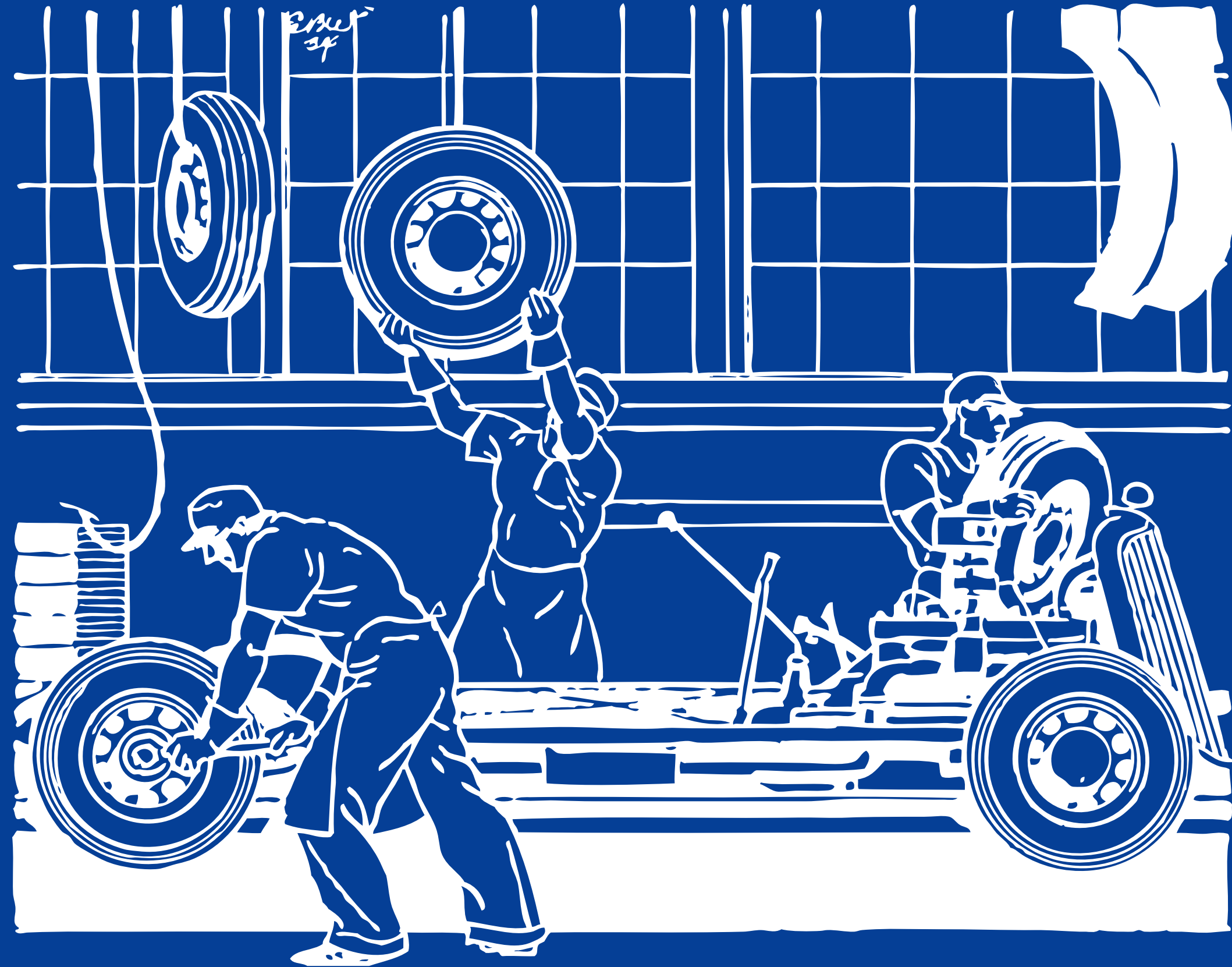


# Supply Chain of the Automotive Industry in Pakistan – *A tale of import bans and dollar shortages*

Group 4

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# Outline

01

Introduction to the  
automobile industry

02

Existing Supply  
Chain

03

Problems in the  
supply chain

04

Solutions to the  
supply chain issues

05

Final outlook of the  
supply chain

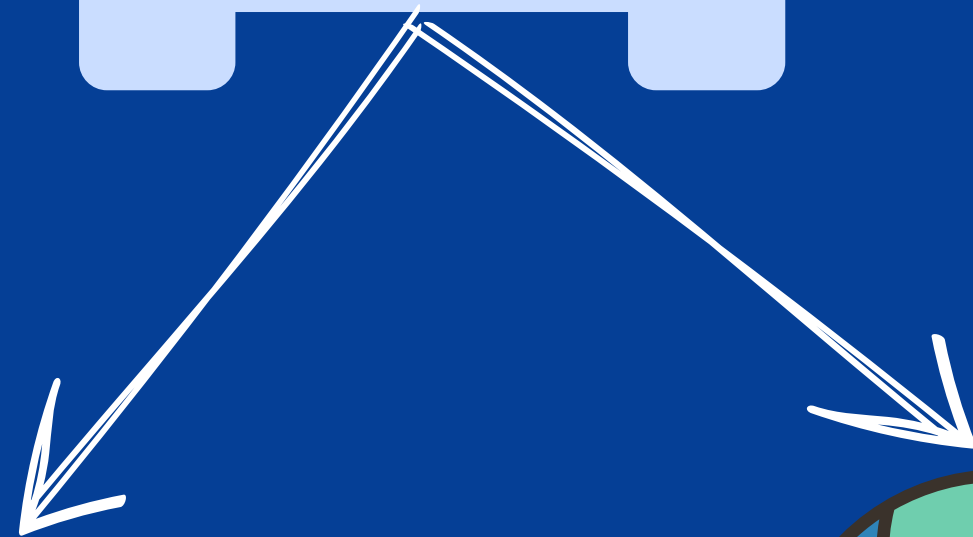
06

Limitations

07

Conclusion

# INTRODUCTION

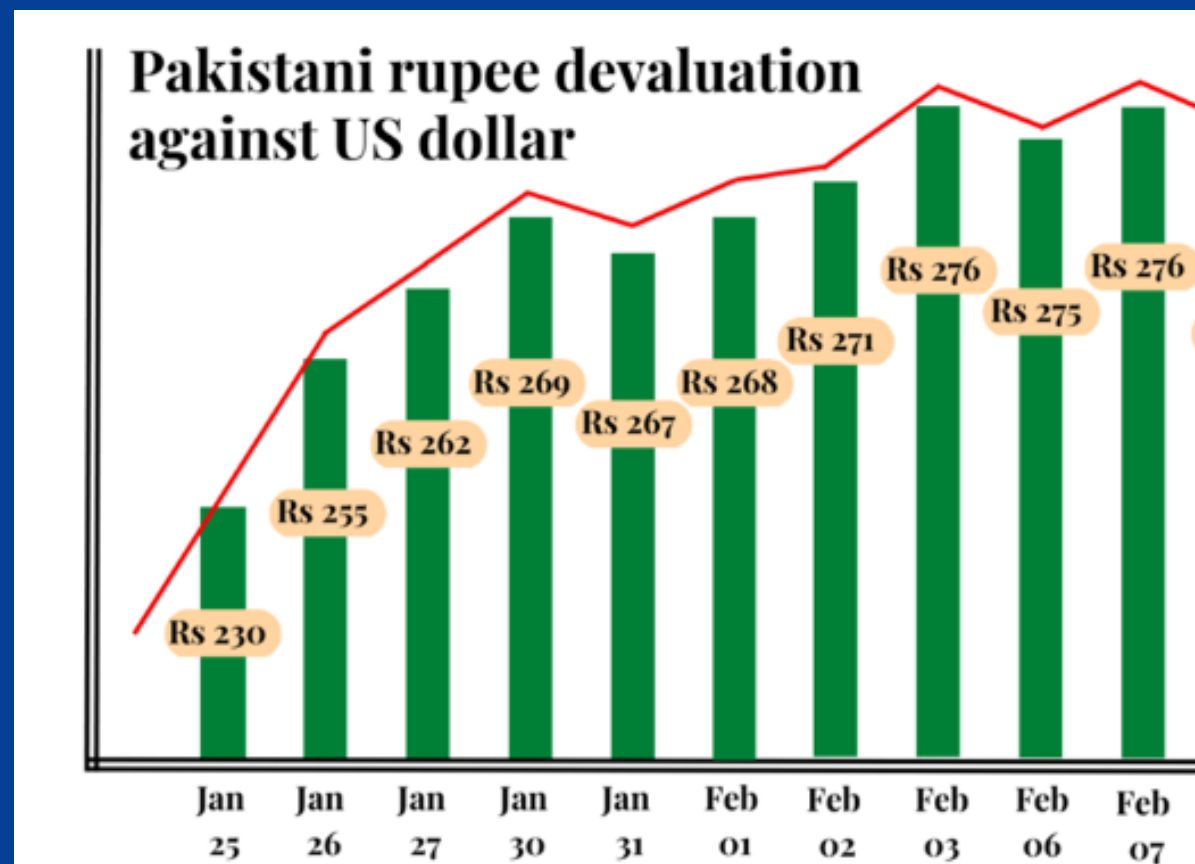


- Pakistan's automobile sector has expanded significantly in recent years.
- 171% growth between 2014 and 2018, one of the fastest-growing sectors in the nation.
- Contribution of roughly Rs. 50 billion (US\$220 million)
- The sector is experiencing difficulties because of import restrictions and dollar shortages

# Political and Economic Conditions

## Import Bans

- Import Duties: Duties upwards of 100%, and FED tax.
- Age Limit: Automobiles imported have to be at least 3 years older
- Non- Tariff barriers: Enviornmetal and safety standards
- Localization requirements: Ban on CBU units, and only CKD units allowed



## Dollar Shortages

- \$16.38 billion to \$3.08 billion since February 2022, declining by 81%.
- The declining reserves have also proved detrimental for the national currency that touched historic lows in recent days and depreciated by 36 percent against the US dollar in the last 12 months
- Resulting to car prices increasing by 35-50%

# Political & Economic Conditions

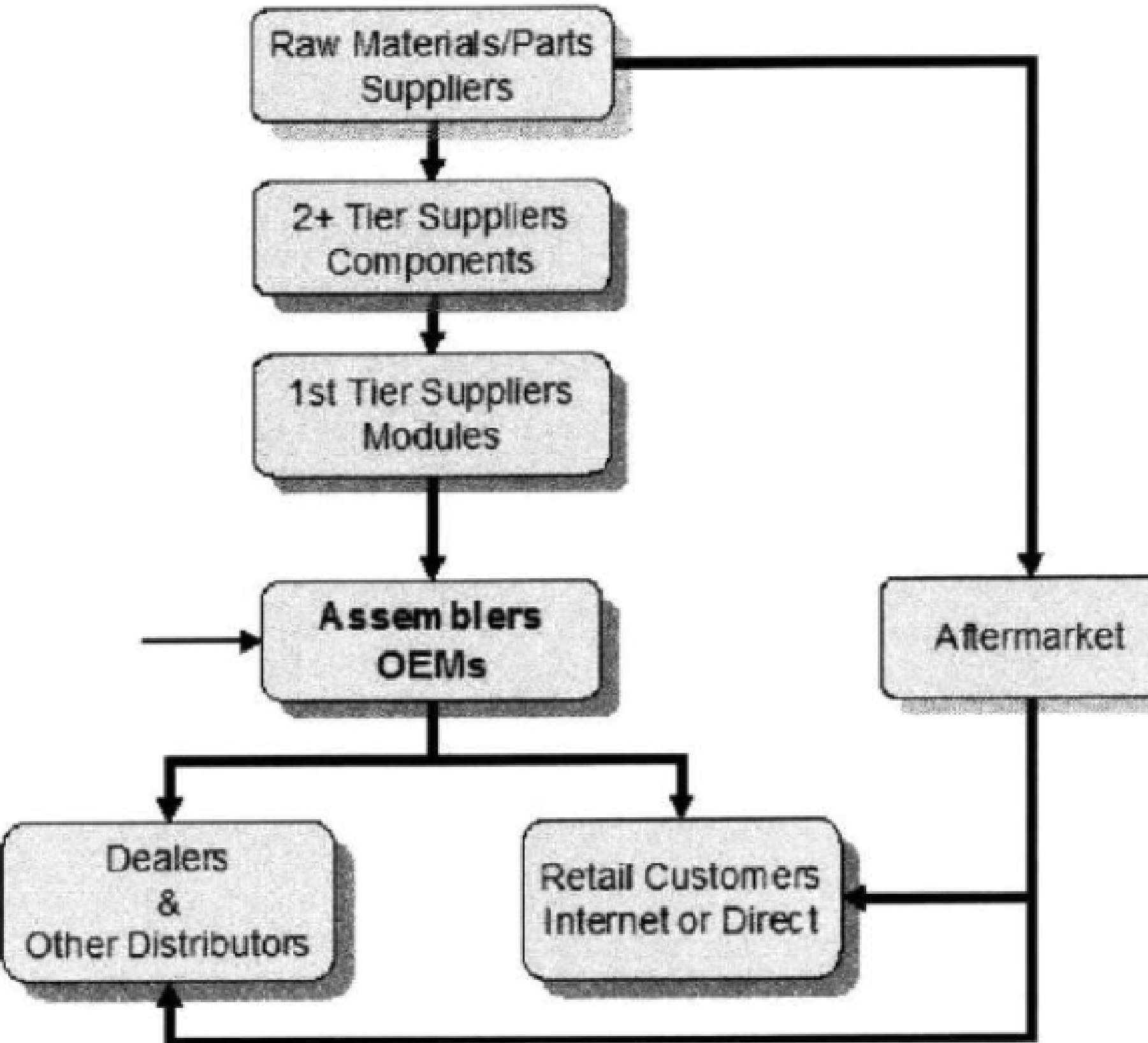
## Auto-Policy Changes

- Letter of Credit requirements upheld

“In light of the recently introduced mechanism vide EPD Circular No. 20 of 2022 dated December 27, 2022, (effective from 2nd January, 2023), commercial banks are advised to prioritize / facilitate the imports to specified sectors only, which does not include auto sector. This has disrupted the entire supply chain and the vendors are unable to supply raw materials and components to the company. Accordingly, the company has insufficient inventory levels, therefore, the company is unable to continue its production activities.”



# Existing Supply Chain



## Tier 1 suppliers:

Comprises raw material providers who offer materials like steel, aluminium, and plastics for vehicle component production.

## Tier 2 suppliers:

Consists of tier-one suppliers responsible for making significant components such as engines, transmissions, and body parts.

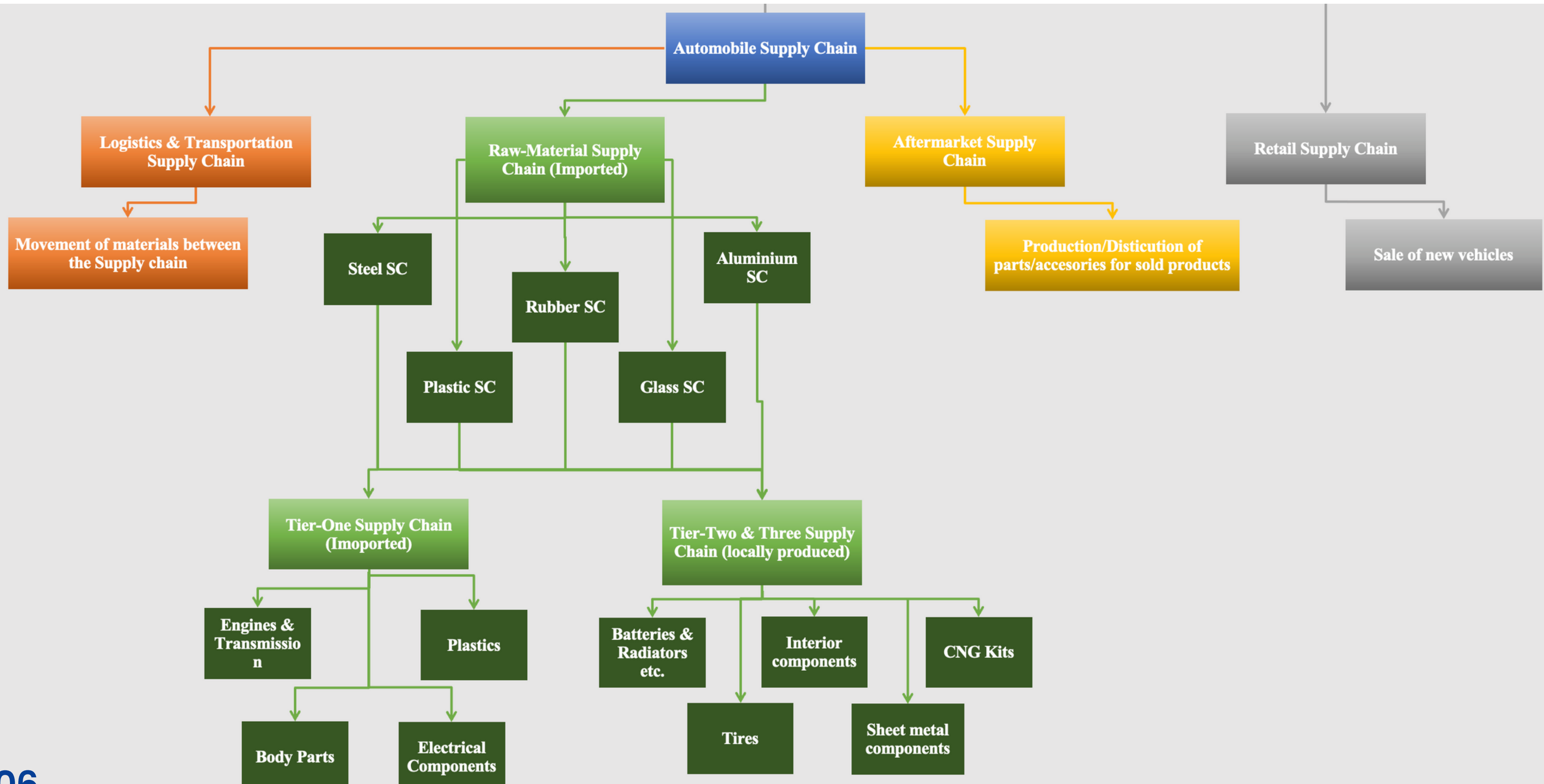
## Tier 3 suppliers:

includes tier-two and tier-three suppliers who provide smaller parts and electrical components. These suppliers often work on shorter-term contracts with tier-one suppliers on a project-specific basis.

Figure 1  
Industry Supply Chain Structure



# Supply chain including Ancilliary industries



# Impact of Import Bans

Interviews from Pakistani Autodealers

## Parts Imported

Steel  
Aluminum  
Rubber  
Glass  
Electrical Components  
Engines and transmissions

## Parts Locally Made

Batteries  
Tyres  
Seat Covers  
Steering Wheels  
Radiators  
Sheet Metal Components  
CNG Kits



# Whats stopping localization?

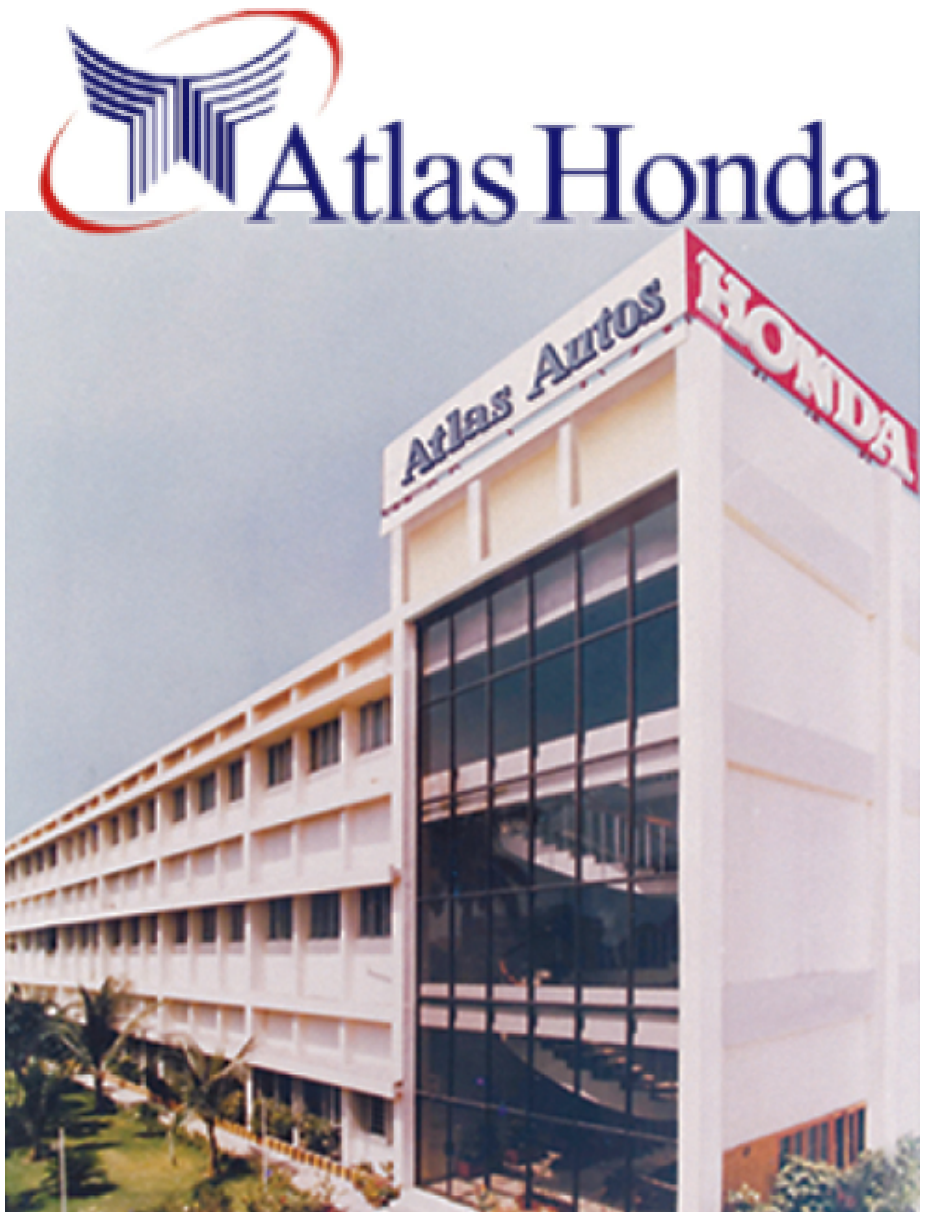
## Pakistani Manufacturer's Perspective



**Gandhara Nissan**

"A few suppliers that are not loyal and sincere with our firms they tend to supply our developed or rejected parts to Chinese assemblers in PK"

"Relationship and management is affected between buyer and supplier due to lack of technological upgrading like software's, SAP, ERP, MIS"



**Honda Atlas**

# Whats stopping localization?

## Pakistani Manufacturer's Perspective



**Gandhara Industries**

"Suppliers demands for advance payment while developing or ordering the new part or equipment, resulting in poor relations"

"Suppliers are not well equipped with communication channels like email, fax. "



**DYSIN  
AUTOMOBILES**



**Dysin Automobiles**

# Problems:

## Lack of Local manufacturers and reliance on imported products

1

- highly susceptible to changes in external economic factors
- only 25% of the country's auto parts are made locally
- high expense of establishing new manufacturing facilities
- higher tariffs on imported products and increase in customs duty
- output delays and higher costs
- restrictions have created an ongoing dollar shortage
- challenging for manufacturers to acquire essential raw materials and components

2

## Lack of vertical integration

- lack of local manufacturers of essential components
- stockouts and output delays
- limits understanding of performance and chances for improvement.
- Lengthy lead times for raw materials and rigid manufacturing procedures

3

## Lack of data visibility and analytics

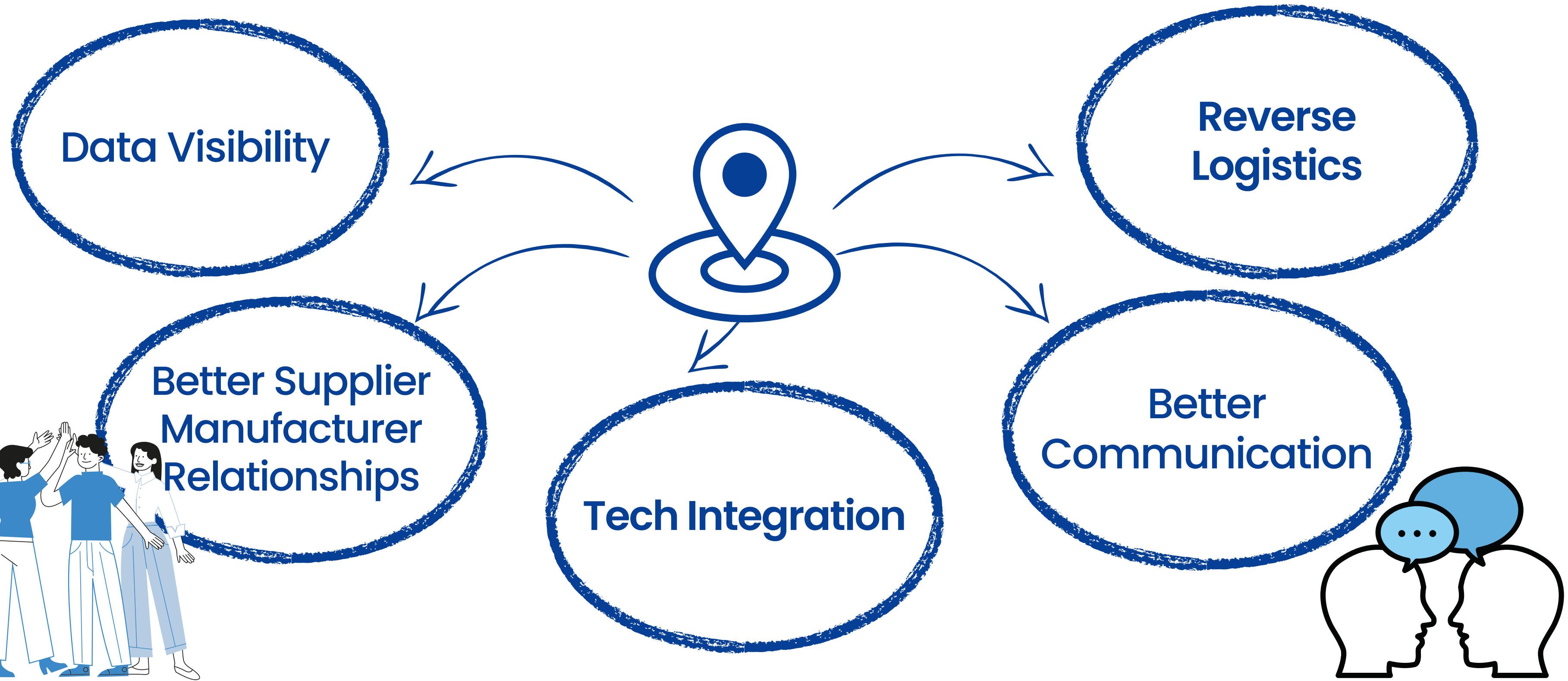
- poor inventory management
- little information sharing
- lack of transparency in the supply chain
- quality problems brought on by the lack of cooperation and coordination
- Obsolescence, higher inventory holding expenses, and decreased sales
- Uncertain Demand



# Import Restrictions – Expert Opinion



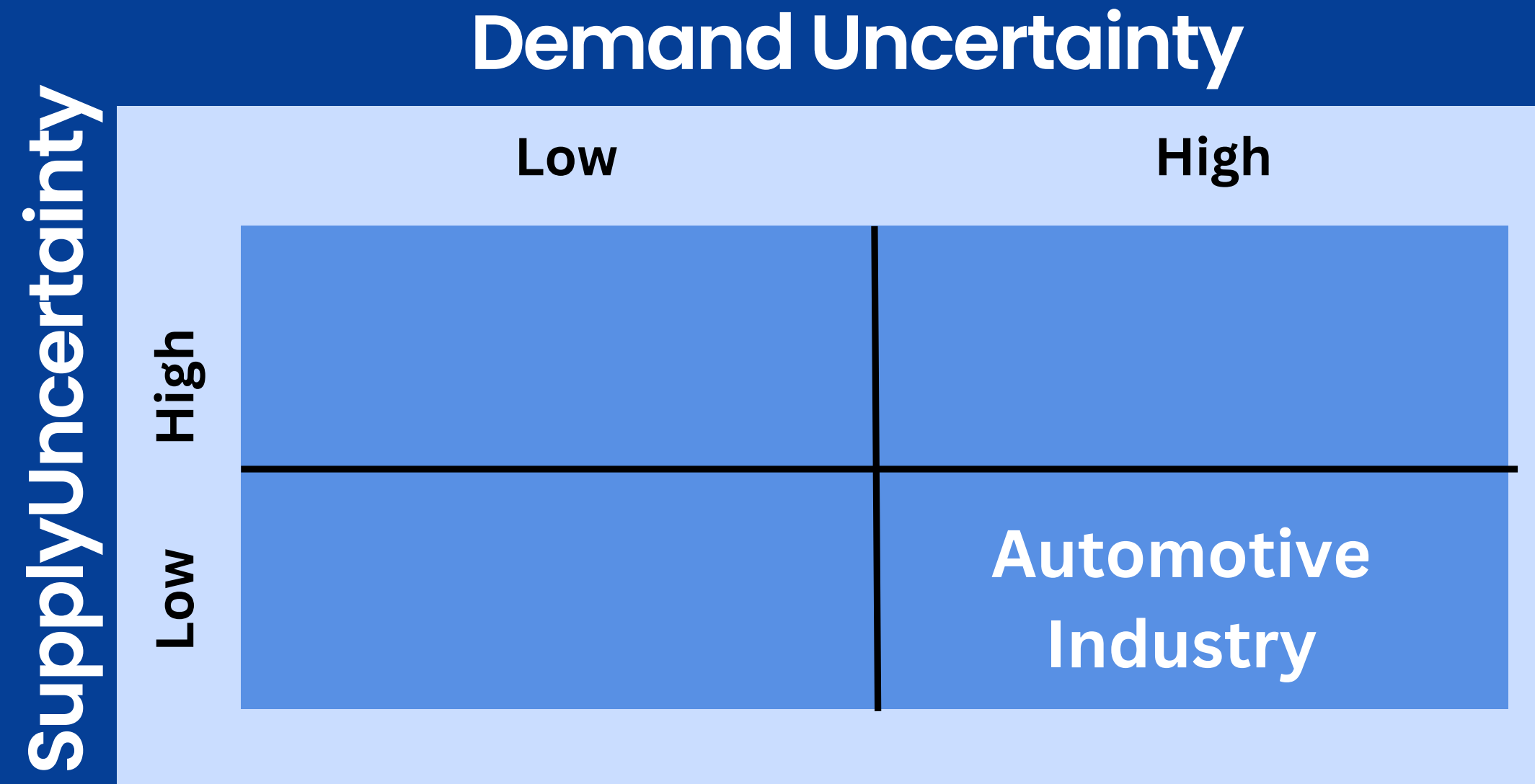
# SOLUTION LOCALIZATION THROUGH...



# Supply Chain Redesign: Agile Supply Chain

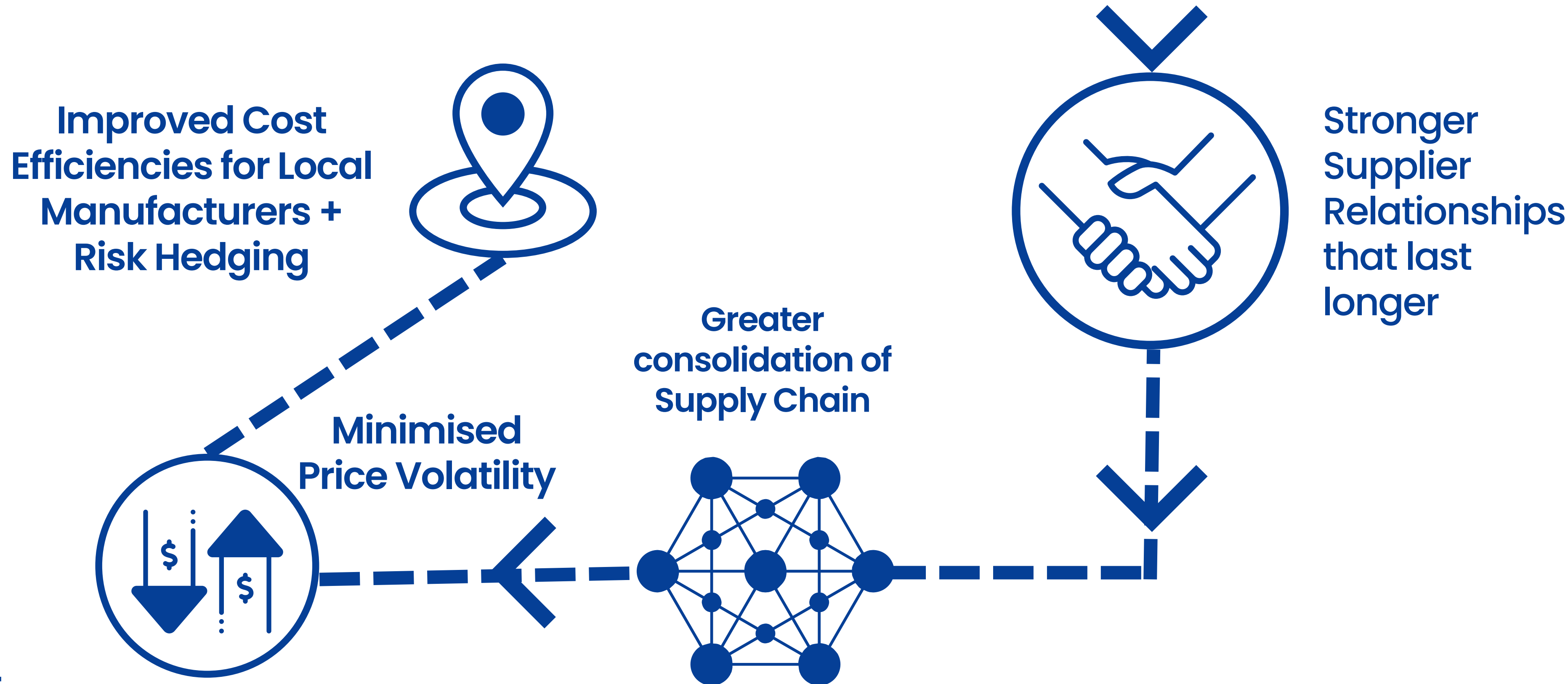
**The automobile industry has high supply and demand uncertainty**

Solution: Combination of risk hedging + responsive strategy by improving SRM and Tech Adoption





# Supply Chain Redesign – Supplier Relationship Management



# Supply Chain Redesign

## Supplier Relationship Management Techniques

### Revamping the supplier selection procedure

- Analytical Hierarchy Process (AHP)
- Multi-criteria supplier selection
- Decreasing reliance on price as a selection criteria
- Reduction in purchase risk

### Revamping Information-Sharing Systems

- Adoption of Supply Chain Management Information Systems
- Deployment of software such as SAP APO
- Data visibility with Tier 1 and Tier 2 suppliers

# C I C R U L A R   E C O N O M Y

DEVELOP AN ECONOMIC SYSTEM BASED ON THE REGENERATION AND REUSE OF IMPORTED PARTS BECOMING A MEANS OF SUSTAINABLE DEVELOPMENT

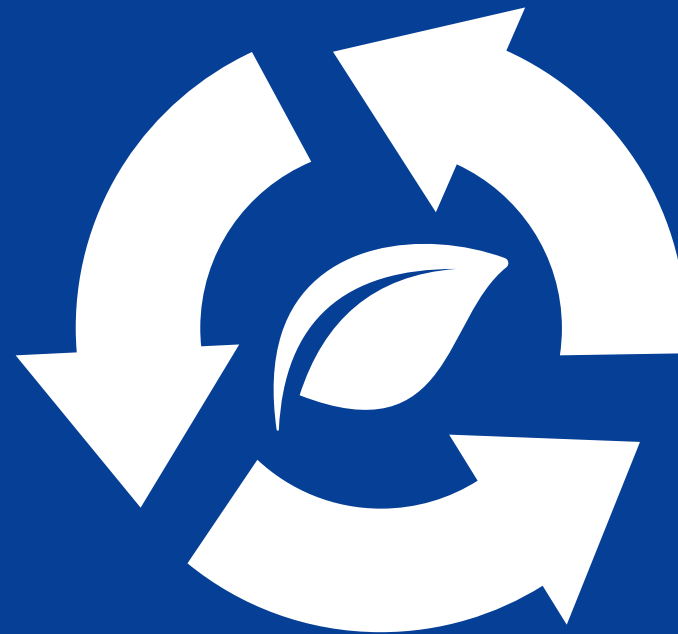
## REQUIREMENTS

**Data Integration**

**Data transparency**

**Vehicle redesign**

**Aligning values and objectives with other stakeholders**



## BENEFITS

- Automotive value chain
- Increase the vehicle lifecycle revenue to sales price by 15 times.
- New revenue streams
- Reduce material sourcing and fleet servicing cost
- Reduce dollar fluctuations volatility

# CICRULAR ECONOMY

DEVELOP AN ECONOMIC SYSTEM BASED ON THE REGENERATION AND REUSE OF IMPORTED PARTS BECOMING A MEANS OF SUSTAINABLE DEVELOPMENT



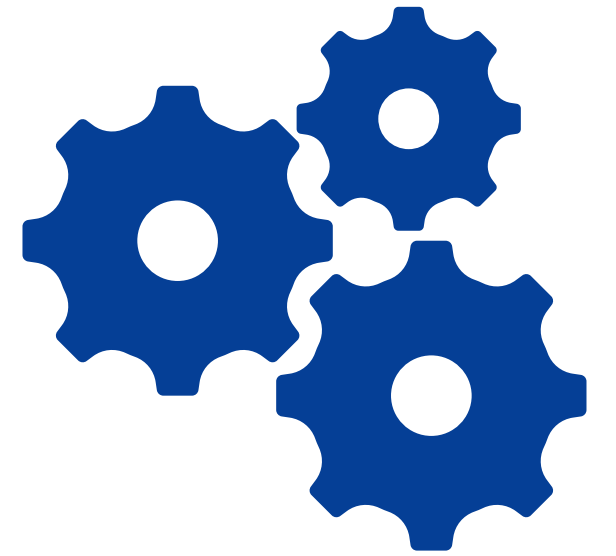
## PARTS THAT CAN BE RECYCLED

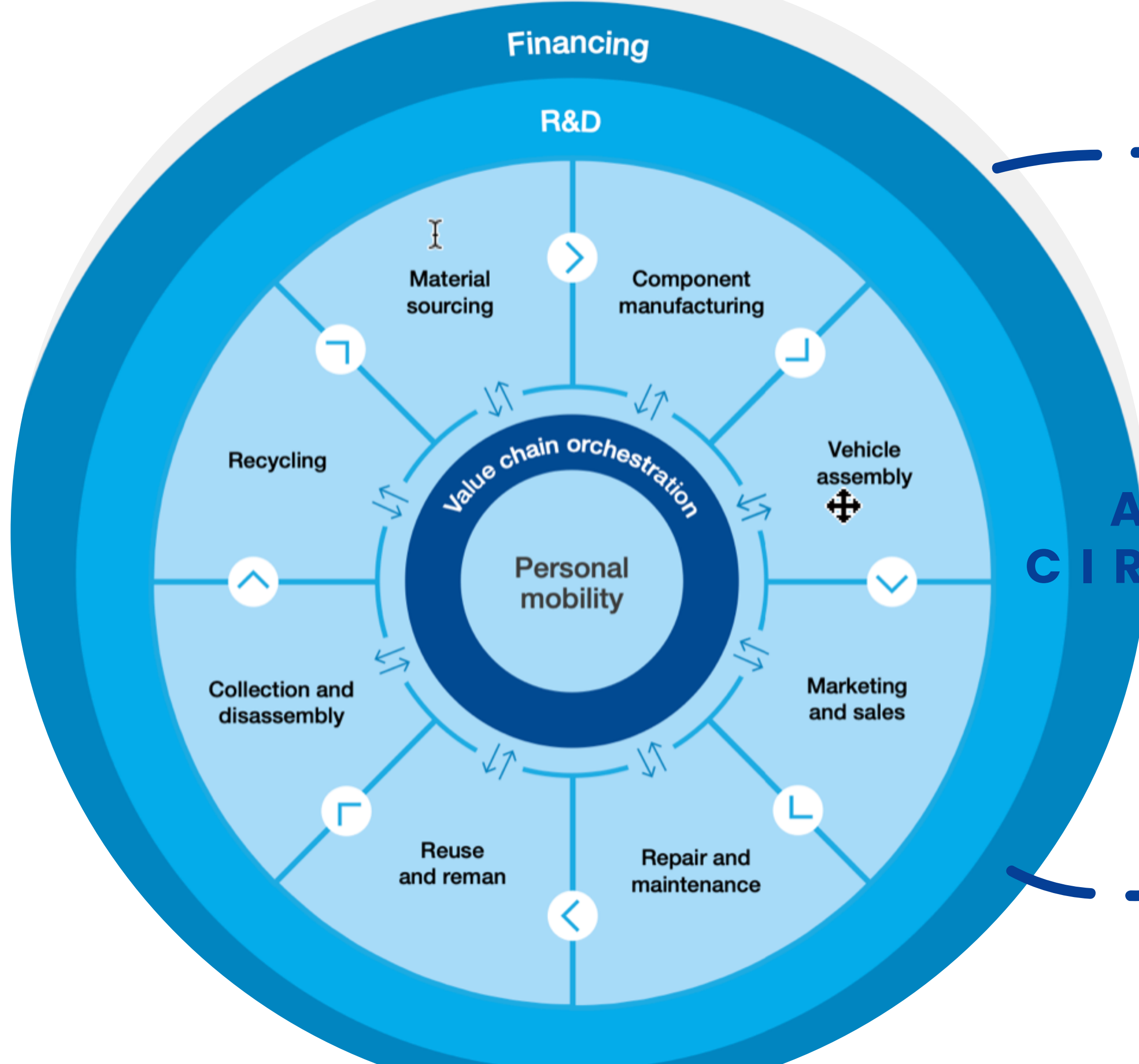
**Engine Oil**

**Oil Filters**

**Batteries**

**Engine and  
Transmission**





PROPOSED  
ADAPTATION OF  
CIRCULAR ECONOMY



# CICRULAR ECONOMY RECYCLE

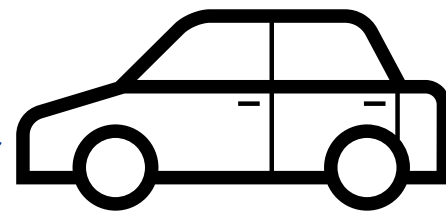


OLD CAR

DISMANTLER



BATTERY  
ENGINE OIL  
OIL FILTERS  
ENGINE AND  
TRANSMISSION



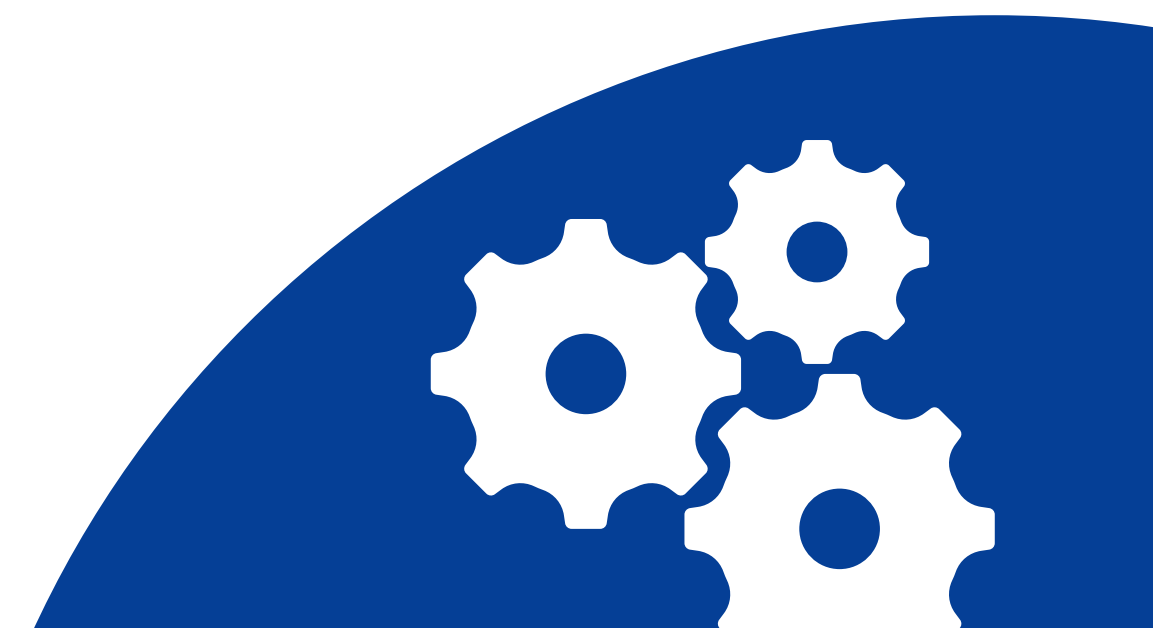
HULK

SHREDDER

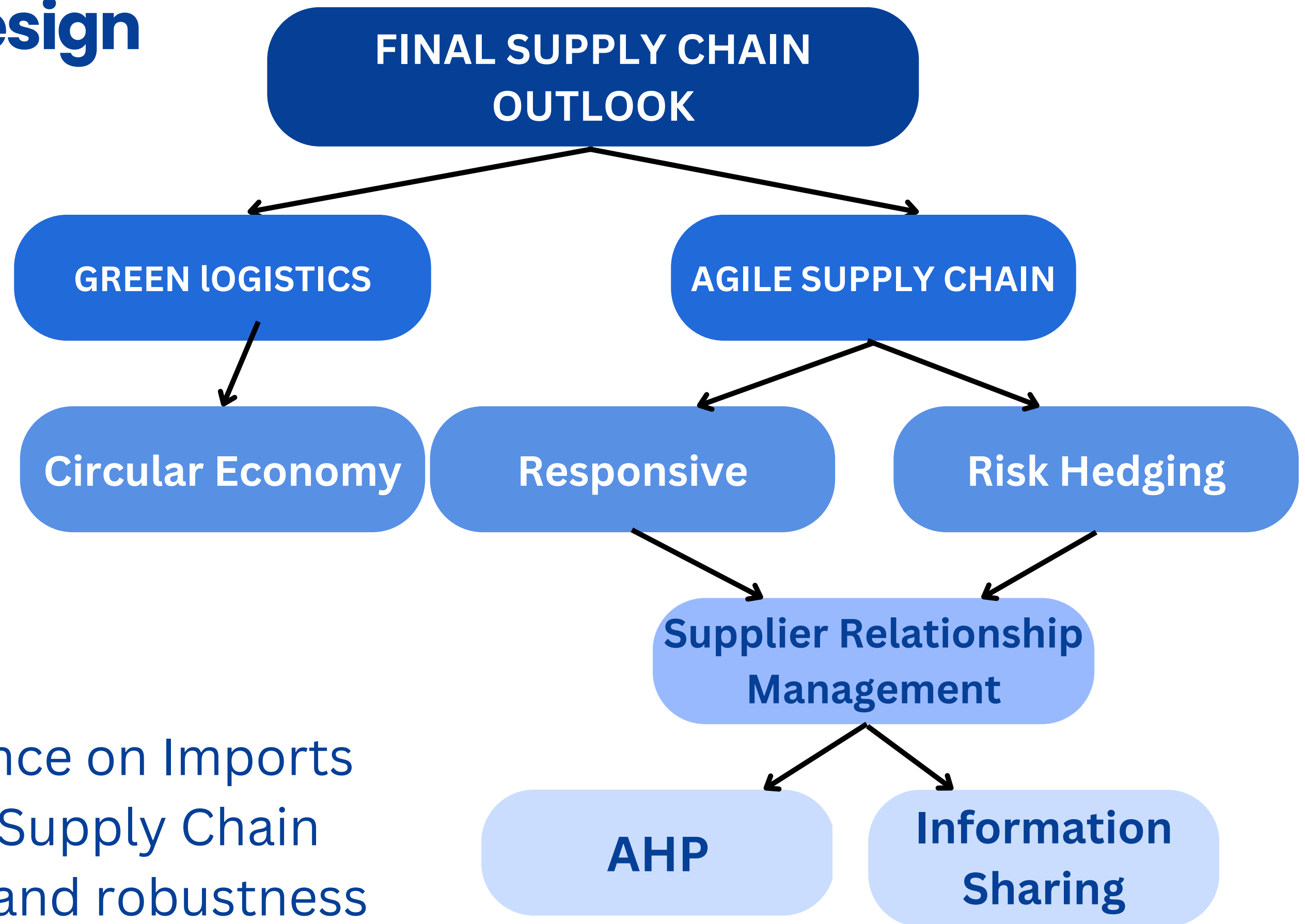


STEEL SCRAP

NONFERROUS  
SEPARATOR



# Supply Chain Redesign Overview



## Solution Objectives:

- Reduce Dependence on Imports
- Strengthen Local Supply Chain
- Improve SC agility and robustness



# HOW WILL THESE SOLUTIONS BENEFIT US?



# LIMITATIONS

EACH SOLUTION HAS ITS UNIQUE LIMITATION WHICH NEEDS TO BE CATERED TO:

- **No prior primary research in Pakistani context**
- **Concept of Circular Economy will need proper planning to be implemented effectively**
- **Culture of automobile industry**



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