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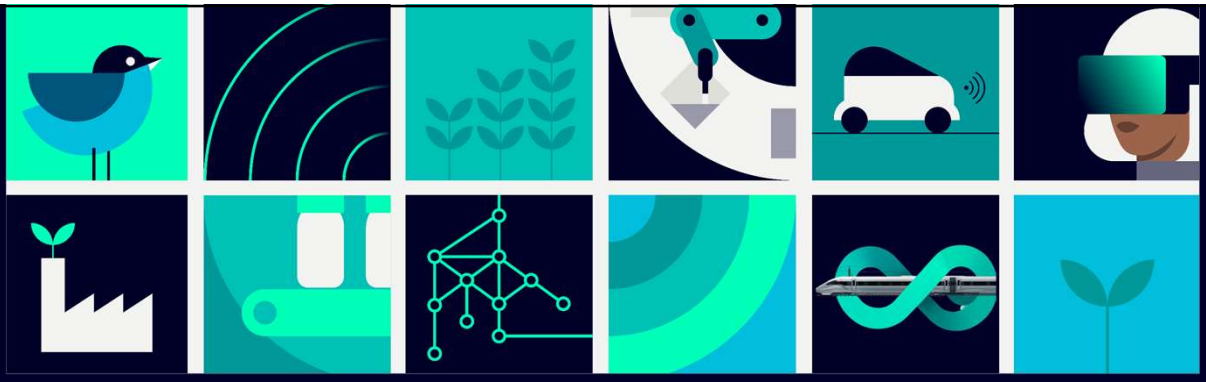

Green and Efficient Logistics

Siemens Limited

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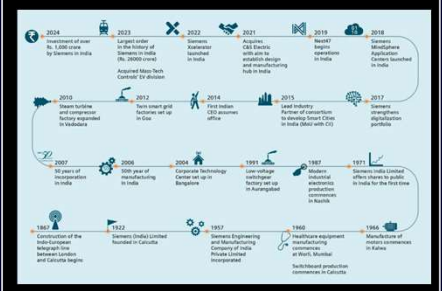
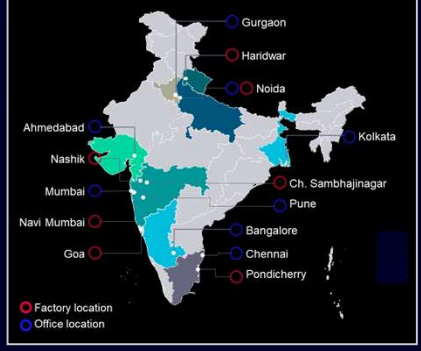
Siemens in India

SAG serves Indian market through 20+ entities; Siemens Limited only listed subsidiary

An enduring partnership with nation's progress since 1867





Long history
~ 158 years of business in India

Presence in India
20+ related entities, 1 Public listed

Market presence
~ 20 cities across India

Manufacturing footprint[1]
25 factories across India

ecovadis 80 pts — Platinum medal awarded (Top 1% of all companies assessed)

Employees
Contributing to global ops. ~ 7,000

Business Vertical

Smart Infrastructure | Digital Industries | Mobility

Public listed company:
Siemens Limited

Market Cap 04.2025
INR 1.0 Tn | ~ € 10.6 Bn

Amongst top 500 listed companies

1) Siemens Limited consolidated including C&S Electric & Mass-Tech; excluding Siemens Energy

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Project : Green and Efficient Logistics

Category : Climate change and mitigation efforts

Business Background

At Siemens Mobility, we enable our customers worldwide to realize sustainable mobility solutions.

We bring together rolling stock, rail infrastructure, rail services, and software to provide sustainable, comfortable, and cost-effective rail traffic today

Objective & Project Background

- To improve efficiency of current logistics operations
- To promote resource efficiency & optimize freight weight & dimension
- To reduce associated emission and packaging waste

The key focus areas of the project are

Trigger

Siemens 360-degree approach to sustainability

- Our **DEGREE** ambitions map against three key impact areas as well as looking at sustainability holistically covering **D**ecarbonization, **E**thics, **G**overnance, **R**esource efficiency & **E**quity & **E**mployability

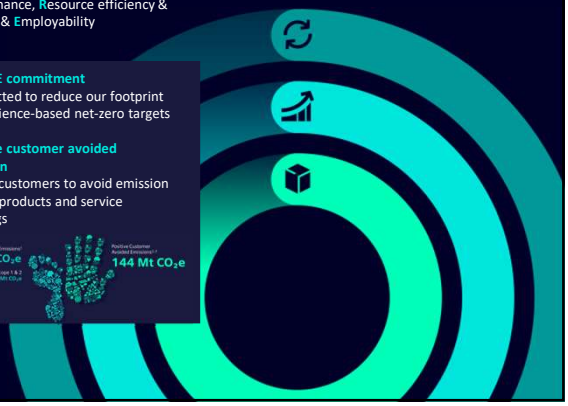
SMO Shendra
Manufacturing hub for local for local and local and global bogie business and its component
Major project include global and local mobility megaprojects

- 9000 HP locomotive Indian Rail
- Sydney Metro
- Bangkok Metro
- Oradea Metro

Resource Efficiency
Reduction in packaging & implementation of returnable packaging
Freight weight reduction and redesign
For efficient logistics and emission reduction
Logistics Triangulation
Container Triangulation at Energy and Mobility to optimize logistics cost & emission
Greener Transport
Alternate transport (LNG, Rail)

DEGREE commitment
Committed to reduce our footprint With science-based net-zero targets

Positive customer avoided Emission
Enable customers to avoid emission via our products and service offerings



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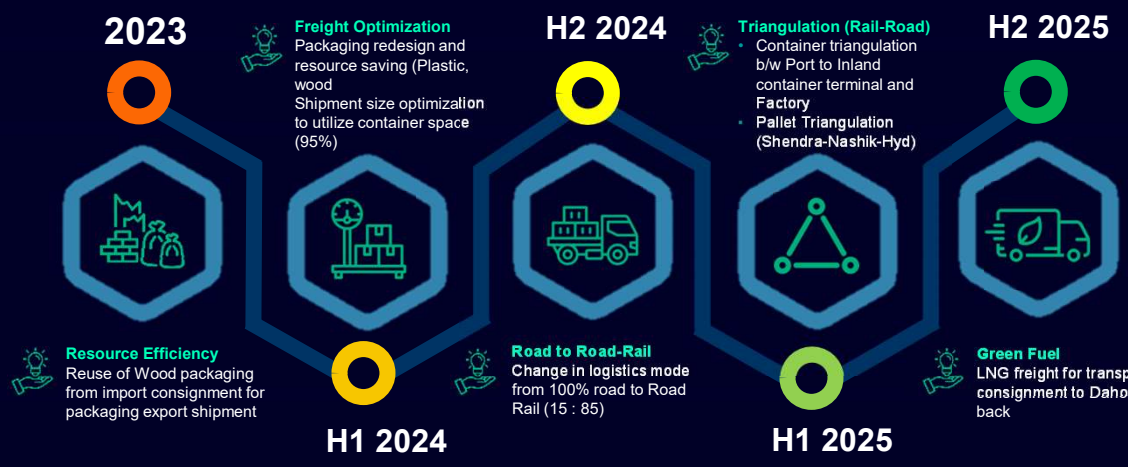
Project Journey



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Background of Project

Approach

Freight weight
- Optimization of packaging to reduce freight weight
- Utilization of optimum freight delivery with each consignment

Freight design
- Evaluating logistics fleet best suited per project
- Re-engineering freight design for optimal dimension and weight

Before


Full length Wooden cushions


Under utilization of container space


Existing transport using open container

Single stacking


Regular Container

Potential usage of High cube container

After


Optimized MS returnable packaging


Packaging redesign to accommodate more (~50%)


Closed container and optimization of packaging

Packaging Redesign


Freight Optimization


Improved freight (12 crates instead of 06)

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Background of Project

Approach

Triangulation

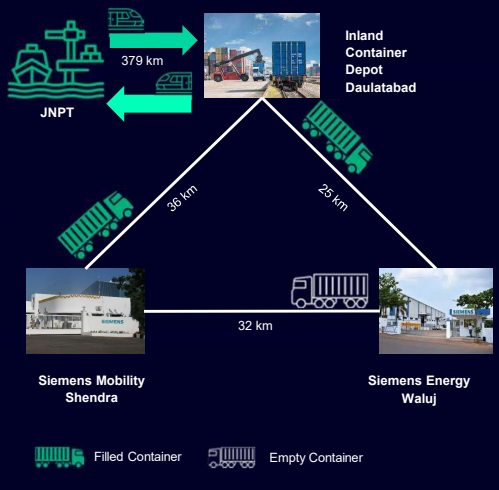
Export and Import of Raw material and finished goods
- 120 trips/year at SMO
- Usage of Road Transport
- One way movement of empty container
- One way distance to JNPT 415 km

Before

Triangulation of Import and Export Shipment between Inland Container Deport, Mobility Shendra Factory and Energy Waluj factory

- Cross business collaboration
- Utilization of existing public rail infrastructure (Inland Container Depot, Daulatabad)
- Optimization of inward and outward shipment

After



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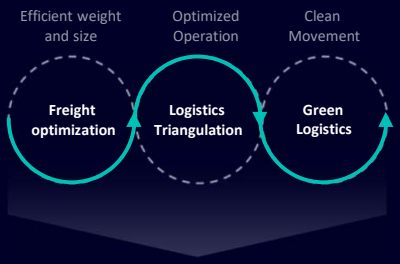
Tangible Benefits



88 tons
Overall Freight weight reduction

855 tons
Carbon emission reduction

₹28.5 million
Cost saving from project

Logistics improvement project

Cost Saving	**₹4.2 million saved in bogie packaging** → Achieved through redesigning packaging to reduce material usage and improve load efficiency.	**₹23 million freight cost saving** → Result of optimized cargo weight and dimensions, reducing transport charges.	**₹1.3 million saved in rail guard packaging** → By eliminating excess pine wood and streamlining packaging design.
Resource Savings	**31.9 tons of pine Wood saved** → Through material substitution and packaging standardization	**56 tons of plywood saved** → Due to improved packaging Layouts and reduced over-specifications	**500 kgs of plastic waste saved** → Achieving by switching to Recyclable or reusable packaging alternatives
Emission and Energy	**855 tons of CO2 Emission reduced** → Enabled by modal shift from road to rail and fuel-efficient transport	**10,000 liters of diesel saved** → Reduction ion consumption of fossil fuel and move to green transport (Rail, LNG)	

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Intangible Benefits

DECARBONIZATION & ENERGY EFFICIENCY

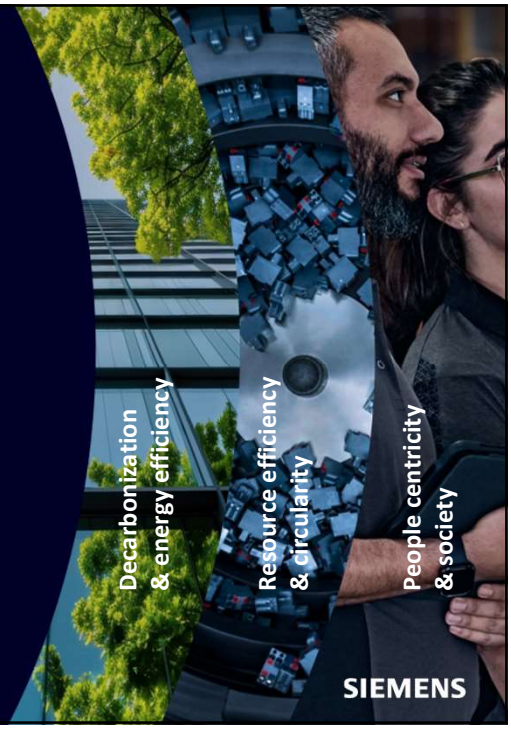
- Support Organizational and country's goal of decarbonization
- Support SDG goals on Responsible Consumption and Production (SDG 12), Climate Action (SDG 13) and Life on Land (SDG 15)

RESOURCE EFFICIENCY & CIRCULARITY

- Reduction in packaging waste resulting in less burden on waste management
- Saves tree by reduction in consumption of wood
- Less customer complaint due to reduced quality defects (rusting)
- Decrease in consumption of fossil fuels

PEOPLE CENTRICITY & SOCIETY

- Promotes cross function and business collaboration
- Develops Sustainable mindset in team
- Enhancement of skills in team members
- Reduction in multiple handling and increase in productivity



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Replication potential and National Benchmarks

Within Group Companies/ Other Industries

Within Group Company

As part of the Siemens Manufacturing Committee, environmental and sustainability initiatives are regularly shared within factories for evaluation and replication.

- Freight Optimization: Being Explored at other factories
- Packaging Redesign: Optimal packaging (Pack-it-Right)
- Fleet Utilization: Triangulation with other SL locations
- Green Logistics: Scope 3 emission reduction pathway

Other Industries

- Freight weight and dimensions significantly influence both transport emissions and logistics costs. Industries can achieve substantial efficiency gains by optimizing cargo weight and packaging dimensions.
- Transitioning from road to rail transport offers:
  - Lower transportation costs
  - Significantly lower carbon emissions

This approach is scalable and adaptable across various industries, especially those with high-volume logistics operations.

National Benchmarks/Standards

PM Gati Shakti

Master Plan for Multi-modal Connectivity

- Integrated logistics planning through triangulation and ICD
- Modal shift from road to rail, enhancing cost efficiency and reducing congestion.
- Use of green fuels (CNG, LNG) and electric vehicles, aligning with sustainable infrastructure goals

Sustainable Development Goals

SDG 9 (Industry, Innovation and Infrastructure)
SDG 12 (Responsible Consumption and Production)
SDG 13 (Climate Action)

National Logistics Plan 2022

- Align to create cost-efficient, resilient & sustainable logistics ecosystem.
- Supports the Sectoral Plan for Efficient Logistics (SPEL) by promoting modal shift and freight optimization.

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Challenges Faced and next steps

Challenges

The Green and Efficient Logistics project required collaboration between cross business, government authorities, internal departments and logistics service providers.

Being one of the early adapters to the Rail-Road mode of transport at Ch. Sambhajinagar there were initial hiccups which were tread smoothly by the team

- Alignment of Business Units and finalization of Single logistics partner
- Navigating the legal hurdles and permits for commencement of project
- Adaptation to changing system and vendors
- Customer buy-in for change in process
- Safety and Quality considerations for new Logistics arrangement

Next Steps

- Intra company collaboration for Logistics Triangulation
- Returnable packaging across logistics operations and efficient tracking using SAP
- Utilization of Packaging waste as a raw material in secondary process

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External Recognition

"Gold Award"
12th Edition of The Times Group ET Edge - Supply Chain Fest 2025
"SMO Shendra"

"Logistics Improvement case"
Quality circle forum of India
Ch. Sambhajinagar Chapter

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Read more
about our approach and commitment to sustainability

Sustainability website

Sustainability report 2024

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