transformation secures not just national advantage but a reliable anchor for all the Americas.

Turning Innovation into Insight: Panama's 'Once in a Century' Opportunity

For more than a century, Panama has been "the bridge of the world." The Panama Canal opened in 1914, tying the Atlantic and Pacific Oceans and shaving 8,000 miles off shipping routes. Since then, Tocumen International Airport has linked North and South America for air cargo. Meanwhile, ports on both coasts and free-trade zones enable companies to manufacture, store and tranship goods quickly and efficiently.

But being a crossroads is no longer enough. Years of geopolitical turmoil, capped by pressure from President Trump's tariffs, are forcing companies to reinvent supply chains. In <u>the age of ReGlobalization</u>, companies are seeking alternatives for sourcing, production and delivery. This leaves companies questioning where to position inventory and how to build resilience as they nearshore, friendshore and reshore. To win in the future, companies and countries must marry control tower visibility with the execution capabilities of a Digital Supply Chain Command Center.

The transition to ReGlobalization provides Panama's forward-thinking leadership with this once-in-a-century opportunity.

Because now, the Americas need a supply chain anchor. And beyond an ideal geographical location, Panama has the necessary vision, talent and commitment to

innovation. Like Singapore for the Eastern Hemisphere, Panama can move beyond being a physical hub to a digital nerve center. A Panamanian national Digital Supply Chain Command Center can orchestrate flows across oceans, land borders and economies.

On a piecemeal level, many companies have already taken heed – at least on a control tower level. According to Tompkins Ventures research, 185 multinationals have established Latin American headquarters in Panama. Nestlé, Adidas, P&G, Philips and Maersk are just a few examples. Some run regional distribution out of Panama, but quite a few are operating company-specific control towers for Latin America.

Ecommerce and retail giants like Amazon and Alibaba consider Panama optimal for fulfilling regional sales. Supply chain networks based in Panama enable 24-48-hour delivery throughout the Americas, surpassing alternatives like Miami for certain markets. Bulk shipping rates, modern digital port systems and strategic connections to both continents allow for faster inventory restocking and distribution, directly benefitting online retailers and increasing customer satisfaction.

The next step should involve public initiatives to digitize and standardize supply chain processes across Panama's platform. Because a Digital Supply Chain Command Center will go beyond control tower visibility to add orchestration and execution, preventing or unlocking bottlenecks that hamper the global movement of goods.

That kind of forward thinking will cement Panama's evolution from being just a physical hub to the digital nerve center of Western Hemisphere supply chains.

Visibility without Control Is the Past

Logistics used to be about visibility – tracking shipments and reacting to delays. But visibility without control and execution is like looking at a storm and hoping it passes. We need to move from observing to orchestrating. Success requires moving beyond dashboards to a Digital Supply Chain Command Center that synchronizes entire networks.

Digital transformation is already reshaping supply chain. Panama's new integrated maritime and supply chain strategy aims to create a sector "knowledge center" that collects data from ports and provides business intelligence to the government and private sector; the goal is to become <u>fully digitized within three years</u>. The supply chain sector will increasingly adopt blockchain and artificial intelligence to optimize operations and reduce fraud. AI-powered predictive analytics, including digital twins, can forecast delays, optimize routing and model the impact of disruptions. Sensors, IoT devices and satellite feeds deliver real-time data to algorithms that suggest inventory adjustments and rerouting options.

Now, the Panama Canal is one of the world's most iconic passageways for goods. Marrying AI technology with Panama's unique geography creates a new supply chain paradigm, one where the Panama Canal steps into a new era – not just moving cargo but mastering its flow.

As global trade becomes smarter, faster and more interconnected, the canal can evolve into a strategic Digital Supply Chain Command Center – where data meets direction and insight drives impact. This is more than infrastructure; it's intelligence in motion.

What a Hemisphere-Wide Command Center Looks Like

A command center is not a building; it is a digital nervous system. It unites data, systems and stakeholders into a single platform that predicts, plans and acts. Here is how such a system could work in Panama:

- Real-time integration. Data from ports, airports, customs, carriers, warehouses and retailers flow into a national logistics cloud. IoT sensors, GPS and RFID tags track cargo across modes, and satellite feeds monitor weather. This unified data platform provides end-to-end visibility and forms the basis for dynamic decision-making.
- 2. **Predictive and prescriptive analytics.** AI models trained on historic and real-time data forecast congestion, strikes, weather disruptions or geopolitical shocks. They generate recommended actions rerouting a vessel, adjusting an air schedule or reallocating inventory to maintain flow and minimize cost.
- 3. **Flow orchestration.** The system dynamically schedules ship transits, air arrivals and multimodal transfers. <u>Blockchain and smart contracts</u> automatically process customs documentation, reducing dwell times and fraud. Companies can easily shift freight from ship to rail or air to road, optimizing for speed, cost and emissions.
- 4. **Stakeholder collaboration.** Secure access allows ports, carriers, government agencies and shippers to share relevant data. A "knowledge center" provides metrics and analytics to companies. Training programs in universities and vocational institutes build a digital workforce capable of operating and improving this system.
- 5. **Resilience and sustainability.** Early-warning systems signal disruptions; digital twins simulate contingencies; data sovereignty ensures Panama controls its infrastructure. Algorithms optimize routes to reduce fuel consumption and emissions. Cybersecurity protections shield the digital backbone from attack.

5 Forces that Make Panama the Perfect Hub

Several factors make Panama the perfect location for the Western Hemisphere's Digital Supply Chain Command Center.

- **Strategic geography.** The Canal is a global nexus; its accompanying railway aids transshipment across the isthmus during busy times and droughts; <u>Tocumen International Airport</u> is one of Latin America's best-connected air hubs; ports on both coasts serve as distribution points for North and South America. With real estate and labor costs lower than in the U.S., Panama offers significant cost advantages for companies distributing across the region.
- Existing logistics economy. Logistics (defined as transport, warehousing and related services) already contributes over 11% of GDP. Including the entire economic footprint of the maritime and supply chain cluster the Canal, ports, shipping registry, bunkering, ship services, railway and associated logistics expands that GDP percentage to 31% and 110,000 jobs, according to the Georgia Tech Panama logistics research center. Container throughput continues to grow despite global shocks. A new gas plant in Colón, a power link with Colombia and upgraded road links strengthen energy and infrastructure. These attributes attract manufacturers and distributors seeking nearshoring opportunities for the Americas.
- **Probusiness environment.** Panama's dollarized economy, free-trade zones and stable governance draw investment. Government initiatives, supported by Senacyt and Georgia Tech, are creating a <u>knowledge center</u> to provide data and intelligence for logistics strategy.
- **Technological ambition.** Panama's ports are continuing to upgrade with automation and IoT deployment. The country's logistics strategy aims to be <u>fully digitized by 2030</u>. Investments in digital training and AI research support this ambition. Such readiness makes Panama uniquely capable of adopting a Digital Supply Chain Command Center model.
- **Sustainability.** National policies prioritize reducing emissions, adopting alternative fuels and optimizing routes to <u>lessen environmental impact</u>. This aligns with global corporate commitments and enhances Panama's appeal as a green logistics hub.

Unlocking Resiliency, Efficiency, Jobs, Sustainability ...

The World Bank already classifies Panama as a <u>logistics and financial epicenter</u>. Last year, the country's container ports handled <u>9.57 million TEUs</u>, growing <u>15 %</u> despite

geopolitical turbulence. Transshipment accounted for <u>nearly 90%</u> of that container cargo, emphasizing the country's importance as a logistics hub.

The advantages of marrying a national Digital Supply Chain Command Center to Panama's stable economy, strategic location and visionary leadership are multi-fold.

Panama would cement its role as the supply chain brain of the Western Hemisphere, generating high-value jobs and attracting foreign capital. Real-time orchestration replaces mere visibility, reducing delays, cutting inventory and transportation costs, and accelerating customs clearance. Predictive planning minimizes disruptions from weather, strikes or geopolitical shocks, enhancing resilience. AI-optimized routing reduces fuel consumption and emissions, supporting global sustainability commitments. Blockchain-secured documentation builds trust and combats fraud, while data sovereignty ensures Panama retains control over sensitive information. Finally, the platform can integrate with global networks, scaling to support new trade corridors and technologies.

Imagine ships entering the Canal with synchronized data from ports across the Americas. Imagine aircraft landing at Tocumen International Airport with cargo precleared and digitally optimized for last-mile delivery. Imagine a supply chain ecosystem where customs, carriers, distribution/fulfillment centers and retailers operate on a single digital backbone – powered by Panama.

Singapore Did it – Panama Can Too

In many ways, Panama is already traveling the path of Singapore. As mentioned above, the country has been steadily upgrading its ports, airport and logistics infrastructure.

Sixty years ago, when <u>Singapore's GDP per capita was only \$500</u>, the country's leadership started a nearly 60-year transformation.

Singapore's master planning between 1965 and 1972 focused heavily on basics: increasing labor productivity and fork truck and crane utilization. In the early 1970s, port authorities turned their focus toward information technology (IT) and containerization. IT followed an evolutionary process, starting with accounting, port analytics, communications, operating systems, then EDI, bar code readers and simulation, with artificial intelligence added in 2021. Containerization's path started with gantry cranes, then mechanized gantry cranes and automated guided vehicles. Areas targeted over the last 10 years have included enhancing customer services, employee training and development and a strong focus on sustainability.

Now, decades later, Singapore is the Supply Chain Hub of the East. And in 2024, GDP per capita topped \$90,000, according to the World Bank. Imagine if Panama, with a current GDP per capita of less than \$20,000, could replicate that success.

Seizing Panama's Moment – from Hub to Hemisphere Leader

Panama stands at a crossroads again – not just of oceans, but of history. The move from physical hub to digital command center demands collaboration across sectors. Government must champion a national supply chain cloud and invest in connectivity, cybersecurity and talent. The private sector must participate in building the platform and adopting its standards. Universities and research centers must continue to develop skills in AI, data science and supply chain engineering. International partners should see Panama as a neutral, efficient and sustainable hub for the hemisphere.

The Panama Canal should continue to undergo this transformative upgrade from a physical conduit of global trade to a strategic command center for intelligent supply chain operations. This evolution positions the Canal not only as a passageway but as a decision-making hub, integrating data, AI and predictive analytics to orchestrate the flow of goods with precision and foresight.

I invite Panama – and our partners throughout the Americas – to embrace this vision. Initiatives have been tried before but have not gained traction. But the future of trade is not just moving goods; it is moving them intelligently. By building the Digital Supply Chain Command Center of the Western Hemisphere in Panama, we can ensure that global commerce flows faster, greener and more resiliently than ever before.