Companies that source and manufacture products in Mexico gain opportunities to cut transportation costs, hold less inventory, and provide faster service to customers. But to reap logistics benefits in Mexico, you have to know your way around.

SMART STRATEGY SOUTH OF THE BORDER

It's right next door, it offers relatively inexpensive labor, and it boasts infrastructure and technology perfectly suited to a wide range of needs.

So it's no surprise that many U.S. firms have made Mexico a key node in their supply chain networks. Today, as the quickly evolving global economy drives many corporations to rethink logistics strategies, more and more of them are finding solutions south of the border.

Mexico is the United States' third-largest trading partner after Canada and China. Trade between the United States and Mexico grew at an annual average rate of 25 percent from 1993 to 2007. In 2008, trade between the two nations reached $367.45 billion, according to media company WorldCity, Coral Gables, Fla.

The volume of goods transported across the border in both directions continues to grow. In 2008, imports from Mexico to the United States totaled $216 billion, an increase of 2.3 percent over 2007, according to WorldCity's analysis of U.S. Census data. U.S. exports to Mexico in 2008 totaled $151.5 billion, a rise of 10.6 percent over 2007.

Mexico plays an especially crucial role in the automotive and electronics sectors. Its factories produced 2.1 million vehicles in 2008, up 32 percent from 2005. Seventy percent of the autos built in Mexico are shipped to the United States. The country exported $13.8 billion worth of electronics in 2007, and Mexico has set a goal to become one of the world's top-five electronics exporters by 2010. Analysts predict that exports of high-tech goods made in Mexico will continue to grow at five percent per year.

Part of what's driving Mexico's expansion in autos, electronics, and other sectors is the changing world economic picture, starting with energy. The price of oil, of course, makes a major impact on a company's supply chain strategy. Although prices fell in late 2008, the oil spike just before that period made many companies question the wisdom of transporting materials and products halfway around the world.

As economies recover from the current slump, growing demand for oil will likely cause prices to surge again. World demand for oil will reach 98 million barrels per day by 2015, up from 85 million barrels per day in 2008, according to the U.S. Energy Administration. Transportation comprises one-third of

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SUPPLY CHAIN, WAREHOUSING & TRANSPORTATION SOLUTIONS all energy, and 20 percent of that energy is consumed in truck and rail movements, explained Marc Wulfraat, director of supply chain strategy for TranSystems/Esync, at a Supply Chain and Logistics Association meeting in Canada in February 2009.

But it's more than oil prices that drive a company's decision to site manufacturing and distribution in Mexico. Another compelling reason is Mexico's skilled, experienced workforce, including many capable managers with years of experience handling exports to the United States.

Also, Mexico's proximity to the United States translates into substantial savings. With a less complex supply chain, and a shorter distance to market, a company can hold less inventory.

"If a company has to hold six weeks of inventory because it sources in Asia, and every week is worth $1 million, that's a $6-million investment," says Gene Sevilla-Sacasa, vice president, Latin America at Ryder System, Inc. "But, if a company sources from Mexico, it needs to hold only a week of inventory, and has only $1 million invested."

To reduce the number of miles that products must travel through their networks, many manufacturers are deploying a more flexible, multi-product-line production network. Consumer packaged goods manufacturers are moving facilities closer to large markets to better serve customers and cut transportation costs. Importers are moving facilities closer to major ports, and retailers are reducing direct store delivery volume when it makes sense. Mexico can play a key role in all these supply chains.

Reducing miles traveled to gain shorter lead times becomes especially critical for companies that manufacture customized products. A customer, for example, would much rather receive an order for 100 computers in a specific configuration in five days from Mexico than in four to six weeks from Asia.

Near-sourcing in Mexico is also good for the environment. Shorter transportation routes translate into a smaller carbon footprint, a major consideration for many businesses today.

Even for companies that source goods in Asia, Mexico may offer an advantage as part of a distribution route. "It costs no more to import goods to the United States through a Mexican port than through a western U.S. port," Sevilla-Sacasa notes.

But with much less congestion in Mexican ports, those goods will make it to the distribution center several days sooner.

Ryder's organized warehouse at a client facility in Mexico. Ryder combines local market knowledge with an intensive analysis of each customer's business.

Challenges in Mexico

While Mexico offers vast opportunities, business leaders who want to explore this terrain should carefully study the map before they rush in. For all its very real advantages, Mexico also poses substantial challenges to foreign companies that manufacture there or use Mexican sites for distribution. Here's a detailed look at some of the greatest challenges.

THEFT AND SMUGGLING

"Security issues play a significant role in Mexico today," says Jorge Salas, director of cross-border and automotive operations at Ryder. "The farther you go into the interior, the longer your loads are traveling through Mexico, and the more attention you have to pay to those details."

On average, one in 300 shipments traveling into or out of Mexico experiences some sort of security breach. In some cases, thieves steal items or hijack entire loads; in others, smugglers hide drugs or other contraband, including illegal immigrants, on trailers, hoping to sneak them across the border. Shipments become vulnerable at many points, including truck stops, which tend to be less secure than their U.S. counterparts.

Compromised loads also pose a major hazard because they jeopardize a company's ability to cross the border quickly. If a firm doesn't maintain a clean record and the right credentials, its trucks might sit at the border for as long as 30 hours while customs agents inspect the loads.

Allowing smuggled goods into a trailer carries especially dire consequences if a company participates in the Customs-Trade Partnership Against Terrorism (C-TPAT) program, which allows trusted companies to use the Free and Secure Trade (FAST) lane for expedited crossings from Mexico into the United States.

"If contraband is discovered on one of those shipments, then all the supply chain partners involved in that shipment immediately lose their privileges to cross the border in an expedited manner," explains Bill Anderson, group director, international safety, health and security at Ryder.

That penalty can disrupt business for a whole network of suppliers, manufacturers, third-party logistics providers (3PLs), carriers and retailers for weeks, months or indefinitely. It plays havoc with just-in-time (JIT) manufacturing and derails a shipper's commitments to its customers. With so much at stake, any company involved in transportation across the U.S.-Mexican border not only must have a strong security strategy, but must execute it flawlessly.

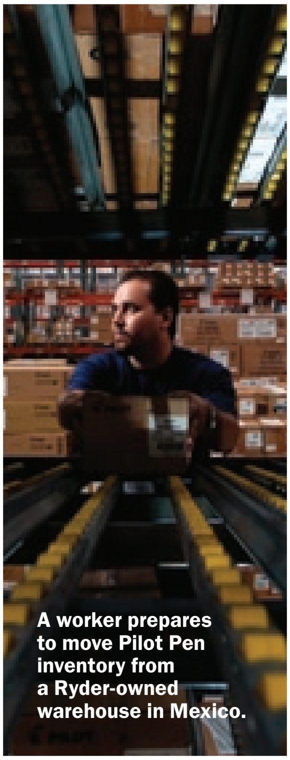
TIME LOST AT THE BORDER

Beyond security concerns, border crossings create other challenges as well. If a company works with carriers, brokers, or other partners that aren't certified to move goods into and out of Mexico quickly and consistently, transit times grow long and

Letter-Perfect Service for Pilot Pen

While many U.S. companies source goods in Mexico or use it to distribute to the United States, a great deal of traffic also flows in the other direction. Mexico is a major market for U.S.-produced goods. A company that sells into Mexico is just as interested in speed, economy, reliability and security as one that ships products from south to north across the border.

Since 2003, Pilot Corporation of America has worked closely with Ryder to deliver writing instruments manufactured in Jacksonville, Fla., to customers throughout Mexico, especially in Mexico City, Guadalajara, and Monterrey. Ryder processes customer orders, handles customer service, manages and stores inventory, handles motor carrier selection and billing, and monitors shipments for Pilot Pen Mexico.



A worker prepares to move Pilot Pen inventory from a Ryder-owned warehouse in Mexico.

Ryder's expertise in managing ground transportation is especially crucial to Pilot Pen, which counts on motor carriers to deliver shipments within a specific time frame. Ryder also works with Pilot Pen's import customs broker to keep goods flowing into Mexico on schedule, making sure all required documents are provided and import duties are paid promptly. When the product reaches Mexico, it passes through Ryder's multi-client warehouse and distribution facility in Guadalajara, where tight security measures ensure theft prevention.

It takes a well-tuned process of this kind to please a demanding customer like Office Depot, one of Pilot Pen's largest in Mexico. "Office Depot does not accept back orders," says Juan Estrella, director of supply chain for Pilot Corporation of America.

Ryder has practically become Pilot Pen's Mexico representative, making it unnecessary for the manufacturer to have a physical presence in Mexico to handle its logistics and sales, says Ernesto Donnadieu, Ryder Mexico Director of Operations.

"The greatest value we bring to Pilot Pen is the confidence they have in Ryder to execute operations according to plan, the satisfaction of their customers, and an efficient supply chain," he says.

Ryder and Pilot Corporation of America are currently working on several strategies for making the operation in Mexico even more efficient and cost effective.

Thanks to its partnership with Ryder, without investing major corporate assets in Mexico, Pilot Pen has been able to grow and prosper while meeting strict retailer requirements.

End-to-End Solutions for Manufacturers

Among the companies that benefit from a partnership with Ryder in Mexico is a U.S. manufacturer that operates three assembly plants and a distribution center in the Monterrey area. Taking responsibility for all of the customer's logistics activities, Ryder handles product that comes from suppliers, receives them in Ryder's storage and cross-docks and later transports them to the assembly plants, where it feeds them to the production lines.

As workers assemble finished goods, Ryder receives them, stores them, releases them and ships them to their final destinations. Ryder's transportation management responsibilities for this customer include management of customs brokers for exports and freight bill audit and payment.

To accomplish all these tasks and meet specific delivery windows, Ryder dedicates management to the job, both at the customer's sites and in its own offices. "Such enclosed working conditions create the environment to monitor for continuous improvement, quality performance on all related processes and, most importantly, the flexibility to manage any volume variation, production changes, new line installations, etc.," says David Contreras, director of operations, Ryder, Mexico.

Ryder also provides end-to-end service to an original equipment manufacturer (OEM) that sources parts in Mexico. Ryder runs regular collection routes from each of the company's suppliers to Ryder's crossdock facility in Monterrey. There, it builds full truckloads for two plants in the U.S. and hauls them to Ryder's facility in Nuevo Laredo.

From that location, a dedicated drayage carrier takes the trailers across the border to Laredo, Texas and turns them over to a U.S. linehaul carrier. Ryder oversees the customs transaction. It also monitors the goods from origin to destination through its Control Tower, Ryder's centralized operations center that provides coordination, visibility and event tracking for all activities along the supply chain. In addition, Ryder continuously uses that information system to optimize routes for greater efficiency.

The transportation management center in Nuevo Laredo provides a complete view of the entire supply chain. This helps Ryder to ensure that every partner in the network performs its job to the highest standards, and that they all pull together to deliver outstanding service.

The OEM benefits from this partnership in several ways. "We reduce the lead time, we improve the visibility and they have one person to go to," says Jorge Salas, Ryder's director of cross-border and automotive operations.

By managing the logistics solution from pickup to delivery, Ryder ensures that no detail, no matter how small, ever slips between the cracks. Due in large part to this integrated service, the customer has seen its lead times shrink since it started working with Ryder several years ago.

impossible to predict. "Some partners may cite a 12-hour transit time, but delivery will actually take 12 days," Sevilla-Sacasa says.

"Some brokers tell their customers, 'I only work from 8 a.m. to 5 p.m., and I don't work Saturday and Sunday,'" says Salas. That sort of half-hearted commitment leaves freight needlessly stranded.

Most often, delays occur at the border because a company makes paperwork errors, or because an agent selects a shipment at random for additional inspection. Loads also languish at the border when transportation equipment fails an inspection due to broken lights, insecure seals, or other problems.

Border delays increase cycle times, undermining efforts to implement just-in-time or lean delivery strategies. And if a company lacks the technology to gain full supply chain visibility, managers don't always know why delays occur or when their loads will be released.

Delays make it hard to maintain customer service levels. A shipment that spends extra hours at the border, for example, might miss the customer's delivery window, incurring penalties for the shipper. Delays also can disrupt manufacturing schedules. To protect against the consequences of unexpected delays, companies might have to keep more inventory on hand, increasing their carrying costs. In all, poor management at the border may add 10 to 40 percent to the cost of a shipment.

CONSOLIDATION CHALLENGES

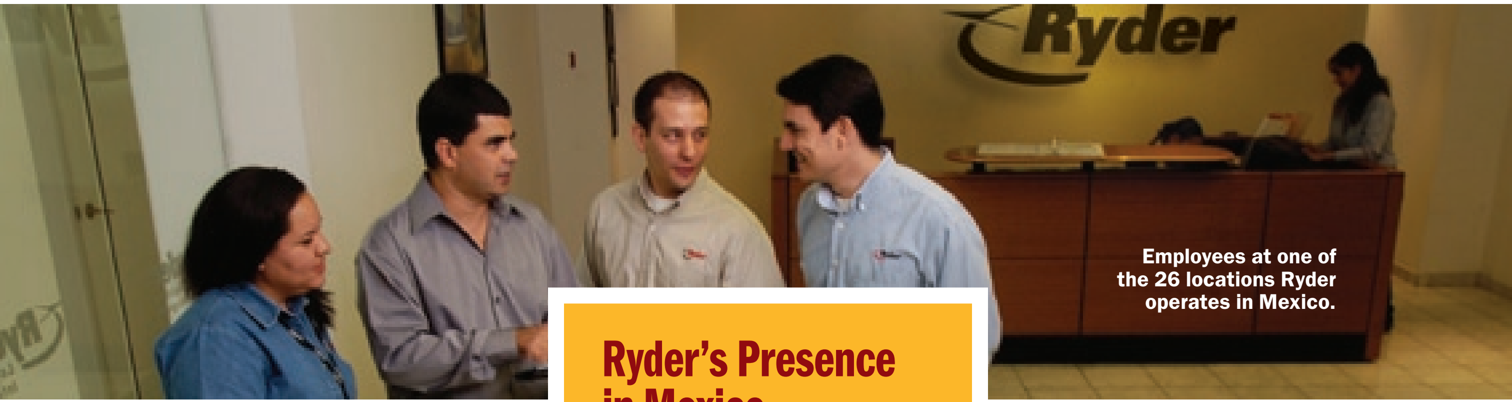
The cost of trucking in Mexico might also surprise shippers who lack a sound strategy for optimizing transportation. Not every company ships enough volume in or out of the country to make up full truckloads. But less-than-truckload (LTL) shipments are more difficult to manage, particularly in Mexico.

"The LTL network in Mexico is basically non-existent, and very expensive," Salas says. Even when it's feasible to use LTL shipments, irregular carrier schedules can complicate border crossings, and shippers don't enjoy the same economies of scale as moving full truckloads.

The Value of a Trusted Partner

For companies that want to make Mexico a link in their supply chains, the most effective plan is to team with a capable partner. A service provider with solid experience, top-of-the-line facilities, sophisticated technology, a network of excellent carriers, and strong expertise helps customers find their way through Mexico, overcoming the country's many challenges while profiting from its extensive opportunities.

Ryder System has been bringing these advantages to customers in Mexico since 1994. Companies that partner with Ryder enjoy highly optimized supply chain networks with full visibility to enhance control of their shipments. They gain opportunities for



Employees at one of the 26 locations Ryder operates in Mexico.

freight consolidation while working with a single provider that takes full responsibility for the shipment from end to end. Ryder's reputation for security, service and efficiency ensures that loads cross the border quickly, reaching their destinations on time and incident-free. Customers who work with Ryder see lower transportation costs and shorter cycle times. As a result, they invest less money in inventory while continually improving service to their customers.

To achieve these kinds of results, a company needs the right infrastructure, the right service providers, and the right technology. But those resources make up only half the story.

"If one person fails to execute properly, the whole chain would break," says Sevilla-Sacasa. "We offer our customers a disciplined process with great people who execute flawlessly with every shipment."

Customers that work with Ryder flourish in Mexico. Here's how they do it.

Ryder's Presence in Mexico

OPERATIONS IN MEXICO SINCE: 1994

CUSTOMER ACCOUNTS: 56

HEADQUARTERS IN MEXICO: Mexico City

REGIONAL OFFICES: Guadalajara, Monterrey, Saltillo

LOCATIONS: 26

DC SPACE MANAGED: 1.7 million sq. ft.

DC AND YARD SPACE MANAGED: 4.3 million sq. ft.

CARRIERS UNDER CONTRACT: 141+

RYDER DEDICATED VEHICLES: 566

CROSSDOCK FACILITIES: A total of nine facilities in Tijuana/San Diego, El Paso/Juarez and Laredo/Nuevo Laredo

BORDER CROSSINGS MANAGED PER YEAR: 130,000 (approx.)

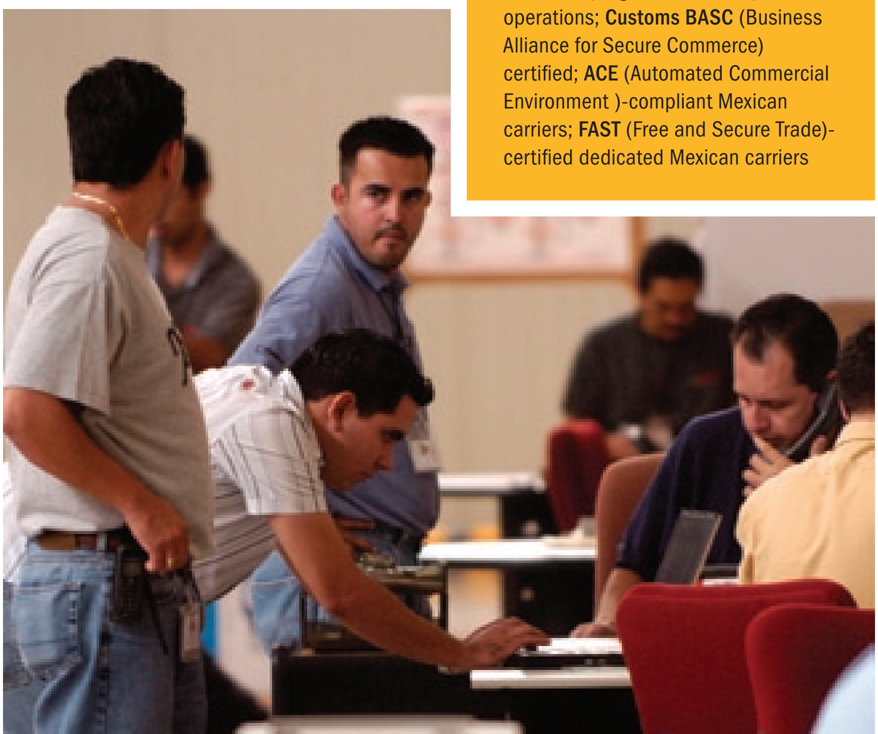
CERTIFICATIONS, STANDARDS AND PROCESSES: **C-TPAT** (Customs-Trade Partnership Against Terrorism) operations; **Customs BASC** (Business Alliance for Secure Commerce) certified; **ACE** (Automated Commercial Environment)-compliant Mexican carriers; **FAST** (Free and Secure Trade)-certified dedicated Mexican carriers

SAFER LOADS

For more than one dozen years, Ryder has been moving large numbers of high-value shipments through Mexico while maintaining an outstanding security record. Ryder and its partner carriers transport approximately 420 loads across the border each day; that's an average of one every six minutes. Ryder upholds these standards by developing a bulletproof security plan, then taking full responsibility for following through.

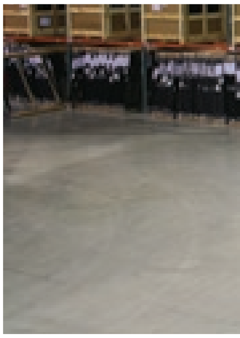
Consider, for example, its freight yards on the Mexican side of the border. "We either use drug-sniffing dogs, or contract with a service provider to run our cross-border loads through a canine inspection point," says Anderson.

Many of the trucks that move loads for Ryder's customers travel with satellite location units, so managers can monitor their movements and respond if anything seems to go awry. Managers also make sure that drivers visit only approved truck stops. Radio communications and, in some cases, security escorts help to



At the Guadalajara facility, Ryder employees work hard to execute every shipment flawlessly.

Workers follow strict safety measures at all Ryder client facilities in Mexico.



ensure that loads get where they're going without trouble.

"We monitor expected times of arrival (ETAs)," Anderson says. "We know how long it should take for a truck to move from Point A to Point B. If a truck falls outside that acceptable window, it raises a flag for us to investigate, talk to the driver, and maybe inspect the load if we're not satisfied with the causes for the delay."

The rules of security apply both to Ryder's own equipment and drivers and to the operations of its Mexican carriers. "We work with partners that run excellent security programs themselves, but we work together to manage them," Anderson says.

SHORTER TRANSIT TIMES

With its outstanding partner network in Mexico, its certifications for moving goods across the border, and its finely tuned logistics processes, Ryder can move loads from Mexico to U.S. destinations faster than other service providers. Although the industry average time to cross the border is 18 to 20 hours, Ryder–in concert with its customers–delivers border crossings in an average of two to four hours.

Efficient crossings allow remarkably fast end-to-end deliveries. For example, 99.9 percent of all shipments Ryder moves from Guadalajara to Miami reach their destinations within 69 hours.

Ryder's extensive certifications–including Customs-Trade Partnership Against Terrorism (C-TPAT), Free and Secure Trade (FAST), and Business Alliance for Secure Commerce (BASC)–ensure that the loads it handles move through customs as quickly as regulations permit. By interfacing with its customers' brokerage systems, Ryder gains immediate access to all data required for customs processing.

Ryder works with dedicated customs brokers in the United States and Mexico to provide full brokerage services on a schedule that suits the shipper. "We work with providers who know our expectations and are willing to work long hours to keep the supply chain moving," Salas says.

Ryder also harnesses sophisticated information technology to ensure swift, trouble-free transportation. For each shipment, Ryder establishes a plan to control all the events that will occur from origin to destination. In some cases, these plans are specific enough to track multiple logistics attributes for individual items, such as a part used in manufacturing.

Ryder's centralized Control Tower operations in the United States and Mexico monitor and coordinate the progress of each shipment end to end, in real time, to see that they are moving according to plan and, if not, to make the necessary adjustments. The goal is to ensure that all shipments reach their destinations as efficiently as possible.

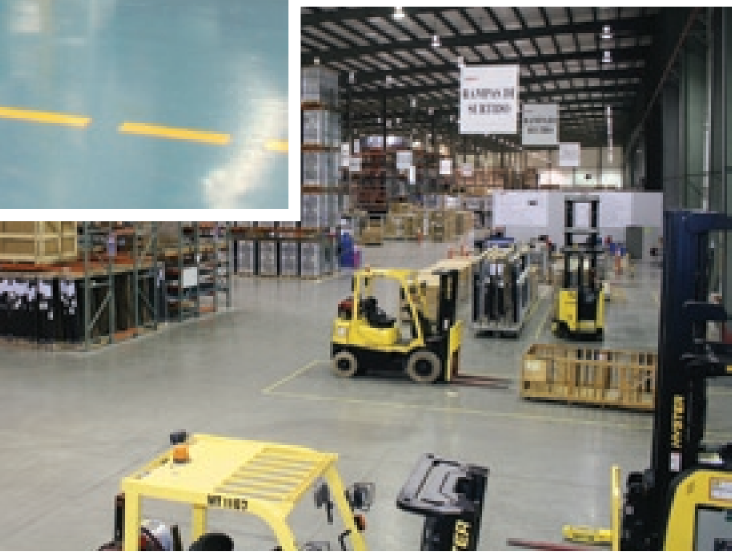
MEXICAN ROADS, U.S. STANDARDS

Just as Ryder enforces high standards for its customs brokers, it insists that carrier partners in Mexico deliver the high service quality customers demand.

"We fully control the management of trucking operations with very specific, dedicated partners that fully understand our requirements," Salas says. "We have a strong say in how we want them to operate."

That excellence also extends to the transportation assets that Ryder and its

Ryder provides a full range of services, including warehousing and distribution solutions, to customers in Mexico.



carrier partners operate in Mexico. "We run some of the best equipment on the roads in Mexico," Anderson says. Ryder provides the same equipment maintenance programs in Mexico that it does in the United States.

Ryder also insists that its carriers in Mexico follow a safety program based on U.S. rules, including hours-of-service regulations. Not all carriers in Mexico adhere to such standards. Salas recalls one trucker in Mexico that was competing for the business of a U.S. shipper. It was involved in six accidents per month and lost customers' loads in the process. "The carrier was running drivers for days without sleep, and was involved in many safety and security breaches that we would not allow," he says.

CONSOLIDATION OPPORTUNITIES

A company that works on its own can struggle to realize the benefits of load consolidation in Mexico. But for a company turning to a logistics partner that offers extensive crossdocking facilities and advanced technology for optimizing shipments, money-saving opportunities abound.

Ryder operates a total of nine crossdock facilities on both sides of the border, in Tijuana, San Diego, El Paso, Juarez, Laredo, and Nuevo Laredo. So when, for example, a U.S. manufacturer needs to deliver spare parts to dealers throughout Mexico, Ryder moves truckloads of those parts from the factory to Monterrey, where it crossdocks the load into separate delivery routes for the northern part of the country. The rest of the goods travel in truckloads from Monterrey to Mexico City, where Ryder breaks up the loads and makes deliveries to dealers in southern Mexico.

"That's a very effective use of our crossdock for southbound transportation," Sevilla-Sacasa notes.

LOWER COSTS

A network of top-notch service providers, prompt border crossings, reliable equipment, solid security, and state-of-the-art facilities and technology add up to significant savings. By cutting transit times, reducing the need for buffer inventory, and preventing theft, Ryder makes sure customers get the maximum possible value from their supply chain operations.

A case in point: One company was flying high-value finished products from its manufacturing plant in Mexico to a U.S. port, then shipping the products by ocean carrier to markets overseas. It took about 60 hours to get the goods from factory to port and the cost of using air freight was high.

When the company inquired about a less-expensive option, Ryder suggested moving the goods by truck. "We offered a solution of 72 hours," Sevilla-Sacasa says. At just one half day longer than the air-based route, this alternative cost a good deal less. Yet Ryder's door-to-door solution included all the activities involved with transporting the goods across Mexico and across the border. "The company saved about 85 percent by using truck instead of air," he adds.

Ryder's solution only made sense, however, if the goods moved as promised. "The customer had to trust that Ryder could move a truck across the border in a reliable time," Sevilla-Sacasa says. The customer decided to make the change, and Ryder delivered, hitting the 72-hour target 99.9 percent of the time.

VAST OPPORTUNITY

In a volatile economy, a growing number of U.S. firms seeking tighter, more effective supply chains will turn to Mexico for solutions. While Mexico is not without its pitfalls, it does provide efficient access to markets throughout North America and offers many opportunities to save money and time. Working with a trusted partner–one that has the expertise, infrastructure, and commitment needed to gain maximum value from a Mexican operation–a U.S. company doing business south of the border can expect to thrive. ■