



Rental  
Leasing  
Logistics

# Case Study: The Importance of Developing Adaptive Logistics Partnerships

Presented by Toyota Motor Manufacturing de Guanajuato  
and Penske Logistics

# TOYOTA IN MEXICO



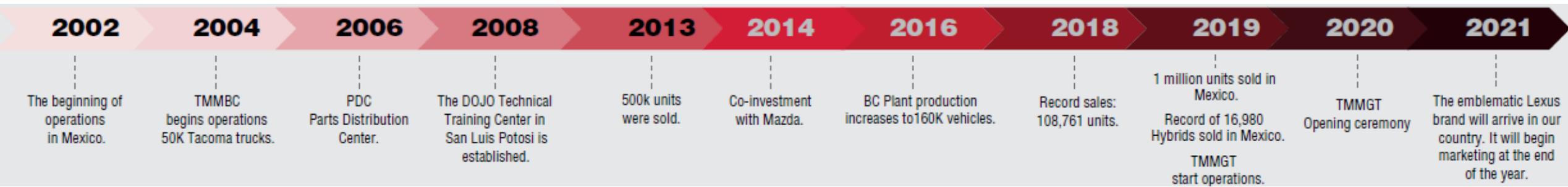
**Toyota Motor Sales de Mexico (TMEX)**  
 Established: **2002**  
 Located at a strategic zone in Mexico City to cover Mexico customer requirements.  
**Sales locations: 91**  
**Models: 19**



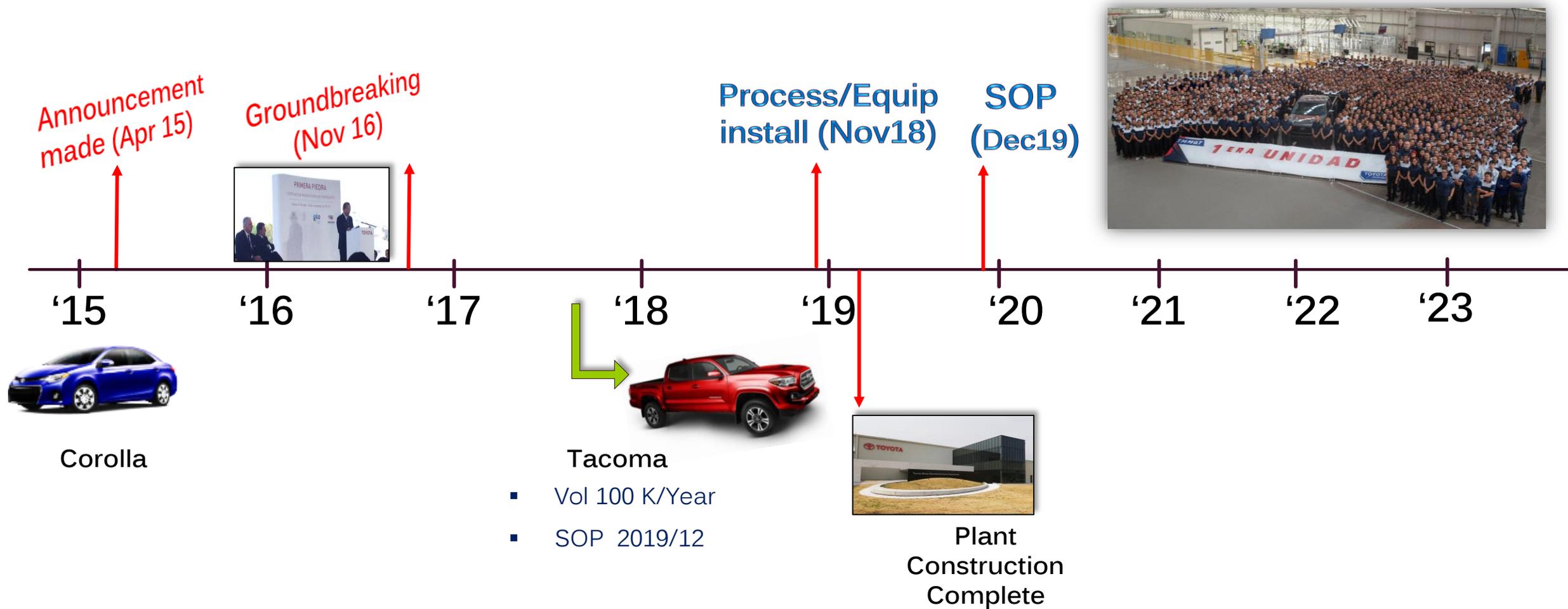
**Toyota Motor Manufacturing de Baja California (TMMBC)**  
 Established: **2004**  
 First Toyota Manufacturing Plant in Mexico with an initial capacity of **30,000** Tacomas per year.  
 Currently at **166,000** capacity.



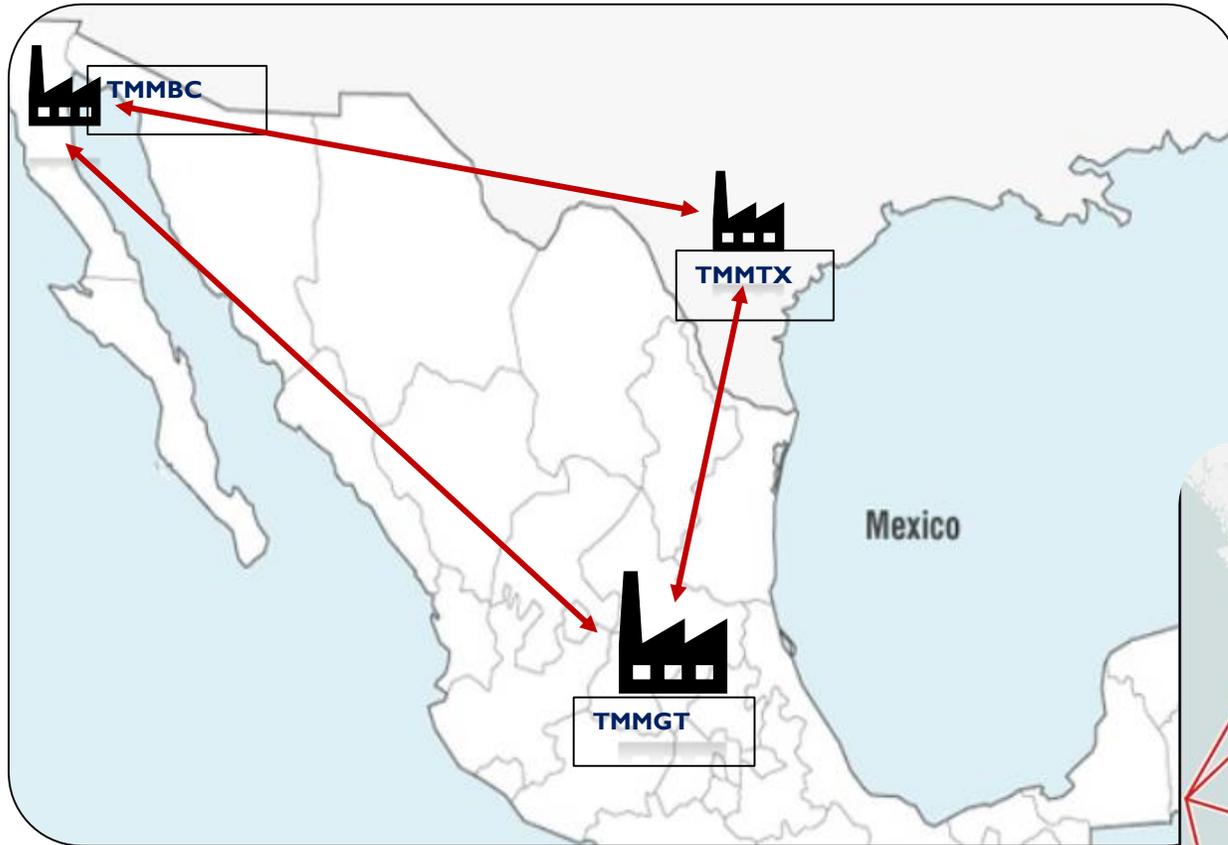
**Toyota Motor Manufacturing de Guanajuato (TMMGT)**  
 Start Of Production: **2019**  
 Toyota Manufacturing Plant in Mexico with an initial capacity of **100,000** Tacomas per year.



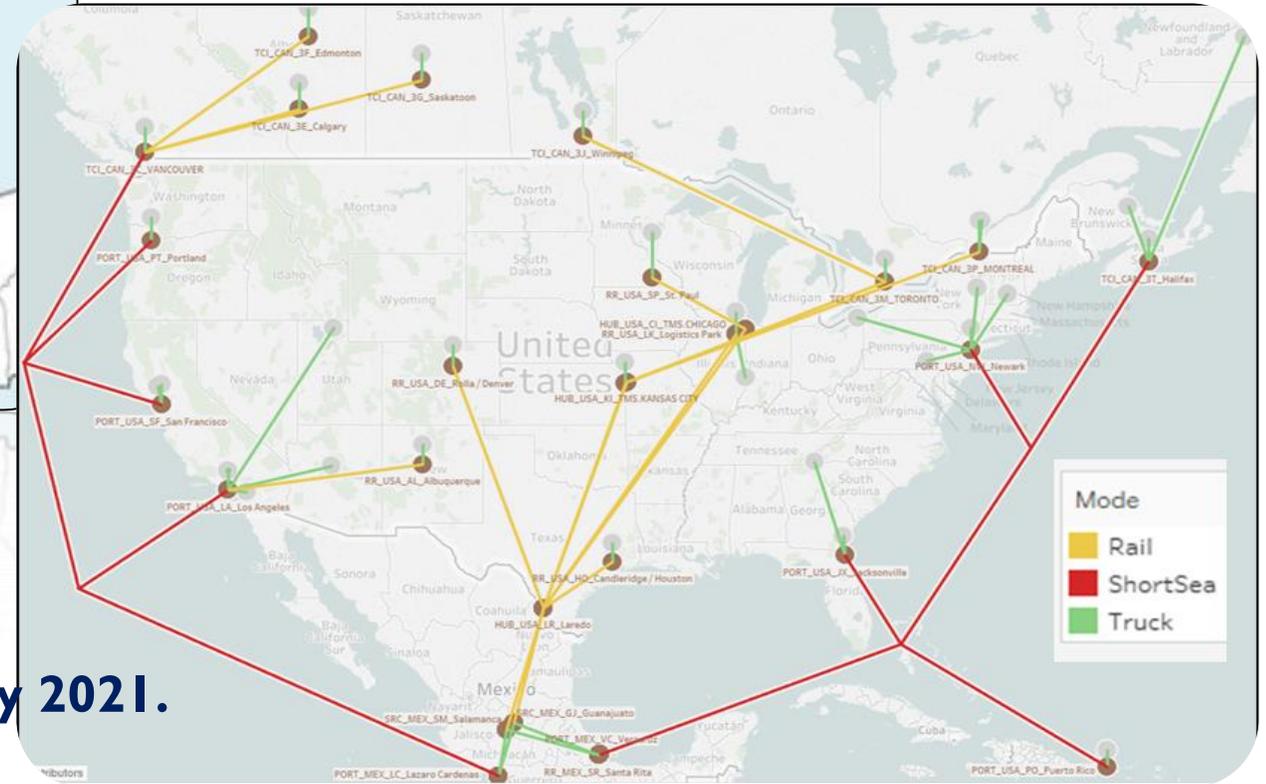
# TMMGT PROJECT BACKGROUND



# TOYOTA TRUCK TRIANGLE



- Supply Chain Improvement.
- Develop, support and share supply strategy.
- On-Site Partners development.
- Communize and improve processes.



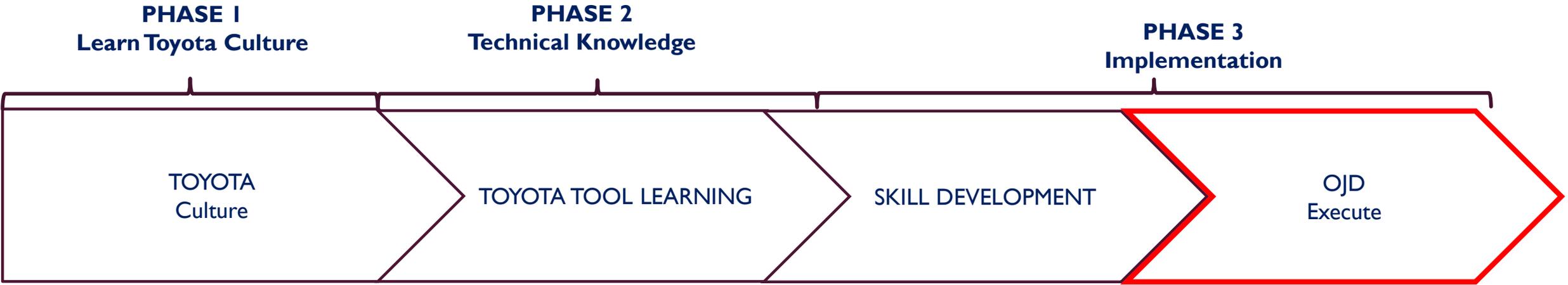
- Mexico Operations to Produce 266K Tacomas by 2021.

# PLANT DEVELOPMENT



# Training & Development:

Ensure TMMGT and PENSKE develop as one team:

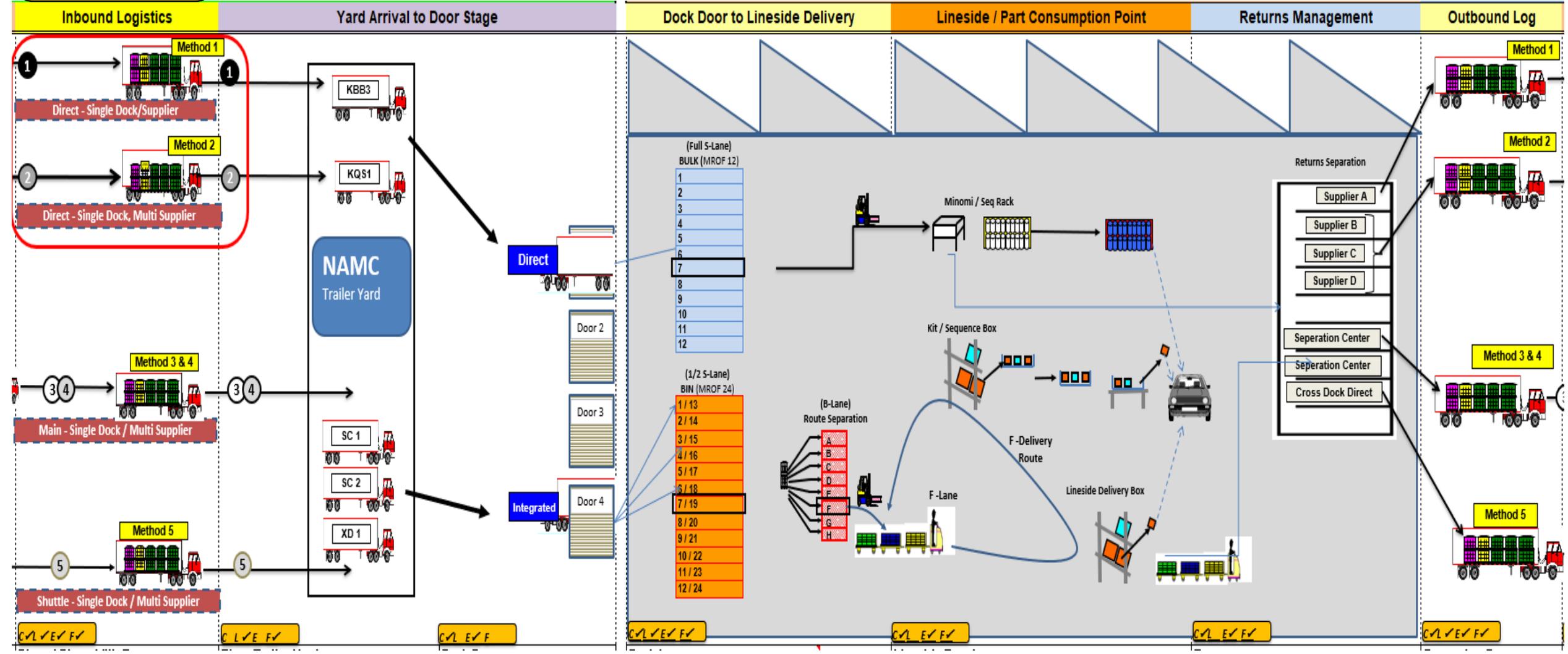


## Training Key Points:

- A- Standard Training as foundation and development.
- B- Process development to achieve best Start Of Production.
- C- Flexibility incorporated in the process development.
- D- Safety and Quality as pillars for the support between TMMGT and Penske.

# Key development Impact:

4 Laws of Logistics:  
**CYCLIC ROTATION**  
**LEADTIME SHORT**  
**EFFICIENCY HIGH**  
**FLEXIBILITY**



# YARD MANAGEMENT SAFETY

Toyota Basic Yard Safety Rules - Minimum Requirement					
TMMGT					
#	Visuals	Topic	Specific Rule	Compliant?	Department/PIC
1		Right of Way (Vehicle and pedestrian priority)	1.) Emergency Vehicle 2.) Vehicle A.) Shunt B.) Tractor Trailer C.) Tugger D.) Lift truck (fork truck) E.) EZ GO F.) Other 3.) Pedestrian In the event two or more vehicles arrive at an intersection at the same time, follow the order of priority	Yes	PC Logistics
2		Blind side backing	Driver of tractor trailers or shunt trucks that have trailers or dolly's attached are never to back up from the blind side.	Yes	PC Logistics / Penske
3		Signaling between dock and yard	Required elements: 1) Visual signalling (lighting, etc.).	Yes	Conveyance
			Required elements: 2) Direct communication between dock and yard.	Yes	PC Logistics
			Required elements: 3) Mechanical pokeyokes such as dock locks, glad hand systems, etc.	Yes	Conveyance
4		Equipment confirmation	1) Tandems must be slid to proper position before parking and before pulling.	Yes	PC Logistics
			2) All trailers must have door lashing mechanism and must be lashed prior to backing up to door.	Yes	PC Logistics
			3) Air lines must be checked for connection before pulling and disconnected for dropping.	Yes	Penske
			4) Dolly legs should be visually inspected to verify pads in place and legs are level and perpendicular to the trailer by driver before and after pull, and have cyclic audits by LP.	Yes	Penske
5		King pin connection	Visual onfirmation must be performed prior to tug test and pull.	Yes	Penske

# CO2 REDUCTION ACTION PLAN

**Worsening global environmental issues**

- Extreme weather phenomena attributed to greenhouse gas emissions
- Biodiversity depletion due to development
- Water shortages caused by population growth

**Announced Toyota Environmental Challenge 2050**

**Set the aim for 2030**

**Ideal form in 2050**

**2030 Milestone**

**2050 Milestone**

**CO<sub>2</sub> 0**

**Society in harmony with nature**

**October 2015**

**September 2018**

**2050**

The timeline shows the progression of Toyota's environmental goals. It starts with the announcement of the 2050 challenge in October 2015, followed by the 2030 milestone in September 2018, and finally the ideal form in 2050. The 2030 milestone is described as 'Achieving Zero CO<sub>2</sub> Emissions Challenge of Achieving Zero' and 'Benefitting the Earth Net Positive Impact Challenge'. The 2050 milestone is 'CO<sub>2</sub> 0' and 'Society in harmony with nature'.

**Minimal Operation of AC (Vaporization-type AC)**

**Wastewater Treatment and Stormwater Recycling**

The diagram shows a cross-section of a building with a vaporization-type AC system. Hot air (暑い外気) enters from the outside, and cool air (涼風) is circulated inside. A cooling element (エレメント) is shown. Below, a wastewater treatment and stormwater recycling system is depicted with a factory icon and water flow arrows.

**Natural Ventilation**

**Utilization of Natural and LED Light**

**Afforestation**

**LED**

An aerial view of a large industrial complex with various sustainability features highlighted by red lines. The features include:
 

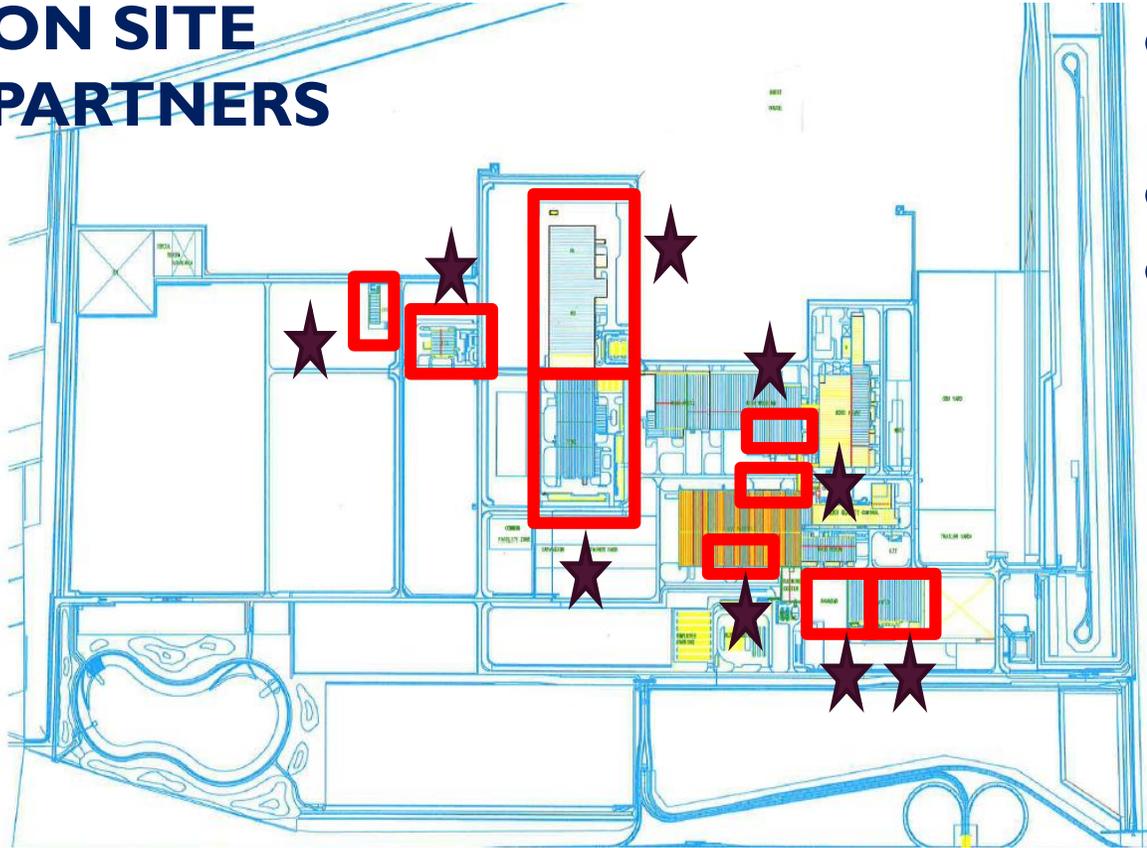
- Natural Ventilation:** A diagram showing air flow through a building's roof structure.
- Utilization of Natural and LED Light:** A photograph of a large industrial interior with a bright LED light fixture.
- Afforestation:** A diagram showing a tree and a smiley face, representing environmental benefits.



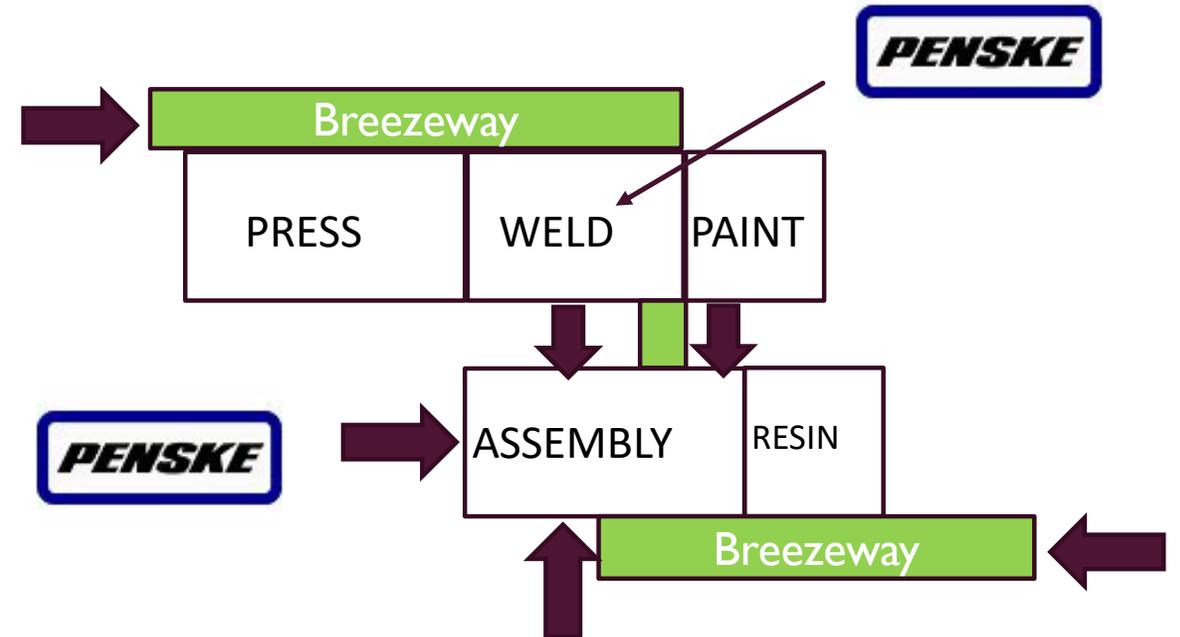
# Internal/External Logistics: Fully Integrated Operation

## Supplier Integration-TMMGT Unique Points

### ON SITE PARTNERS



- On Site Supplier connected to Plant via Breezeway.
- Future autonomous Part delivery capacity.
- 3PL Underroof.



# About Penske Logistics

Penske Logistics offers a **full spectrum of award winning, innovative logistics solutions, customized** to each customer's individual needs.

**50+**

Years of Service

**19K+**

Global Associates

**3,100**

Associates in Mexico

# Logistics Partnership

## Service Solutions

- Transportation Management
- Yard Management
- Cross Docking
- Warehousing
- Logistics Planning/Design
- Lead Logistic Provider
- Expedite Management
- Sequencing/Kitting/Sort
- Line-side Delivery

## Mexico Assembly Plant Services

- Yard Management
- Line-side Delivery



**33**

Years in the US, Canada  
& Mexico

**10**

Facilities

# Adaptive Solutions



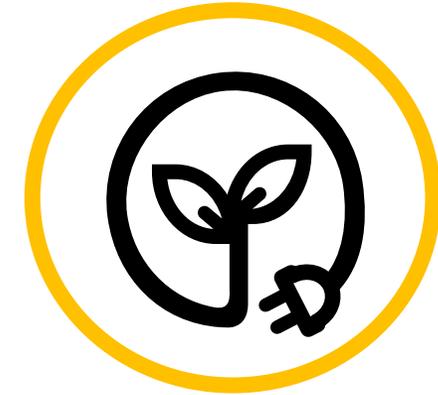
## HIRING AND RETENTION

Leveraging Penske's expertise in Mexico for hiring and turnover reduction.



## SAFETY BEST PRACTICES

Implementing best-in-class shunt braking system.



## ELECTRIC EQUIPMENT

To complement Toyota green initiatives, Penske supported nearly 100% electric material handling equipment.

# Hiring and Retention

## Penske Solutions



# Safety Best Practices



Penske tractors are equipped with **air brake locking sensors**.

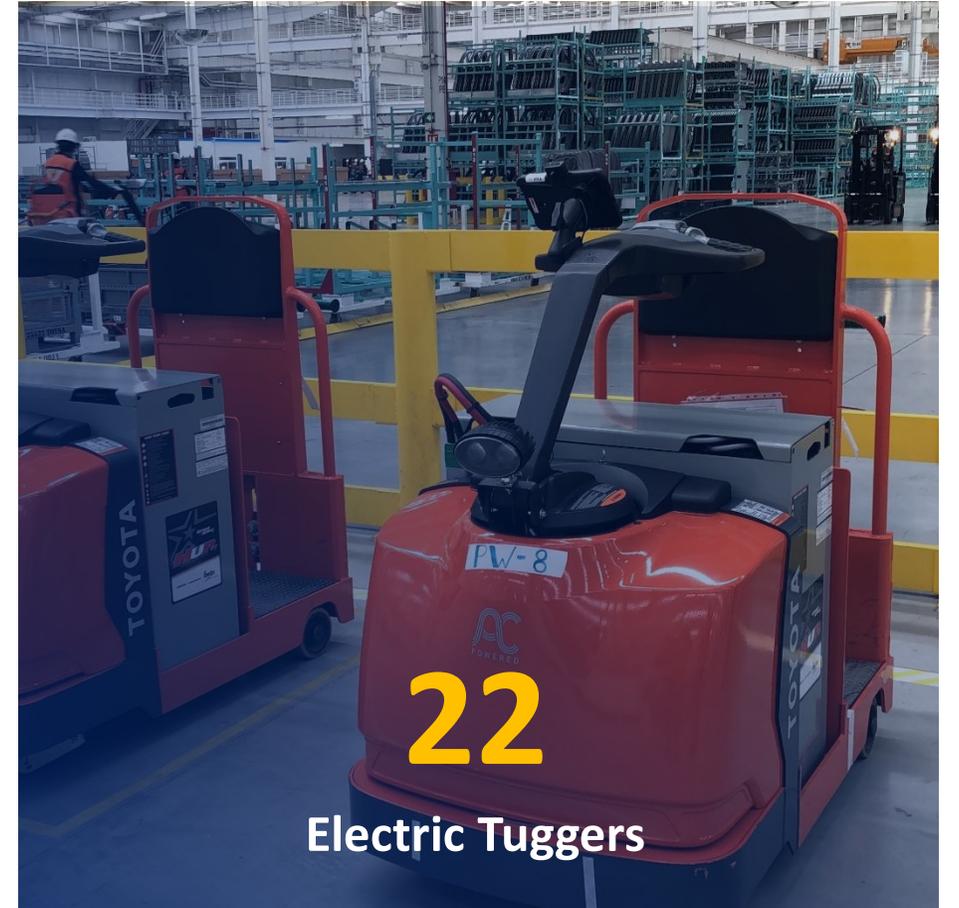
Penske shunt trucks were **retrofitted with automatic seat sensors**.

1. Associate engages air brakes.
2. Seat sensor sounds a loud alarm if air brake is not engaged.
3. Alarm alerts associate to engage brake before exiting shunt truck.



# Electric Equipment

Supporting Toyota green initiatives using electric material-handling equipment in the plant.



# Environmental Impact

Combined efforts since 2018 have led to reductions equivalent to the emissions from:



**251,195**

Miles driven by an average passenger vehicle.



**111,543**

Pounds of coal burned.



**12,910,273**

Number of smartphones charged.

\*These numbers are based on information gathered from the US Environmental Protection Agency, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>.

**QUESTIONS?**