THE NORTH AMERICAN DIGITAL INFRASTRUCTURE COORDINATION INITIATIVE

A Continental Framework for Digital Integration and Technological Sovereignty

Daniel Covarrubias, Ph.D.

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TEXAS A&M INTERNATIONAL UNIVERSITY

TEXAS CENTER FOR BORDER ECONOMIC & ENTERPRISE DEVELOPMENT
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Executive Summary

The United States is engaged in a defining technological competition with China for artificial intelligence supremacy. Winning this race is in the strategic interest of all three North American nations—but victory achieved in isolation would be incomplete. The United States cannot cross the finish line and leave Mexico and Canada behind without creating long-term security vulnerabilities and forfeiting the continental-scale deployment capabilities that AI leadership requires.

Today, North America's digital systems remain fragmented despite $1.93 trillion in annual trade (CSIS, 2025). This "Digital Wall" imposes billions in redundant compliance costs, with data localization requirements alone increasing costs by 30-60% for technology firms (ITIF, 2025). Cross-border digital trade—valued at approximately $250 billion in digitally ordered goods and services (Brookings, 2022)—operates across three incompatible regulatory regimes. More critically, continued fragmentation leaves Mexico and Canada exposed to competing digital ecosystems, including China's Digital Silk Road, creating alignment risks that would undermine any American technological advantage.

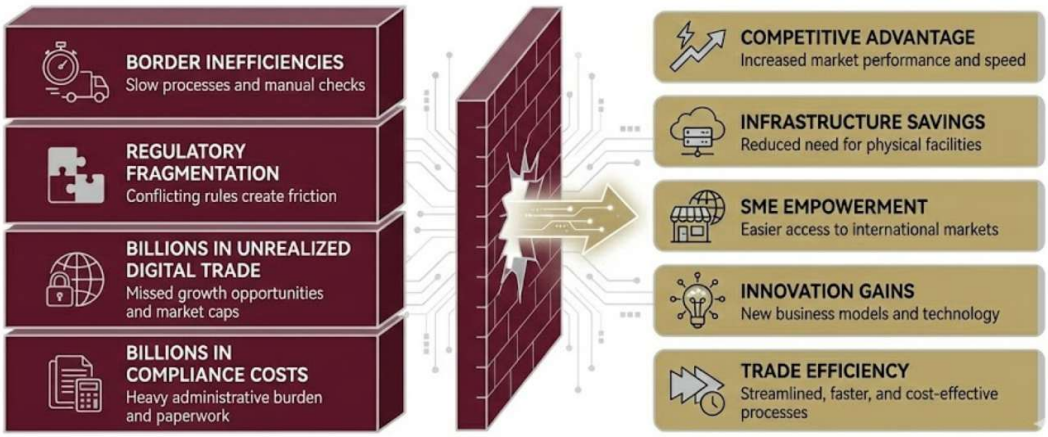

Figure 1: Cost-Benefit Analysis - Comparing current costs with potential benefits

The effects of this challenge are starkly demonstrated every time computer systems fail in Mexico, paralyzing trade at multiple border crossings, including the World Trade Bridge in Laredo, TX., where over 18,000 trucks cross daily in both directions (Texas Center, 2025). The economic impact is immediate and severe: millions of dollars in lost productivity, perishable goods spoiling in queues, and just-in-time supply chains thrown into chaos. Unfortunately, this is not an isolated incident but a recurring pattern that exposes the fragility of the continent's disconnected digital systems.

As artificial intelligence, blockchain, quantum computing, and other transformative technologies reshape global commerce, North America risks falling behind more digitally coordinated regions. The European Union's digital single market could contribute €415 billion annually through reduced transaction costs (European Commission, 2015). ASEAN's Single Window system has facilitated over 4 million electronic document exchanges, saving businesses $6.4 billion annually and reducing transit times by an average of 4 days per shipment (Akbar et al., 2025). Meanwhile, North America-despite deeper economic integration-lacks even basic digital interoperability across the three countries.

The North American Digital Infrastructure Coordination Initiative (NADICI) represents the third pillar of a comprehensive framework for USMCA 2.0. Where the Binational Customs Agency addresses operational efficiency and the North American Industrial Coordination Council focuses on strategic industrial alignment, NADICI provides the digital nervous system that enables both to function optimally.

NADICI Framework Structure

This proposal outlines a pragmatic approach to digital integration that respects national sovereignty while building continental capabilities in four critical areas:

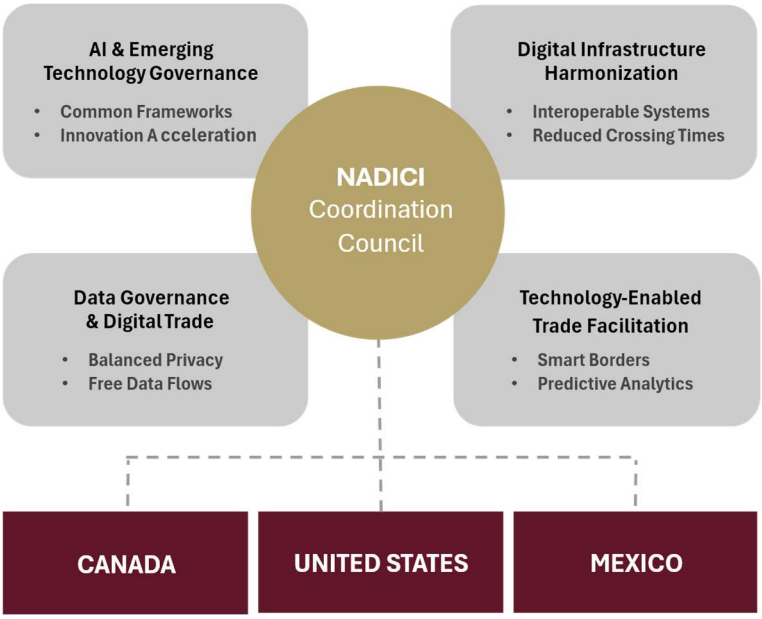

Figure 2: NADICI Framework Structure - Four parts of a coordinated digital strategy

1. **AI and Emerging Technology Governance**: Establishing common frameworks that enable seamless deployment of AI applications across North American markets while ensuring safety, transparency, and ethical use.
2. **Digital Infrastructure Harmonization**: Creating interoperable systems that reduce border processing times and eliminate redundant data entry across three national platforms.
3. **Data Governance and Digital Trade**: Developing balanced approaches that reduce compliance burdens for businesses of all sizes while protecting privacy and enabling free data flows.
4. **Technology-Enabled Trade Facilitation**: Deploying smart border technologies that transform how goods and services move across North America.

Through NADICI, North America can transform its current digital fragmentation into a source of competitive advantage, creating the world's most advanced digital trade ecosystem while maintaining security and sovereignty. The 2026 USMCA review provides the perfect opportunity to establish the infrastructure for a shared digital future.

I. Introduction

North America faces a choice that will shape its economic and security position for decades. The United States is racing to establish and maintain artificial intelligence supremacy over China—a competition both nations recognize as decisive for 21st-century power. For Canada and Mexico, the outcome carries profound implications: American success achieved in isolation would leave its closest allies digitally fragmented, vulnerable to absorption into competing technological spheres. American failure would be worse for all three.

The path forward requires a continental AI strategy—one where the United States reaches the finish line with its North American partners, not despite them. This is not a matter of charity or burden-sharing. Mexico's manufacturing capacity, Canada's talent pipeline and quantum research leadership, and the integrated supply chains that already span all three countries are assets the United States needs to deploy AI at scale. Fragmentation wastes these complementary strengths. Integration multiplies them.

Two complementary proposals have already been advanced: the Binational Customs Agency, developed in collaboration with Ambassador Gerónimo Gutiérrez, which aims to modernize and streamline border operations; and the North American Industrial Coordination Council, co-authored with Gerry Schwebel, designed to align industrial strategies across the three countries. The success of both initiatives depends on a core element not yet addressed: Digital Infrastructure. that increasingly underpins economic performance in the 21st century.

Despite annual cross-border trade exceeding $1.93 trillion (CSIS, 2025), the digital systems supporting these flows remain fragmented. The United States' Automated Commercial Environment (ACE), Canada's CBSA Assessment and Revenue Management (CARM), and Mexico's Ventanilla Única (VUCEM) operate as distinct platforms with limited interoperability. Shipments traveling from Mexico to Canada via the United States must navigate multiple data transformations across incompatible systems, introducing delays and increasing error rates. This fragmentation constrains innovation and places North America at a strategic disadvantage relative to regions with more integrated digital frameworks.

System outages impose immediate economic costs. A four-hour delay at the Ambassador Bridge, which handles approximately 25% of U.S.-Canada trade, can result in up to $7 million in lost production (CBC Radio, 2022). In pharmaceuticals, maintaining parallel compliance systems for the FDA, Health Canada, and COFEPRIS adds high redundant costs to cross-border operations. Tesla's Full Self-Driving system, while approved in the United States, remains inoperable in Canada due to differing AI transparency requirements, a preview of the barriers that will multiply as AI applications expand.

Meanwhile, international peers continue to advance digital integration. China’s Digital Silk Road is promoting interoperable systems across Asia. The European Union’s digital single market has harmonized data governance and emerging technology standards across 27 member states, generating an estimated €415 billion in annual economic value (European Commission, 2015). The ASEAN region, despite greater internal economic disparities than North America, has also achieved measurable reductions in border processing times through targeted investments in digital infrastructure (Akbar et al., 2025).

The North American Digital Infrastructure Coordination Initiative (NADICI) is proposed as a strategic response to this persistent fragmentation. Alongside the Binational Customs Agency and

the North American Industrial Coordination Council, NADICI forms the third pillar of a broader framework to strengthen regional integration under a modernized USMCA.

The 2026 USMCA review presents a timely opportunity to incorporate digital coordination into the formal architecture of North American integration. Embedding interoperable infrastructure within the agreement would complement ongoing efforts to modernize trade and regulatory systems. Continued reliance on legacy systems risks diminishing regional competitiveness, while investment in shared digital infrastructure would enhance North America's capacity for innovation, resilience, and inclusive growth.

II. The Digital Imperative for North American Competitiveness

Why North America Needs a Continental AI Strategy

The artificial intelligence race is not merely about developing the most advanced models; it is about deploying them at scale across integrated economic systems. China's strategic advantage lies not only in state-directed investment but in a unified domestic market of 1.4 billion people operating under coordinated digital standards. North America's 500 million people remain fragmented across three regulatory regimes that impede seamless AI deployment.

This fragmentation carries costs beyond inefficiency. AI supply chains are already North American supply chains. Semiconductors cross the U.S.-Mexico border multiple times during production. Canadian rare earth processing and advanced materials research are integral to AI hardware development. Mexican manufacturing capacity will determine whether AI-enabled products, from autonomous vehicles to smart medical devices, are assembled in North America or Asia.

Each country brings irreplaceable assets to the AI competition. The United States generates over $146 billion annually in AI market activity and leads in private investment, with $109 billion deployed in 2024 alone (Stanford HAI, 2025). Canada hosts world-leading quantum computing research and has developed sophisticated governance frameworks through initiatives like the Artificial Intelligence and Data Act (AIDA). Mexico offers manufacturing scale, a young workforce, and proximity advantages that no reshoring strategy can replicate.

Fragmentation wastes these complementary strengths. A fractured regulatory landscape, the United States introduced 59 federal AI-related regulations in 2024, more than double the previous year (Stanford HAI, 2025), forcing companies to navigate approval processes separately in each country for identical AI applications. The result is slower deployment, higher costs, and a competitive disadvantage against regions that operate as unified blocs.

The bigger risk is strategic drift. Without a continental digital framework anchored by U.S. leadership, Mexico and Canada face growing pressure to align with alternative systems. Chinese infrastructure investment through the Digital Silk Road is not hypothetical; it spans over 140 countries and includes digital payment systems, telecommunications networks, and technical standards. The European Union's AI Act and GDPR are already shaping global norms that North American firms must navigate. Bilateral digital agreements that exclude the United States are active alternatives, not theoretical risks.

A continental AI strategy ensures that American technological leadership translates into North American competitive advantage, and that the allies who share supply chains, security interests, and democratic values remain aligned within a common digital ecosystem.

The Current State of Digital Fragmentation

North America's digital infrastructure presents a notable paradox: despite substantial physical and economic integration, the region's digital systems remain largely uncoordinated. A truck transporting auto parts from Mexico to the United States must navigate distinct digital platforms at each border. Although all three countries nominally adhere to the WCO Data Model, implementation diverges significantly across systems, with limited field-level harmonization between ACE, CARM, and VUCEM.

In the area of AI and emerging technologies, regulatory divergence risks segmenting the North American market at a time when these technologies are **approaching commercial** scale.

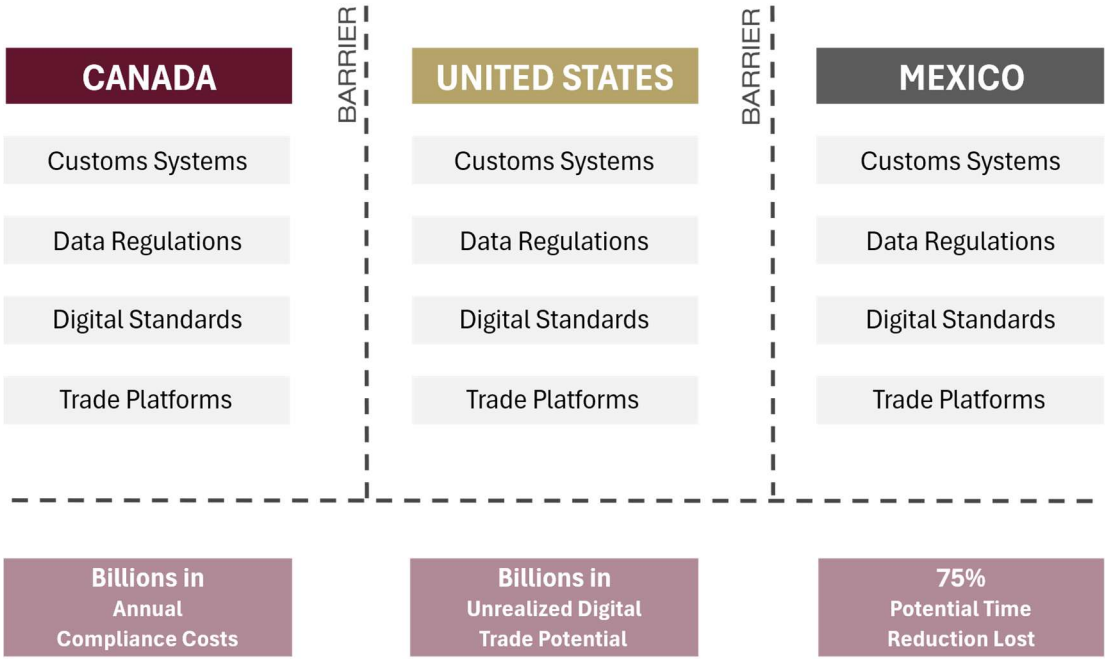

Figure 3: The Digital Wall - Current fragmentation across North American digital infrastructure

The Hidden Costs of Digital Disconnection

The economic implications of digital fragmentation are measurable, if imprecisely quantified.

- **Delayed Processing**: Commercial border crossings average 30-35 minutes under normal conditions, but the worst 5% take more than 70 minutes (FHWA). With approximately 11 million truck crossings annually (BTS, 2024), even modest delays compound into millions of hours of lost productivity. For just-in-time supply chains in automotive and manufacturing, unpredictable variance, not average delay, is the true cost driver.
- **Compliance Complexity**: Regulatory divergence imposes significant burdens. Data localization mandates increase hosting costs by 30-60% for affected firms (ITIF, 2025). When extrapolated across varying state and national frameworks, cumulative compliance costs reach into the billions annually, with small and medium enterprises bearing disproportionate burdens.
- **Innovation Constraints**: Fragmented digital requirements create operational frictions at scale. Major automakers report maintaining separate battery passports and compliance systems for vehicles sold across the three markets. E-commerce platforms operate distinct fulfillment and compliance networks rather than unified continental operations, costs that integrated competitors in other regions do not bear.
- **Security Vulnerabilities**: Disconnected digital systems limit real-time information sharing across borders, reducing the effectiveness of efforts to address trade-based money laundering and intellectual property theft. Academic research estimates that suspect trade transactions represent a significant percentage of cross-border flows (TraCCC, George Mason University), though precise regional losses are difficult to quantify.

Global Digital Competition Intensifies

While North America faces persistent digital fragmentation, global competitors are advancing integrated digital strategies at continental and intercontinental scale.

China's Digital Silk Road represents the most ambitious effort to establish technological influence beyond national borders. Spanning over 140 countries, it encompasses 5G network deployment, digital payment infrastructure, smart city systems, and unified technical standards. For participating nations, adoption creates path dependencies that extend beyond technology into economic and political alignment. Neither Mexico nor Canada is immune to this pressure—particularly as trade tensions create incentives to diversify relationships.

The European Union has harmonized digital regulations across 27 member states, creating a seamless marketplace of 450 million consumers and generating an estimated €415 billion in annual economic value (European Commission, 2015). Its coordinated frameworks for AI governance (EU AI Act), data protection (GDPR), and digital services are increasingly shaping global norms. North American firms must navigate these frameworks regardless; the question is whether North America develops its own standards with equivalent influence or becomes a standards-taker.

In the Asia-Pacific region, ASEAN's Single Window has facilitated the exchange of over 4 million electronic documents among member countries, saving businesses approximately $6.4 billion annually and reducing average transit times by four days per shipment (Akbar et al., 2025), despite operating across economies with greater internal disparities than those in North America.

The Cost of Inaction

Consider a plausible North America in 2035 without coordinated digital integration:

Mexico has adopted significant Chinese digital infrastructure for smart city and logistics applications. These systems, incompatible with U.S. standards and opaque to American oversight, create cybersecurity vulnerabilities that complicate defense cooperation and raise concerns about data access for intelligence purposes. The integration that once characterized North American manufacturing now operates across a digital fault line.

Canada has aligned its AI regulation with European Union frameworks, prioritizing precautionary principles that differ from U.S. approaches that emphasize innovation. American AI firms face compliance barriers when deploying products in Canada that they can deploy freely at home. What should be an integrated market of 370 million serves instead as a preview of the regulatory arbitrage challenges U.S. companies face globally.

The "Digital Wall" persists while China's Digital Silk Road has expanded to include bilateral digital trade agreements with both North American neighbors. American AI companies have achieved technological breakthroughs but struggle to deploy them across supply chains that span three incompatible regulatory environments. Continental-scale deployment, the capability that should distinguish North America from smaller markets, remains theoretical.

This scenario is not inevitable, but the consequences of continued fragmentation extend beyond forgone efficiencies, every year of fragmentation makes this scenario more likely, and more costly to reverse.

The North American Opportunity

Despite current fragmentation, North America holds distinct advantages in advancing an integrated digital infrastructure.

The region’s technological capacity is substantial: the United States generates over $146 billion annually in AI-related revenues (Stanford HAI, 2025), Canada’s quantum research institutes rank among the world’s leading centers, and Mexico’s expanding tech sector and demographic profile offer considerable growth potential.

Existing economic integration provides a strong foundation for digital coordination.

Shared cybersecurity concerns further underscore the need for coordinated digital systems. Each country brings complementary capabilities: U.S. innovation and scale, Canadian governance expertise and quantum leadership, and Mexican manufacturing dynamism and market expansion.

Together, these assets position North America to develop one of the most competitive and resilient digital ecosystems globally.

The Transformative Potential of Integration

Concrete examples illustrate the potential of coordinated digital integration

- **Digital Trade Documentation**: Electronic trade documents, including blockchain-based certificates of origin piloted in the Pacific Alliance, can reduce transaction processing times by up to 75%, according to International Chamber of Commerce research. Applying similar systems across North America could generate substantial savings in documentation costs.
- **Integrated Supply Chain Visibility**: Walmart's blockchain pilot achieved 2.2-second traceback capability, compared to seven days using traditional systems (IBM Food Trust, 2020). Scaling such visibility across North America could prevent contamination events, saving lives and reducing recall-related costs.
- **Continental Innovation Platforms**: GM's blockchain pilot with Spring Labs reduced supplier onboarding time from six weeks to ten days (Forbes, 2019). Region-wide implementation could significantly streamline automotive supply chains.

  Smart Border Technologies: The Automated Commercial Environment (ACE) system has reduced border processing times by 33% on average across U.S. ports of entry (CBP). Broader deployment of smart border technologies could substantially reduce crossing times while enhancing security.

The technological capacity to achieve this vision already exists. What remains is the institutional framework to coordinate implementation across three sovereign nations. NADICI provides that framework, a pragmatic path from digital fragmentation to digital integration.

III. Core Components of NADICI

The North American Digital Infrastructure Coordination Initiative (NADICI) is organized around four interconnected components, each designed to address key dimensions of digital integration while upholding national sovereignty and security imperatives.

1. AI and Emerging Technology Governance

A continental AI strategy requires, first and foremost, a unified approach to AI governance. Without regulatory coherence, the most advanced AI systems developed in one country cannot be deployed across the integrated supply chains and markets that span all three. This is not an abstract concern; Tesla's Full Self-Driving system, approved in the United States, remains inoperable in Canada due to differing transparency requirements. Such fragmentation will multiply as AI applications expand into healthcare, financial services, manufacturing, and logistics.

North America's current approach to AI governance imposes high costs through regulatory fragmentation. The United States introduced 59 federal AI-related regulations in 2024, more than double the previous year, creating a rapidly evolving compliance landscape (Stanford HAI, 2025). Canada is advancing comprehensive legislation through the Artificial Intelligence and Data Act (AIDA). Mexico's regulatory framework remains less developed, creating uncertainty for cross-border deployment. This divergence costs businesses billions annually and is particularly acute in deeply integrated sectors—automotive, medical devices, and financial services, where AI innovations cannot be deployed seamlessly across borders despite serving unified markets.

Rather than requiring companies to navigate separate approval processes for identical AI applications in each country, NADICI proposes the creation of a Continental AI Standards Board. This body would establish outcome-based standards shared between Canada, the United States, and Mexico designed to support rapid deployment while ensuring safety, transparency, and ethical use.

The Board would build on AI principles already endorsed by all three countries through the OECD, creating a shared foundation. A tiered risk assessment framework -modeled on the EU AI Act but adapted to North American conditions- would classify AI applications by potential impact. Low-risk systems would face minimal requirements, while high-risk applications in healthcare, transportation, and financial services would undergo more rigorous review.

Certification processes would leverage existing national expertise while promoting continental consistency. Assessments would be conducted by accredited private-sector certification bodies, ensuring speed, technical rigor, and independence.

Beyond efficiency gains, unified AI governance positions North America to shape global standards rather than adopt them. The OECD AI Principles—already endorsed by all three countries—provide a foundation for developing frameworks that reflect North American values: innovation-friendly approaches balanced with appropriate safeguards, transparency requirements that protect consumers without creating compliance barriers, and governance structures that maintain democratic accountability. As the EU AI Act and China's regulatory approach compete for global influence, North America has the opportunity to offer a third model—one that other democratic market economies may find more aligned with their own priorities.

2. Digital Infrastructure Harmonization

Unified AI governance requires an interoperable infrastructure to function. The most sophisticated regulatory framework accomplishes little if the underlying systems cannot communicate across borders.

The foundation of NADICI lies in the creation of truly interoperable digital systems across North America. While all three countries nominally adhere to the WCO Data Model, implementation varies significantly, with limited field-level harmonization—highlighting the gap between formal compliance and functional integration. Achieving interoperability requires more than technical alignment; it demands shared standards, protocols, and governance frameworks that enable seamless digital interaction across borders.

A central component of this effort is the proposed North American Digital Trade Platform (NADTP), which would transform how businesses engage with government systems. Drawing on global best practices -such as ASEAN's Single Window, which processes over 4 million documents annually across ten diverse economies (Akbar et al., 2025)- the NADTP would provide a unified interface for trade-related submissions.

By eliminating the need for redundant data entry across three national systems, the platform would allow traders to submit information once, with intelligent routing to all relevant authorities. Modeled in part on the EU's Single Digital Gateway -projected to save between €95.8 and €151.9 million annually after full implementation (European Parliament, 2018)- the NADTP could generate substantial annual savings for North America through reduced administrative burden and faster processing times.

Real-time status tracking would address one of the most persistent inefficiencies in current systems. Tracking failures can result in significant storage fees, particularly for time-sensitive pharmaceutical products. Full supply chain visibility would eliminate these blind spots, improving inventory management, reducing spoilage of time-sensitive goods, and delivering billions in potential savings.

3. Data Governance and Digital Trade

AI development depends on access to data. Fragmented data governance regimes handicap North American AI firms competing with Chinese companies that enjoy unified domestic data access, while failing to provide citizens with consistent privacy protections.

Data flows valued at over $250 billion annually traverse North American borders, yet the region faces a projected compliance burden exceeding $1 trillion over the next decade. This cost is not driven by the inherent challenges of safeguarding privacy or security, but by a fragmented regulatory landscape that forces businesses to navigate a patchwork of incompatible requirements. NADICI would address this challenge by establishing balanced, interoperable frameworks that enable the free flow of data essential to modern commerce, while upholding robust protections for individual privacy and national security.

Building on the USMCA's provisions prohibiting data localization, the proposed **Continental Data Flow Framework** would support secure, privacy-conscious data exchange across borders. It reflects the growing importance of data in the digital economy -from AI development to supply chain management- and acknowledges that fragmented regulations can hinder North America's ability to compete effectively.

Trusted Data Corridors would facilitate the secure exchange of sensitive information using advanced privacy-preserving technologies. Homomorphic encryption, which enables computation on encrypted data without revealing its contents, would allow for cross-border analytics while maintaining strict confidentiality. Combined with secure multi-party computation and differential privacy techniques, these corridors would function as encrypted data highways -enabling free yet secure information flows.

A unified **Data Classification System** would further reduce compliance costs by establishing common categories for data sensitivity across Canada, the United States, and Mexico. This approach would replace divergent national definitions with a shared framework -ranging from public data to highly sensitive personal information- helping to mitigate the 30 - 60% cost increases currently imposed on cloud services by localization mandates.

4. Technology-Enabled Trade Facilitation

The technologies that enable AI, sensors, connectivity, and real-time analytics also transform border operations. Deploying these capabilities at a continental scale converts borders from bottlenecks into demonstration sites for North American technological leadership.

Documented improvements support the case for smart border infrastructure, though comprehensive ROI studies remain limited. The Automated Commercial Environment (ACE) system has reduced border processing times by 33% on average across U.S. ports of entry (CBP). RFID technology deployed at Canada-U.S. crossings has demonstrated efficiency gains, though specific return calculations vary by deployment. Electronic trade documents, including blockchain-based certificates of origin piloted in the Pacific Alliance, can reduce transaction processing times by up to 75%, according to International Chamber of Commerce research.

Reimagining border crossings for the digital age with Smart Infrastructure would transition from reactive inspection to predictive management, from physical queues to virtual processing, and from paper-based documentation to digital verification.

Predictive border management uses artificial intelligence to anticipate and mitigate congestion before it occurs. At the Detroit-Windsor crossing, the implementation of AI systems to analyze traffic patterns, weather conditions, and economic indicators reduced delays by 33%, generating substantial productivity gains. Scaling this approach across major crossings would allow machine learning models to improve continuously as they process more data.

The proposed **Continental Supply Chain Visibility Platform** would enhance transparency across North American supply chains, helping to prevent disruptions that cost billions annually. The platform would offer real-time tracking from origin to destination, predictive analytics to identify potential issues, and dynamic optimization tools to improve efficiency and resilience.

IV. Implementation Architecture

Governance Structure

NADICI's success depends on a governance model that carefully balances national sovereignty with the practical requirements of regional integration, informed by lessons from both international successes and past challenges. The structure must be sufficiently robust to drive meaningful change, yet flexible enough to accommodate the distinct political systems and constitutional frameworks of Canada, the United States, and Mexico.

At the core of this model is a **Ministerial Council**, composed of ministers responsible for technology, trade, and security from each country. Meeting quarterly under a rotating chair, the Council would set strategic direction, resolve disputes, and ensure alignment across national priorities. Its direct reporting relationship to the USMCA Free Trade Commission would elevate digital infrastructure to the same level of policy attention as traditional trade matters.

Supporting the Council, an Executive Board of Deputy Minister-level officials would oversee operational coordination through monthly virtual meetings and quarterly in-person sessions. This board would ensure continuity, responsiveness, and alignment across technical and policy domains.

Specialized Technical Working Groups would lead the detailed work of harmonization and implementation. These groups would focus on five core areas: Infrastructure Harmonization, AI and Emerging Technologies, Data Governance, Trade Facilitation, and Cybersecurity. Their mandate would include developing shared standards, coordinating pilot projects, and advising on regulatory alignment-ensuring that NADICI remains both technically sound and politically viable.

Phased Implementation Approach

Drawing lessons from ASEAN's gradual integration and the European Union's more centralized approach, NADICI would be implemented through carefully sequenced phases. This strategy is designed to build momentum through early successes while addressing complex challenges in a systematic and politically viable manner.

- **Phase 1 (Months 1–18): Foundation**

  The initial phase would focus on establishing core governance structures, including a dedicated secretariat and operational protocols. Pilot programs in select sectors would demonstrate proof of concept. For example, deploying digital certificates of origin, which have demonstrated processing time reductions of up to 75% in comparable implementations, would provide a tangible early win and generate support for broader integration.

- **Phase 2 (Months 18–36): System Integration and Value Multiplication**

  This phase would connect existing national single window systems through the North American Digital Trade Platform (NADTP), creating the long sought unified interface. Shared AI governance frameworks for logistics applications would enable cross-border deployment of efficiency-enhancing algorithms, amplifying the benefits of Phase 1 investments.

- **Phase 3 (Months 36–60): Full Operational Capability**

  The final phase would extend platform deployment across all sectors, with a target of achieving 90% paperless trade documentation as network effects accelerate adoption. Comprehensive AI mutual recognition would allow seamless deployment of new applications across borders, supporting innovation while maintaining regulatory integrity.

Funding Model

Delivering NADICI's vision requires a financing model that combines public investment, private sector engagement, and innovative cost recovery mechanisms. A proposed public commitment of $6.8 billion over five years would fund essential infrastructure, including:

- $2.3 billion for development of core digital platforms
- $1.2 billion for cybersecurity systems
- $1.8 billion to expand rural connectivity
- $1.5 billion for workforce skills and training initiatives

Private sector participation would be mobilized through market-based instruments such as premium API access, blockchain verification fees, and data analytics services. Public-private partnerships would further support deployment and maintenance, aligning commercial incentives with public goals.

Multilateral support -including infrastructure loans from the World Bank and technical assistance from the Inter-American Development Bank (IDB)- would help offset fiscal pressures while introducing global best practices and technical expertise.

V. Addressing Key Challenges

Sovereignty and Security Concerns

One of the most persistent challenges to digital integration in North America is reconciling national sovereignty with the need for regional coordination. Each country operates under distinct constitutional and security frameworks, and these differences must be respected -not overridden. Effective design can accommodate these concerns by embedding safeguards rather than treating them as obstacles.

To protect national control over sensitive information, NADICI would adopt a federated data architecture. This approach ensures that data remains within its country of origin, while enabling secure, purpose-specific access across borders. Advanced encryption methods -including quantum-resistant protocols- would provide long-term guarantees of confidentiality, even in the face of emerging technological threats.

Integrating legacy systems presents another layer of complexity. Many government platforms were built decades ago, with billions already invested. Rather than replacing these systems outright, NADICI would support the use of wrapper APIs -modern interfaces that allow older systems to interact with new technologies. A targeted investment -estimated at $450 million- could enable customs platforms built in the 1990s to communicate with blockchain-based trade systems today.

Political and regulatory alignment across three sovereign nations requires a flexible framework - one that allows for variation in national approaches while maintaining enough consistency to deliver shared benefits. NADICI would prioritize incremental progress through practical, low-friction initiatives, building trust and demonstrating value before tackling more complex harmonization efforts.

Addressing the Central Objection

Any proposal for continental digital integration must address an implicit question: Why should the United States share its technological advantages with Mexico and Canada rather than maintaining unilateral leadership?

The answer lies in the nature of AI deployment itself. Technological breakthroughs matter less than the ability to deploy innovations at scale across real economic systems. The United States already shares supply chains, manufacturing capacity, and critical inputs with its North American partners—the choice is not between integration and independence, but between coordinated integration and fragmented interdependence.

Mexican manufacturing capacity is already embedded in American production. Canadian resources, talent, and research capabilities already support American technology firms. Leaving these partners digitally fragmented does not preserve American advantage—it creates vulnerabilities. Cybersecurity gaps in neighboring systems become attack vectors. Regulatory divergence forces American firms to maintain parallel compliance structures. Drift toward competing digital ecosystems introduces long-term alignment risks that no technological lead can offset.

Continental digital integration is enlightened self-interest, not charity. The question is not whether to share advantage, but whether to multiply it.

VI. The Path Forward: Recommendations for Action

NADICI Implementation Roadmap

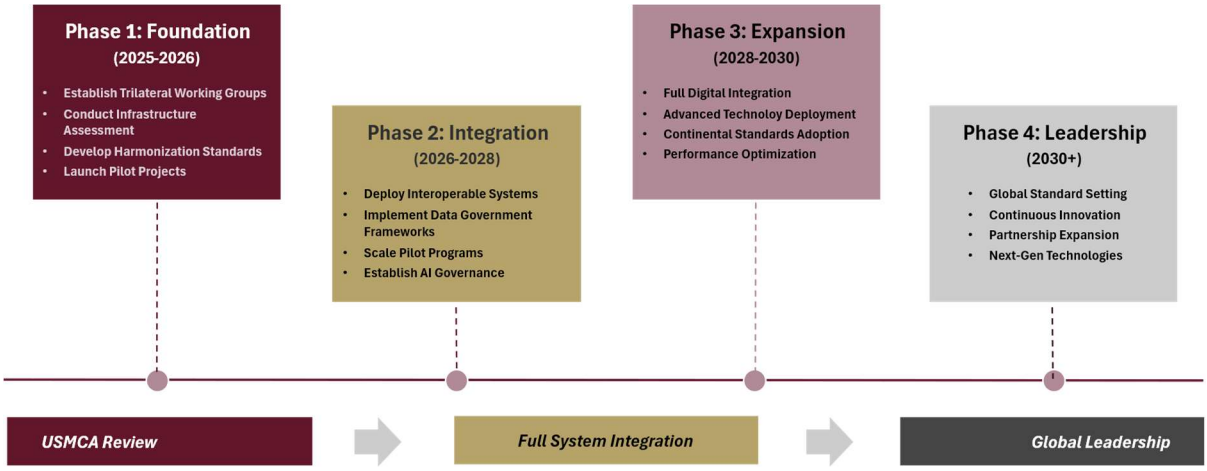

Figure 4: Implementation Roadmap - Four-phase approach to digital integration

First-Year Priorities: Building Momentum Through Actionable Pilots

The first year of NADICI implementation must be marked by decisive action to establish credibility and generate momentum. A key step is the formation of a **Trilateral Digital Task Force**, which would serve as the organizational backbone for all subsequent coordination. Designating national leads by March 2025 would ensure clear accountability, while an initial report by September 2025 would identify early opportunities for implementation.

Launching targeted, high-impact pilot projects would demonstrate tangible value and test scalable approaches for broader deployment:

Automotive Digital Documentation: Blockchain-based systems for certificates of origin and compliance documentation could streamline cross-border automotive trade, potentially reducing processing times by up to 75% based on comparable implementations (ICC, 2024). The integrated nature of North American automotive supply chains—where components may cross borders multiple times during production—makes this sector ideal for demonstrating continental-scale benefits.

Agricultural Traceability Standards: Unified IoT and data standards for agricultural products would improve food safety, reduce spoilage, and accelerate clearance for time-sensitive goods. Walmart's blockchain pilot achieved 2.2-second traceback capability compared to seven days using traditional systems (IBM Food Trust, 2020)—demonstrating the potential for similar approaches across North American agricultural trade.

SME Digital Access Portal: A simplified compliance interface reaching small and medium enterprises would extend the benefits of digital integration beyond large multinationals. This addresses a critical equity concern: current fragmentation disproportionately burdens smaller firms that cannot maintain compliance infrastructure across three regulatory environments.

These pilots would not only validate technical approaches but also build trust across sectors and governments, laying the groundwork for sustained progress.

Embedding Digital Integration into the USMCA Framework

The upcoming USMCA review presents a rare opportunity to formally incorporate digital integration into the legal architecture of North American cooperation. By expanding Article 19 through targeted amendments, the agreement could include specific provisions on interoperability—laying the groundwork for consistent digital standards across borders.

Establishing binding timelines for digital integration milestones would help ensure that progress remains steady and accountable. These commitments would signal long-term intent while allowing flexibility in implementation.

To sustain momentum beyond the review cycle, NADICI should be formalized as a permanent institution. This would provide the organizational continuity needed to coordinate efforts, adapt to emerging technologies, and maintain alignment across national priorities over time.

Long-term Vision (2027-2035)

The decade following the USMCA review offers a structured pathway to transform North American digital infrastructure from a patchwork of systems into a cohesive, high-performing regional network.

- **Years 1–2 (2027–2028): Foundation Building**

  Initial efforts would focus on establishing core platform operations, governance mechanisms, and early-stage interoperability.

- **Years 3–4 (2029–2030): System Deployment**

  Full deployment of the North American Digital Trade Platform would be achieved, with a target of 60% paperless trade documentation across key sectors.

- **Years 5–7 (2031–2033): Maturation and Security**

  The infrastructure would reach maturity, with 90% of trade documentation digitized and quantum-safe encryption fully implemented across critical systems.

- **Years 8–10 (2034–2035): Innovation and Global Influence**

  North America would emerge as a global reference point for digital integration, with annual economic benefits potentially reaching tens of billions of dollars and growing influence in international standard-setting forums.

VII. Conclusion: Seizing the Digital Moment

The artificial intelligence race will not wait for North America to resolve its digital fragmentation. Every year of delay widens the gap between continental potential and continental reality, while competitors advance integrated strategies across their spheres of influence. The costs of fragmentation are increasingly evident: billions in redundant compliance, millions of hours in border delays, and mounting pressure on allies to seek digital alignment elsewhere.

The technologies needed are already in use. Blockchain improves authentication, AI enhances customs classification, IoT reduces spoilage, and smart border systems show promising returns. The challenge is not technological capacity, but institutional coordination: creating a framework that enables these solutions to work across three distinct national systems.

The North American Digital Infrastructure Coordination Initiative (NADICI) represents more than a set of technical upgrades or regulatory adjustments. It reflects a broader commitment to regional cooperation in the digital age—one that balances national sovereignty with shared goals, safeguards privacy while supporting innovation, and strengthens security in service of economic efficiency.

Benefits of NADICI

For **businesses**, NADICI offers streamlined compliance, reduced border delays, and simplified access to continental markets through unified digital platforms -lowering operational costs and improving competitiveness.

For **governments**, it enables more effective coordination on security, trade, and technology policy, while improving regulatory outcomes through shared standards and data-driven oversight.

For **workers**, NADICI supports job creation in the digital economy and promotes cross-border recognition of skills, expanding employment opportunities and mobility.

For **citizens**, it promises more efficient public services, lower consumer prices through optimized supply chains, and broader economic opportunity through a more connected and resilient regional economy

Strategic Context: Closing Gaps, Leveraging Strengths

As other regions advance their digital integration agendas, North America risks falling behind. The European Union's digital single market generates hundreds of billions in annual value, ASEAN continues to streamline trade processes, and China is investing heavily in unified digital ecosystems. Each year of delay adds complexity and cost to future integration efforts.

Despite the progress made elsewhere, North America retains structural advantages that support digital integration. The region hosts advanced technology ecosystems, established governance institutions, and a diversified industrial base. Shared commitments to democratic principles, open markets, and individual rights offer a foundation for developing balanced and transparent approaches to digital governance.

Policy Window

The 2026 USMCA review offers a timely opportunity to formalize digital integration within the North American framework of cooperation. Given the infrequency of such reviews, this moment carries strategic significance. Delaying action risks ceding influence over global standards, eroding competitive advantages, and increasing the long-term cost of integration.

A phased approach provides a clear and practical path forward.

- **Phase 1** can deliver early wins and measurable savings within 18 months.
- **Phase 2** can establish core infrastructure and transform cross-border commerce within three years.
- **Phase 3** can position North America as a leader in digital integration within five years.

The proposed investment—$6.8 billion over five years—is modest relative to the estimated losses from fragmentation, which exceed that amount every two months.

North American Integrated Digital Ecosystem

The North American Digital Infrastructure Coordination Initiative is not a fixed blueprint, but a starting point -a framework for shaping the digital future of an integrated regional economy. It builds on the foundations laid by NAFTA and refined through USMCA, extending the logic of economic cooperation into the digital domain.

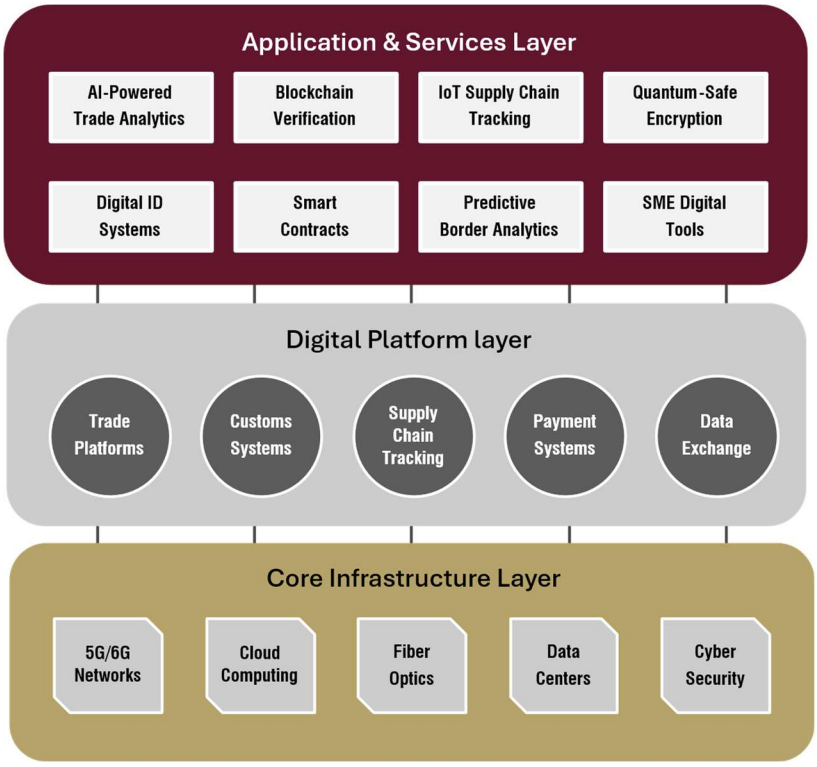

Figure 5: Integrated Digital Ecosystem

Integration Imperative: Structuring North America's Digital Governance

NADICI is not merely a trade facilitation initiative or an efficiency improvement program. It is the foundation for a continental AI strategy, one that ensures the United States does not win the technological race only to find its closest allies and most integrated economic partners left behind, vulnerable to competing digital ecosystems, and unable to participate in the prosperity that AI leadership should deliver across North America.

The 2026 USMCA review is the moment to make this choice. The digital infrastructure we build, or fail to build, will shape North American competitiveness for generations. The technologies exist. The economic rationale is clear. The strategic imperative is urgent. What remains is the political will to act.

About the Author

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