BREAKING DOWN BARRIERS IN THE AUTO INDUSTRY'S SUPPLY CHAINS

Automotive LOGISTICS

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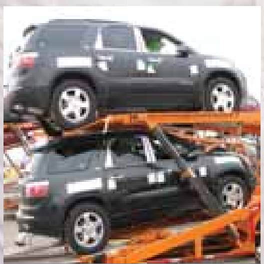
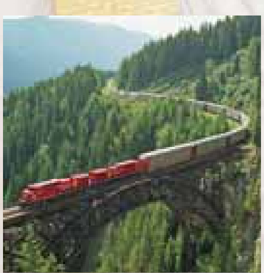


North America
We talk to the big US players about strategy

AL China
Conference report from Beijing 2008

In conversation with...
Craig Russell at IAC – a top tier supplier



North American rail
Collaboration faces tough challenges

Project logistics
The tricky art of moving massive machines

an ULTIMAMEDIA publication

Case study: Penske Logistics and collaboration

The economic downturn and rise in fuel prices appear to have put logistics managers in North America in something of a sharing mood. A dedicated lane that means empty backhauls or a warehouse sitting half empty is a vestige of a cheap-fuel era, sort of like the parents of the 1990s retrieving their child from soccer practise, each in their own SUV. Nowadays it's fashionable for OEMs, Tier Ones and LSPs to agree that collaboration makes sense, although how to get it done is another story.

One way of doing it is often through a 3PL or 4PL such as Penske Logistics, which is currently analysing several ways of effectively combining freight for its automotive customers.

Penske Logistics's Joe Gallick: "We have no intention of being a freight forwarder, but want to understand how to manage them."

Inbound collaboration is rare

According to Joe Gallick, Senior Vice President of Sales, and John Baisley, Vice President, Operations, collaboration is a challenge across all sectors, from automotive to office furniture logistics. But one problem for the automotive industry is that lead logistics provider (LLP) networks (a role that Penske Logistics has performed for Ford for 10 years) were initially set up as independent networks with dedicated equipment moving through them. "We're trying to work around that as much as possible," said Baisley, "not only for transport but also from leveraging facilities, intellectual capacity and equipment. But everyone does their business differently."

While there may recently have been more progress for OEM collaboration for outbound distribution, instances of direct collaboration for inbound remain rare, though LSPs might run shared facilities. The time constraints of just-in-time production often mean that one OEM will not allow another to constrain him. On the other hand, Gallick said that Penske has been very successful with integrating supplier material with that of OEMs.

"A Tier One and OEM have less competitive balance to work around than two OEMs," he said. "As suppliers try to get closer to the plant, the LSP is the glue that makes it happen."

Indeed, Penske Logistics is fairly well positioned to facilitate such collaboration. At one facility in Dearborn, a step away from Ford's headquarters, Penske runs a technology centre that monitors and tracks the delivers throughout the Ford network, as well as for other clients.

Gallick predicted that the rise in cost would be what ultimately drives OEM collaboration for inbound. Another area of collaboration that involves Penske has been Ford's integration of its inbound network with that of its service parts, for which Schneider Logistics was the LLP. The combination means not only finding common suppliers and delivery efficiency, but also working more closely with Schneider.

But Gallick says that the maturity in the automotive industry mandates that LSPs have "co-opetition" as he puts it – a marriage of competition and cooperation. In some scenarios, Penske might be the LLP, whereas others it is the 3PL, meaning working side-by-side with companies in different roles is fluid.

Highest honour for Penske

It is perhaps partly owing to this openness to work together that Penske Logistics won a gold award this spring, Ford's highest honour for suppliers. It was the first time Penske was presented with the award, and it was the only logistics or transport company to win in the top category [Cimarron Express and M&M Cartage won silver, and JB Hunt Transport Services won an achievement award].

"The gold winners have some very lofty criteria to meet," said Ford's Frederiek Toney, Director of Material Planning and Logistics. "Those in the silver category came in close against the gold standard, but still did well. It's a very nice achievement among thousands of suppliers."

Looking ahead, Penske sees its role as a 3PL/4PL as the way to help manage its customers as well as itself through the ongoing economic troubles. "We update our customer networks on a weekly basis, so we make sure there is no excess capacity," said Baisley. "We track KPIs and metric carefully, and with the market down it requires us to be more nimble and flexible with the providers we use."

Getting more efficient

While the US market is in trouble, Penske continues to grow its business from Mexico to Asia, and is also seeing an increase in material imported or exported from the US to these locations – on average, about 50 per cent, according to Gallick. To maintain efficiencies, especially with revenue down and fuel up, he said that Penske needs to have a better understanding of issues on the ground across the globe, such as freight forwarding and global IT platforms.

To do that, for example, Penske has aligned itself with ABX Logistics, a Belgian-based freight forwarder. It has also begun to integrate i2 software for visibility, as its current system is only North America based. The software will allow Penske to manage freight across the world.

"We're looking to see where there are more efficient means," Gallick said. "We have no intention of being a freight forwarder, but want to understand how to manage them. That's how we reduce the wing-to-wing spend, but also give the customer more material flow so they can make the right decisions."

Brave new world

The tough economic environment in America has had a profound effect on the way carmakers and logistics suppliers do business, but it is not all doom and gloom: there are opportunities to be had, as **Christopher Ludwig** reports

The car industry rarely stands still, whether in colonising new markets or reshaping traditional ones. But like a developed democracy, it is not given to revolution. Rather than erupting, change happens slowly and constantly.

The North American industry, while not in revolt, is being propelled faster toward change in the way it makes, moves and sells cars. Carmakers in the region are facing rising fuel and material costs, a sharp downturn in the economy and escalating concern about global warming. Transport, historically a cheap and plentiful commodity in North America, is ceasing to look that way with oil close to $140 per barrel. This has implications not only for the cars that consumers drive, but also how carmakers organise production.

Disparate supplier locations and manufacturing centres of excellence (which build key components that are shipped many kilometres away for assembly) may look less efficient with transport costs on the increase on almost a weekly basis. Mexico has a fast-developing automotive industry and offers lower labour costs than its northern neighbours, but also better logistics costs for the North American market than other regions in Asia, for example.

While Detroit is carrying a heavier economic burden than most, Ford Motor Company's Frederiek Toney says he has never known a more exciting time to work for the carmaker, as it restructures management, product lines and its supply chain in a slow climb back to profitability. Among Toney's challenges this year is to take out $300m in logistics costs. "With fuel and some of the other price pressures, supply chain and logistics people are having the time of their lives this year," he says with a wry smile that indicates he is not talking about a rollercoaster ride in an amusement park.

Transport sector is facing crisis

Chrysler's Peter Weiss gives a clue as to why logistics managers are having so much 'fun': firstly, the cost of transport is up across all modes. "Two years ago, the fuel cost for our carriers was around 13 per cent [of overall cost]," he says. "Now it is closer to 30 per cent and has surpassed their labour costs."

For ocean, the shipping lines are reducing speed to save bunker. While ro-ro carriers like WWL and K-Line have told *Automotive Logistics* that they do not do this, some container lines are using this fuel-saving measure. Also, global trade shifts and the economic downturn have meant shipping lines are moving container lanes from Asia-US, to Asia-Europe or elsewhere, which has a negative impact on capacity and prices.

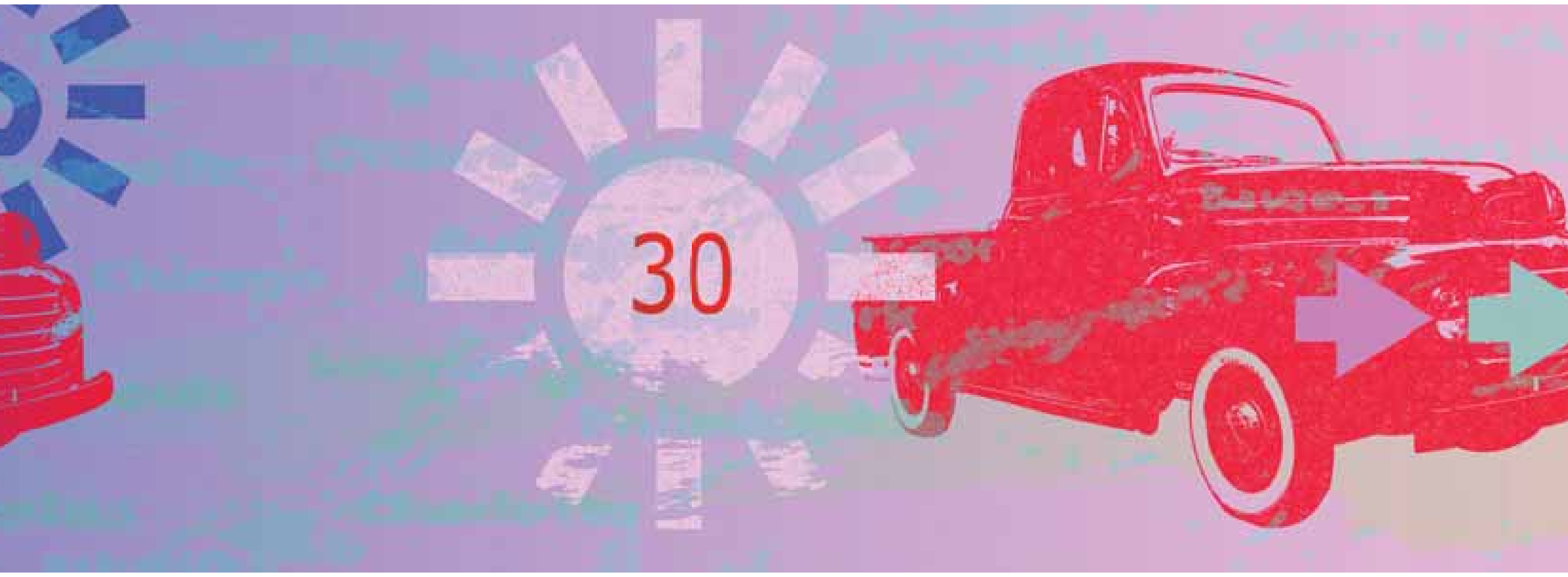
For rail, OEMs and Tier One suppliers complain that fuel costs and a lack of competition have resulted in poorer service, lower standards and higher prices. "I don't think we get the best value for our buck on the railroads," says Ford's Toney. "We want greater value for the increasing cost that we're paying and we'd like to see more competition in the sector."

> "I don't think we get the best value for our buck on the railroads"
> **– Frederiek Toney, Ford Motor Company**

Chrysler's Weiss says that most OEMs in North America are also reaching the end of long-term contracts this year with the railroads, signed in a time of a weaker rail industry in the late 1990s, with lower fuel costs and wider competition, as well as a richer car industry. "Over time, the leverage power shifted to the railroads as they consolidated," he says. "The increased costs are a big blow to our budgets."

Chrysler, which will spend about $700m this year for rail transport, has made official complaints that railway pricing needs to be more competitive. While suppliers pass fuel costs on to the vehicle makers, both Toney and Weiss agree that competition is too tight for them to pass those costs on to their customers.

Instead, OEMs offer incentives to subsidise the rising price of fuel for consumers. Chrysler's latest deal gives new customers a card that guarantees the cost of petrol at $2.99 per American gallon (79 cents per litre) for three years, versus current prices near $4 and projected to rise to $5. Other OEMs are offering cash bonuses toward fuel costs as well.



These incentives, deemed necessary to move cars in a cautious market, are not sustainable solutions. No company can afford to play the ostrich, putting its head in the sand and pretending oil is $50 or even $100 a barrel, certainly not in a market where analysts are predicting car production and sales in the US at the lowest point in more than a decade. Michigan-based consultancy CSM Worldwide lowered production forecasts to 14.1 million cars in 2008, compared with 15.1 million produced in 2007.

One step forward, two steps back

Even best case scenarios predict a drop in new car sales from 16.2 million in 2007, to 15 million this year. First quarter results had shrunk by 8 per cent, and while not without bright spots (such as Ford's steady rise back to profitability) the Detroit Three continue to be harder hit than Asian or European brands in the US, as Americans start to address their SUV and pick-up habits.

For logistics, fuel increases and other economic factors have a direct impact on the supply chain. Less volume and demand mean an increase in available capacity. "Two years ago, you couldn't find enough capacity and everyone was concerned about driver shortages," says John Baisley of Penske Logistics. Deadlines for commercial vehicle emissions standards ushered in an over build of trucks over the past few years and those increases have intersected with the market slowdown. "Companies are struggling to reduce fleets to match the demand that's out there," adds Baisley's colleague Joe Gallick.

If a depressed market hits the OEMs hard, it could plainly knock out its suppliers too. The smaller market has trimmed Chrysler's transport budget this year to $2.2 billion from $2.4 billion last year. To make things worse, the strike at American Axle idled or reduced production at 30 General Motors plants this past year and meant that companies with a particularly high percentage of business with GM suffered even more.

> "Over time, the leverage power shifted to the railroads as they consolidated. The increased costs are a big blow to our budgets – **Peter Weiss, Chrysler**"

Chrysler, which will spend $500m for inbound truck transport alone this year, has seen its three largest inbound carriers fall into liquidity crises. "Hardest hit have been the small- to mid-size companies for whom GM, Ford or Chrysler were their daily bread," says Weiss. "The national carriers, who are more diversified, are faring better."

Bending over backwards

While a logistics manager's job is to find ways to cut costs and waste, it's also about working closely with suppliers through difficult times. Chrysler is dealing with its troubled LSPs by buttressing the stronger carriers to ensure their businesses remain viable. "However, if there is a crisis we have to see what the market can bear," Weiss says. "Sometimes it balances other lanes and works out well, other times not."

Craig Russell of International Automotive Components (IAC), responsible for inbound for the company's 40 North American plants, says that IAC's carrier base needs careful monitoring during the downturn. "The flexibility with the carriers has become our main focus, all the while making sure those partnerships remain viable," he says. "I cannot ask a carrier to have 10 trucks ready one day and one truck the next, because it won't know how to pay its drivers."

Chrysler has also adjusted its fuel surcharge programme to take the risk out of fluctuating fuel prices. Rather than basing the surcharge on a percentage of the contract, the carmaker has switched to a 'pay-by-mile' basis. It will pay this surcharge weekly rather than monthly. Penske's Baisley adds that such a shift has been common across the industry, as OEMs try to protect themselves against hedging by suppliers. "The days of squeezing out extra margins through a fuel surcharge are gone," he tells *Automotive Logistics*.

Pense Logistics's Gallick says that while revenue might shrink, change represents an opportunity for third party

NORTH AMERICAN PRODUCTION FIGURES

	2007	2008	2009	2010	2011	2012	2013	2014
BMW	155.3	182.8	162.0	195.2	246.6	231.7	230.2	251.4
Chrysler	2,469.8	2,123.4	2,034.5	1,943.7	2,011.5	1,969.6	1,924.4	1,926.4
Daimler	197.3	200.6	188.3	170.0	132.0	164.0	167.9	157.2
FAW	0.0	0.0	0.0	3.3	36.6	38.7	42.5	45.2
Ford	2,862.4	2,720.8	2,666.7	2,598.0	2,527.1	2,649.6	2,733.4	2,728.5
Fuji Heavy	109.2	99.6	96.7	106.1	106.6	107.1	100.6	99.0
Geely	0.0	0.0	0.0	0.0	0.0	0.0	15.8	40.5
General Motors	4,215.6	3,675.6	3,829.7	3,840.9	3,947.7	4,218.5	4,323.0	4,197.7
Honda	1,432.7	1,516.3	1,571.2	1,601.1	1,639.5	1,740.8	1,809.1	1,827.1
Hyundai	250.5	235.7	226.6	374.7	577.5	693.2	726.2	728.6
Mitsubishi	78.7	70.5	59.1	0.0	0.0	0.0	0.0	0.0
Renault/Nissan	1,199.8	1,065.4	1,095.7	1,092.4	1,291.6	1,446.2	1,426.6	1,389.7
Toyota	1,720.4	1,753.9	1,963.7	2,107.3	2,411.7	2,611.8	2,674.1	2,730.1
Volkswagen	409.6	441.8	410.4	540.8	646.7	614.5	586.0	582.0
Total North America Light Vehicle Production by OEMs (000s)	**15,101.4**	**14,086.4**	**14,304.6**	**14,573.4**	**15,575.1**	**16,485.7**	**16,759.9**	**16,703.3**

Source: CSM Worldwide

logistics providers to drive out waste and capture new business. "It's like fishing," he says. "When the tide is right you have the best chance to fish. If a customer makes a decision to close or relocate a plant, we're going to feel the effects of that. But if a service provider has proved successful, you'll be considered a favoured partner and stand to benefit in future."

Low cost or not?

Despite the economy, many say that the market for logistics and supply chain operations is booming. Morris Brown of the AIAG says the rise in global sourcing has led to a flurry of logistics activities. "There is a ton of global sourcing happening," he says. According to Gallick, Penske Logistics – on average – has seen 50 per cent increases from customers sourcing in low-cost countries (mainly from Asia) through both activities and forecasting.

Manufacturers confirm more low-cost country sourcing, though they describe it as a slow drip, rather than an open tap. Russell says that the material sourced from low-cost countries for IAC's Canadian and US production is about 2 per cent, and between 5 to 6 per cent including Mexico, growing daily. Alfonso Gutierrez Sanchez of Volkswagen de Mexico (VWM) says that the carmaker's sourcing from China for production at its Puebla site, while relatively low, has increased by more than 60 per cent in only two years, from 14,500 cubic metres to 23,000 cubic metres.

Even while freight costs across all modes are up, the steady rise in low-cost country sourcing makes it appear as though supply chain managers and executives are juggling chainsaws, as they manage longer distances with higher costs and less revenue. Even while AIAG's Brown sees global sourcing as a major opportunity for logistics, he also predicts that there will be more focus on logistics costs versus labour savings.

Todd Pronger from Robert Bosch, says that the company is responding on a case-by-case basis to the increased freight costs, which have risen 11 per cent already this year for his department. "If we find that costs are too high, we will keep materials locally," he says.

Will the fuel price spell the end for global sourcing? That appears unlikely, even if oil hits $200 this year. VWM's Gutierrez says that quality remains a bigger issues for parts from China than logistics cost. However, a trend towards "nearness" will likely continue to develop further toward the end of the supply chain, where suppliers are brought much

Both inbound and outbound road hauliers are facing a financial crunch closer to the assembly point. This is already evident in GM or Ford plants in BRIC countries, Mexico and the transplants in the southern United States.

Getting closer to the action

Much has been written about the shift from the traditional centre in the Midwest to transplant locations in the non-unionised south, where workers are paid roughly half of what their counterparts are in Detroit. An important factor too has been OEM and supplier plants close to the US-Mexico border, such as the many facilities near Laredo and in Mexico itself.

While the new UAW contracts last autumn introduced a second-tier salary system for GM, Ford and Chrysler, the South still has less labour "baggage". If you look at the difference between the Midwestern and southern auto belts and the continuing increase in transport costs, Detroit is being hit hardest. The devolved manufacturing footprint and networks involve the use of more transport.

In the Midwest, carmakers have 'centres of excellence', such as central stamping, powertrain and assembly plants dotted around the region. Plants in the south and Mexico are more integrated when it comes to the production site. Weiss compares the new plants to Ford's Rouge facility in its heyday. "It put iron ore in one side, and brought out a Model T the other," he says.

"While [Detroit carmakers] have decoupled again, the transplants do not just start with assembly, but have the powertrain next to it. They do contiguous stamping rather than central stamping and have their own plastics plants and a supplier park on site," he explains.

IAC's Russell says supplier lead times are much shorter for the transplant 'campuses'. "You have a lead time of 400 minutes for some projects, or just two to three hours to put it together, and sequence it."

Growth was the reason the American carmakers decoupled. When building plants, carmakers knew it would be more expensive to retool for the stamping requirements each time than to centralise certain components and transport these to factories. "Now we would also like to have everything together so that we can save on transport, but that's not how we developed," says Weiss.

He questions whether Toyota, with eight plants in North America, won't consider centralising some manufacturing. But with the cost pressures described, there is reason to question whether reductions in transport might come closer to cost savings for tooling and labour in the near future.

The M factor

Russell says that with fuel prices increasing and OEMs building plants in different locations, IAC's main aim is to decrease miles. Just as OEMs have asked it to move closer, IAC does the same for some of its suppliers. "If a supplier wins business in Ohio, but most of its business is in Mississippi, we'll ask them to stay in Mississippi to reduce transportation," he says. "The days of offsetting and asking for a 'piece-price reduction' are over. I think everyone has given everything they can, and we need to find alternatives."

If the focus shifts from piece price reduction to logistics savings, then "near" sourcing is likely to increase. Again, rather than replacing global sourcing, near sourcing happens simultaneously. Suppliers move to new manufacturing locations closer to the OEM at its request or demand, even as the suppliers increase their material flow from Asia, also through OEM pressure.

In other cases, suppliers win business over locations farther away because the logistics cost is low enough to beat total landed cost. Perhaps the most important opportunity for US and Canadian production is in Mexico.

Mexico suffers from many of the problems that afflict developing countries such as poor carrier service, limited infrastructure and limited competition, but development

Nissan Mexicana's Gerardo de la Torre says that the rail service in Mexico needs to be improved, although the carmaker was the first to move some domestic distribution to rail

Chrysler will spend around $700 million this year for rail transport, and thinks that railway pricing needs to be more competitive

Lead times for material to the transplant carmakers in the Southern auto belt are shorter because of the supplier-park set up

is moving in a positive direction. One area that has shown improvement is border operations. It's not perfect – hours are limited on weekends – but the border is now a managed improvement, according to Ford, Chrysler and VWM.

Infrastructure is a historic problem in Mexico, but this year the government increased its spending on port and infrastructure by 20 per cent to $750m. While rail has not been updated in a century, OEMs in Mexico are increasing rail use within the country. In the past year, VWM moved 100,000 vehicles by rail to the Port of Veracruz. Rail needs to be developed, however.

Nissan Mexicana's Gerardo de la Torre says that there is only one rail line to and from Veracruz, which is in desperate need of upgrading. But carmakers are using rail in spite of the problems. Nissan recently became the first OEM in the country to shift some domestic distribution (2 per cent) on to rail, according to de la Torre. The rest goes by truck.

A wealth of opportunity ahead

The need to improve logistics and infrastructure could be a deciding factor in future business growth for Mexico. The push for increased low-cost country sourcing also means greater opportunities for Mexico. "The way we understand this opportunity, the challenge is for logistics," de la Torre says. Nissan has started an initiative to reduce kilometres, at the same time as a drive to increase local content for Mexican products. "The more we localise parts in Mexico, the more we cut transportation and our cost per unit will come down significantly," he adds.

For Mexican production, local content represents between 50 and 80 per cent. De la Torre sees more potential for parts exports for US and Canadian production. "I keep reminding our suppliers that they have a big opportunity!" he says. De la Torre does acknowledge however, that Mexico is in tough competition with countries like China for parts. According to VWM's Carsten Goransch, labour costs in Mexico are higher than in Eastern Europe, let alone China. "In many cases, the logistics still won't kill the labour savings for China versus Mexico," he says. "It will with an engine, or bigger part. But if you have parts with high value, which pack easily, then it will probably still be cheaper."

Change we can believe?

Whether viewed through the telescopic prism of the presidential election, or the microcosm of the transport and logistics industry, the pace of change – or, at least, the idea of change – is on the North American mind these days. Some of the presidential candidate's promises, relating to infrastructure investments and carbon emissions, would have important implications for the car industry, if enacted. Weiss predicts that when the US takes action on truck carbon emissions it will be radical, as it was for the recent requirements set for sulphur particles in Diesel fuel at 15 ppm, 10 times stricter than in Europe.

Infrastructure continues to be an issue too, following a recent spate of collapsing bridges and widespread complaints that the highways are not what they used to be. Although still the world's largest highways network, the stateside version is beginning to show its age. Weiss wants to see more public spending on infrastructure. He is wary about private projects that could limit competition, as he feels happened with the railways, where tracks might cross but cannot be used by competing lines.

"Infrastructure is an issue in the US," echoes Toney. "We need to make sure that infrastructure doesn't make us less competitive."

Robert Bosch's Pronger adds that the infrastructure issue affects the ports coast to coast. While there is constant concern about the overcrowded west coast ports, the long-awaited expansion of the Panama Canal will put more strain on the east coast as well.

Even if the economy catches its breath sooner than expected, logistics experts will probably still be losing sleep as they lean out supply chains, bring material closer/farther, get it cheaper, greener and try to be more efficient, even if all those promises point in contradictory directions. With that in mind, they may be more like presidential candidates than we thought.

Who we spoke to:

John Baisley, Vice President Operations, **Penske Logistics**

Morris Brown, Programme Manager for Material Management, **AIAG (Automotive Industry Action Group)**

Joe Gallick, Senior Vice President Sales, **Penske Logistics**

Carsten Goransch, Director for Logistics, Traffic and Transportation, **VW de Mexico**

Todd Pronger, Director, Customer Logistics and Planning, Chassis Full Brakes, **Robert Bosch**

Craig Russell, Logistics Manager North America, **IAC (International Automotive Components)**

Alfonso Gutierrez Sanchez, Logistics Planning, Materials and Vehicles, **VW de Mexico**

Frederiek Toney, Director for Material, Planning and Logistics, **Ford Motor Company**

Gerardo de la Torre, Supply Chain Management and Logistics Director, **Nissan Mexicana**

Peter Weiss, Director of Worldwide Transportation and Customs, **Chrysler**

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