



**Commercial Vehicle Solutions**

Department Finance  
From Muthulakshmi M  
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Date May 28, 2024

ZF Group · ZF Commercial Vehicle Control Systems India Limited, Chennai 600058

The Manager  
Listing Department  
BSE Limited, Phiroze Jeejeebhoy Towers  
Dalal Street, Mumbai 400 001

**Scrip code: 533023**

Listing Department  
National Stock Exchange of India Ltd  
Exchange Plaza, C-1, Block G  
Bandra - Kurla Complex  
Bandra (E), Mumbai 400 051

**Trading Symbol: ZFCVINDIA**

**ISIN : INE342J01019**

Dear Sir(s),

**Sub: Announcement under Regulation 30 of the SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015 - Investor Meet Presentation attached**

**Ref: 1) Prior intimation dated May 27, 2024 on Analyst / Institutional Investor Meeting to be held on 31<sup>st</sup> May 2024**  
**2) Prior intimation dated May 27, 2024 on Analyst / Institutional Investor Meetings to be held on 28<sup>th</sup>, 29<sup>th</sup> and 30<sup>th</sup> May 2024.**

Pursuant to regulation 30 of the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 and in continuation of our earlier letters dated 27<sup>th</sup> May 2024 intimating schedule of Analyst / Institutional Investor meetings, please find attached the presentation to be made thereat.

Request you to take the above information on record.

Thanking you,

Yours sincerely,  
ZF Group

Muthulakshmi M  
Company Secretary  
ZF Commercial Vehicle Control Systems India Limited  
(Formerly known as WABCO INDIA Limited)  
Encl. : as above

# ZF Commercial Vehicle Control Systems India Limited

May, 2024



# Today's Presenters



Periakaruppa Kaniappan

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MD & CEO



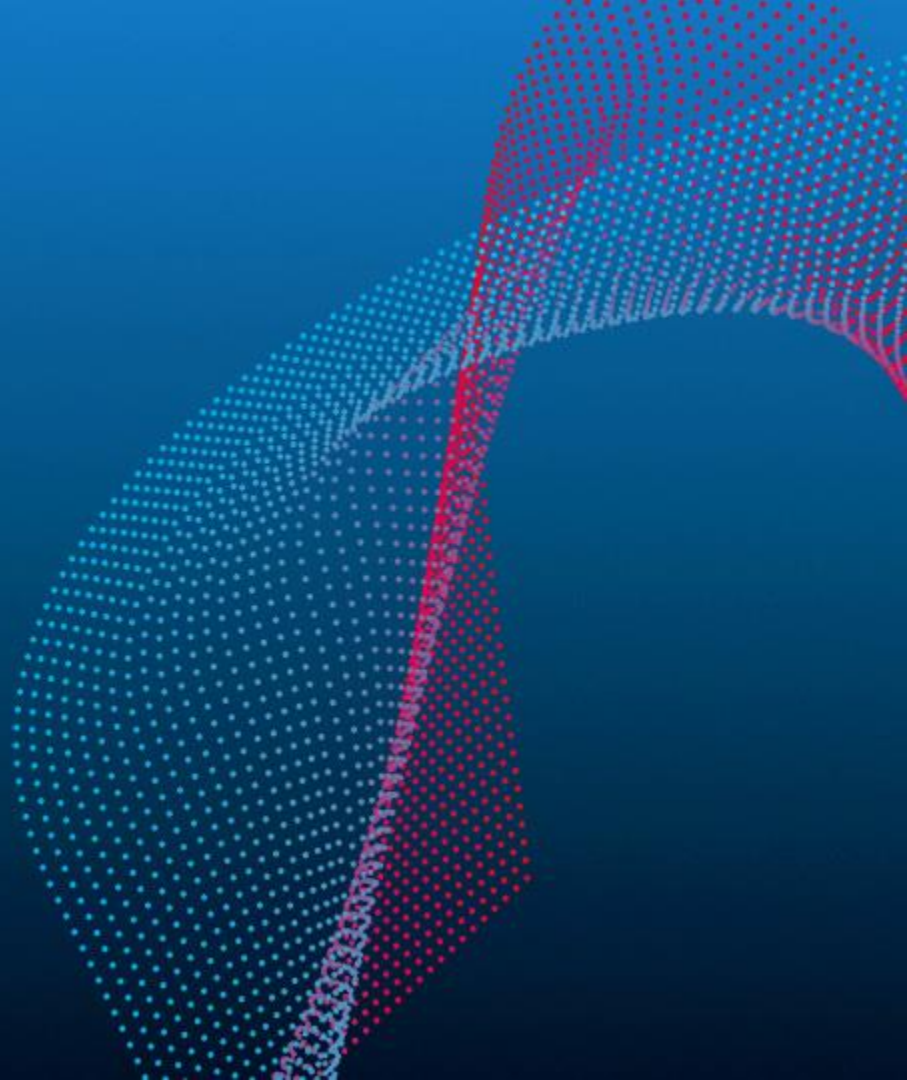
Sweta Agarwal

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CFO

# 01

## About ZF Group



# ZF : A Global Technology Company & Solutions Provider

ZF is among the leading global technology groups and supplies advanced mobility products & systems for passenger cars, commercial vehicles and industrial technology. The company is a frontrunner in contributing to reducing emissions, protecting the climate as well as enhancing safe mobility.



# ZF's Leading Presence Globally Enables to Provide a Dense Network of Highly Qualified Contacts Close to Customers

## Key Highlights 2023A



74%

Cars and light commercial vehicles <6t



18%

Commercial vehicles >6t



8%

Construction and agricultural machinery, rail drives, marine craft and wind power



€46.6bn

Sales



€2.4bn

Adj. EBIT



€3.5bn

R&D Expenditure



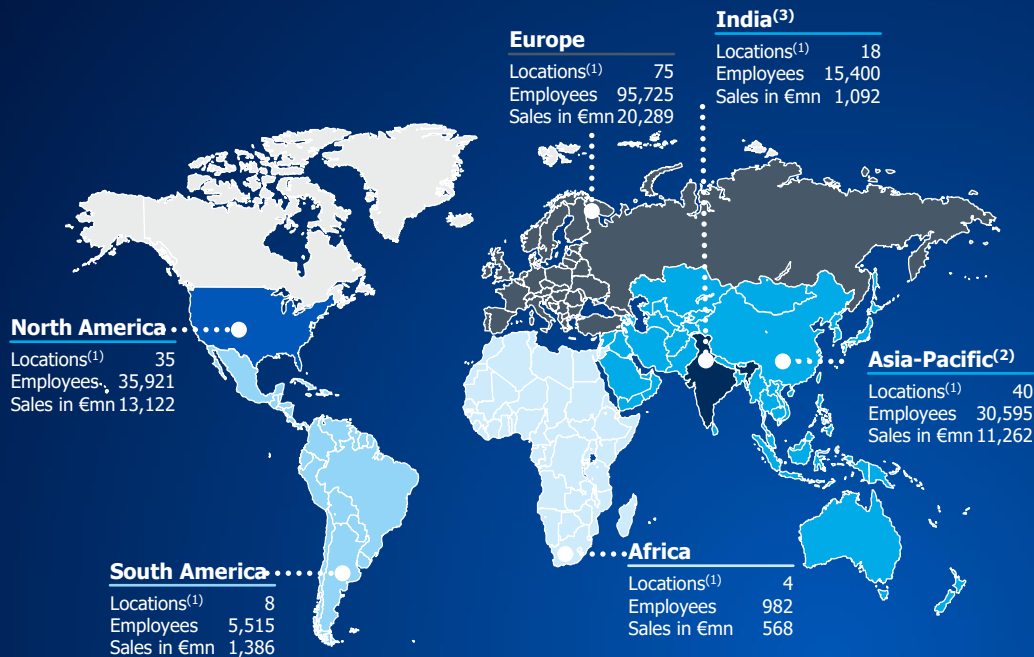
168,700

Employees

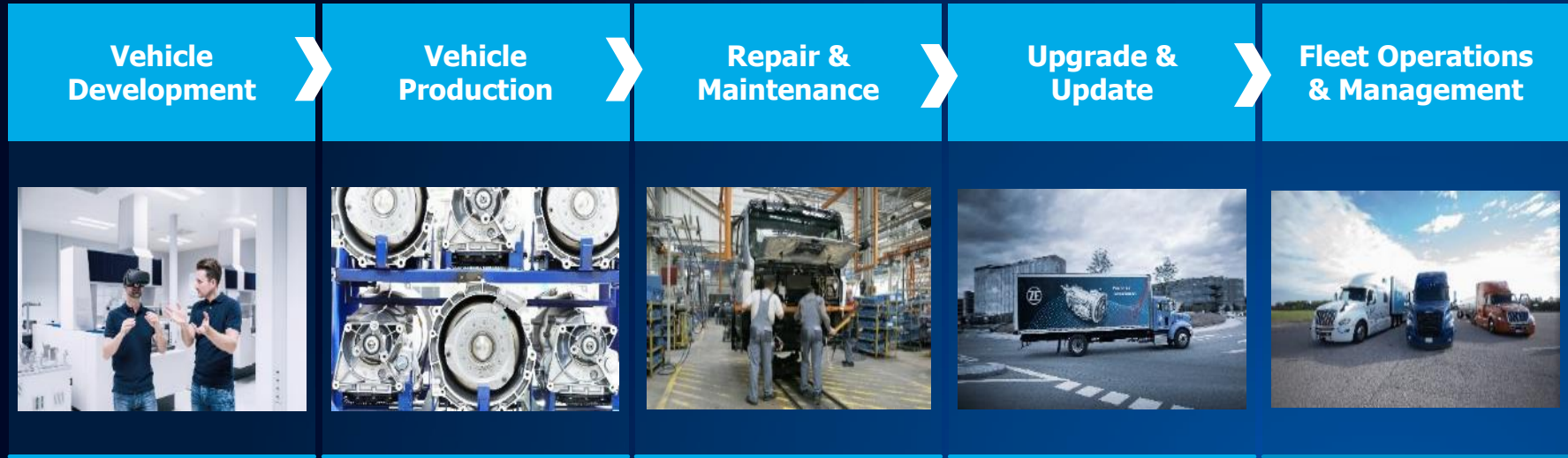


162

Production Facilities



# ZF CVS Division is the CV Industry's One-Stop-Shop

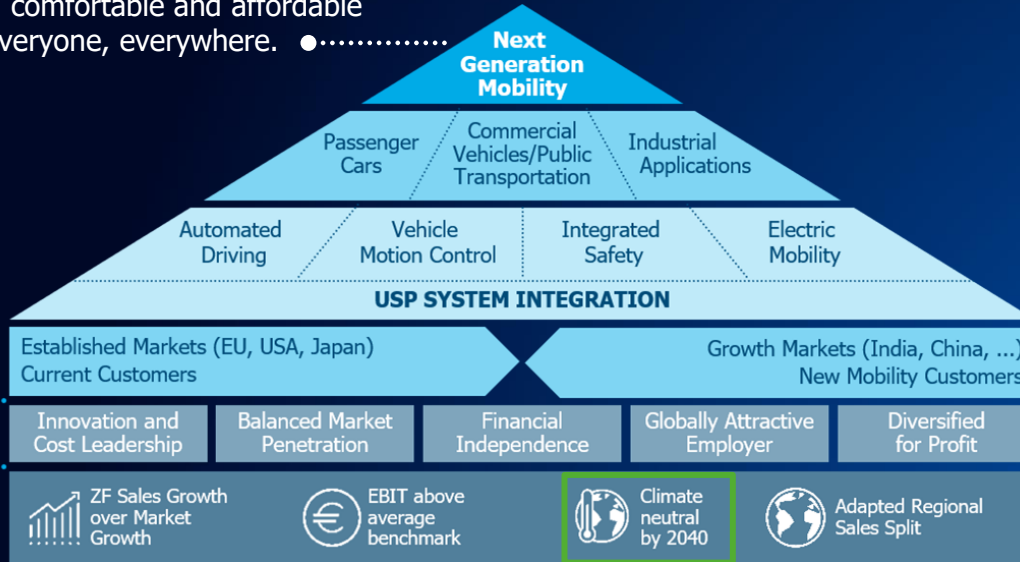


**Addresses diverse commercial transportation applications  
A powerful advantage for customers world-wide**

# ZF's Next Generation Mobility Strategy : Climate Neutrality

A clean, safe, comfortable and affordable mobility for everyone, everywhere. ●.....

## Our Mission and Strategy



## Climate Neutrality:

- **Reduce CO<sub>2</sub> emissions by 80%** (compared to 2019) by using green energy until 2030 (Scope 1 and 2)
- **Reduce CO<sub>2</sub> emissions of upstream value chain & product use until 2040** (Scope 3)

**ZF's ambitious climate strategy: Climate neutrality across all emission categories by 2040**

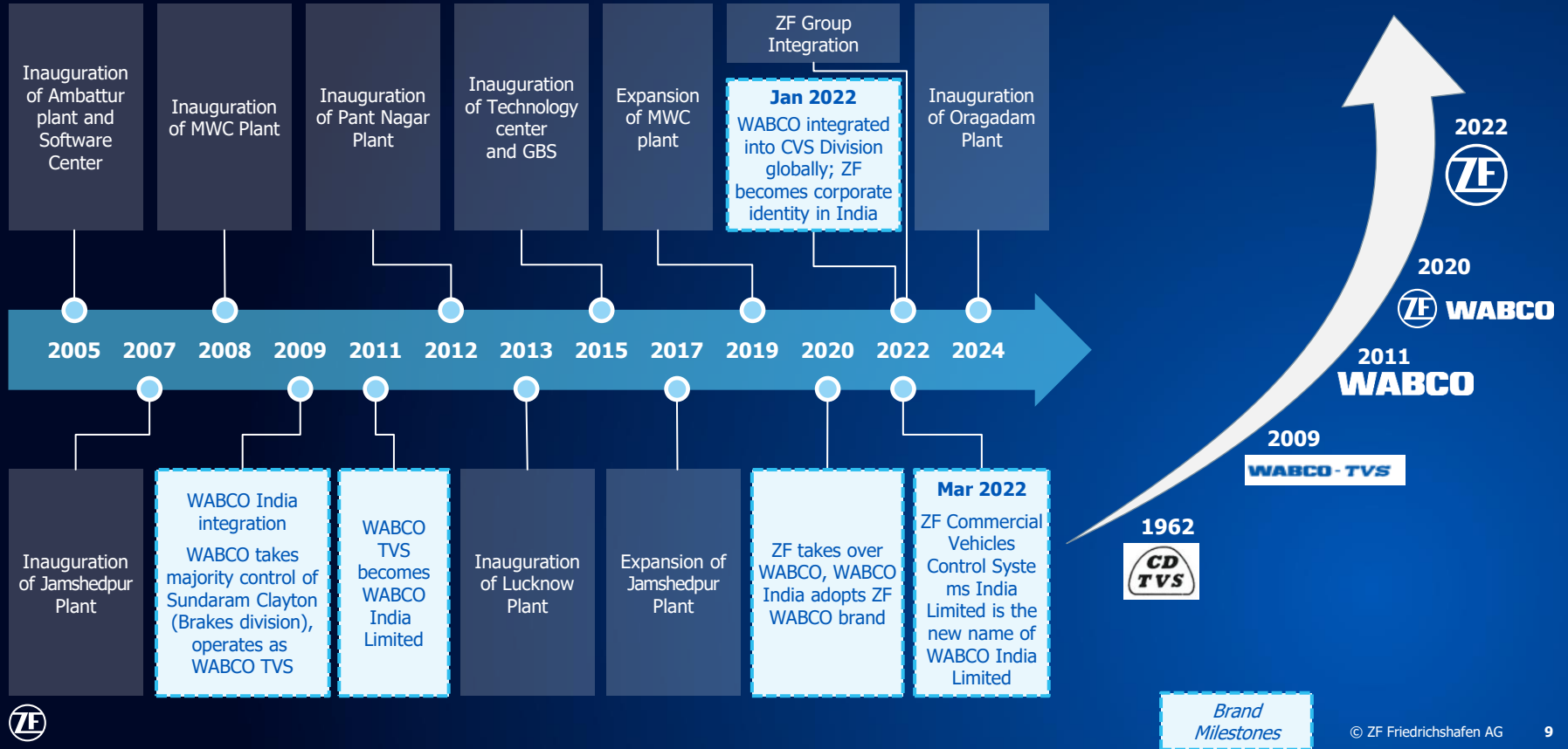


# 02

## ZF Commercial Vehicle Control Systems India Limited (“ZF CVCS”): Introduction & Strategy



# ZF CVCS : Building on a Strong Heritage



# ZF CVCS : At a Glance

## Over 6 Decades as a Market Leader

**6**

Manufacturing Plants

**4**

Global Engineering &  
Technology Centers

**~270**

Authorised Service  
Partners

**1**

Test Track

**~ 550**

Aftermarket Dealers/  
Distributors

**> 1,000**

Engineers, Global center  
for Digitalization and  
Software development

**Over 3,200**

Employees



# ZF Industrial Park, Oragadam

- ZF Industrial Park Oragadam inaugurated on February 14, 2024
- Inaugurated by Dr TRB Raaja, Hon'ble Minister for Industries Govt of Tamil Nadu
- ZF CVCS' 6<sup>th</sup> manufacturing facility in India
- Cornerstone of ZF's strategic intent for Make in India, for India and for the World
- Center for e-mobility and advanced mobility technologies
- Facility powered by 100% renewable energy ; plant operated by ~80% women employees



# ZFCVCS – A Leading Supplier of Technologies and Services to the Indian CV Industry



# CVS India Leadership Team



**Periakaruppa  
Kaniappan**

**Operations**



**Ravikumar  
M.S.**

**Sales**



**Ramanathan  
Visvanathan**

**Finance**



**Sweta  
Agarwal**

**Engineering**



**Ganesamoorthy  
Arumugam**

**HR**



**Joseph  
Panakkal**

**Quality**



**Muruganadham  
Chelladurai**

**Aftermarket**



**Ramachandra  
Puttanna**

**Driveline  
Technology**



**Rupesh  
Manni**

**Chassis  
Structure**



**Sachin  
Deshmukh**

**Chassis  
Control**



**Balaji  
Chidambaram**

**Bus & Trailer  
Solutions**



**Jameel  
Baig**

**Strategy &  
Market Int.**



**Venugopal  
Krishnamoorthy**

**Program  
Purchasing**



**Ponraj  
Pandian**

**Legal**



**Hariprasada  
Rayapalyam**

*Today's Presenters*

# Sustained Focus on Value Creation for Shareholders...

## New Innovation Pipeline



Electrified

Global  
Capability



Connected

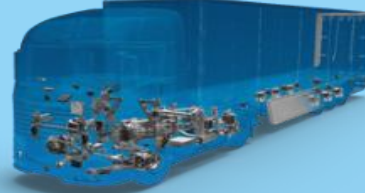
Excellence in Execution



Autonomous

Innovation &  
Technology  
Leadership

## Extensive Technology Reservoir



- Frugal engineering
- Cost competitiveness
- Strong AM network
- Global capabilities

## Value creation

Partner of Choice for  
India's OEMs



Partners for fleet



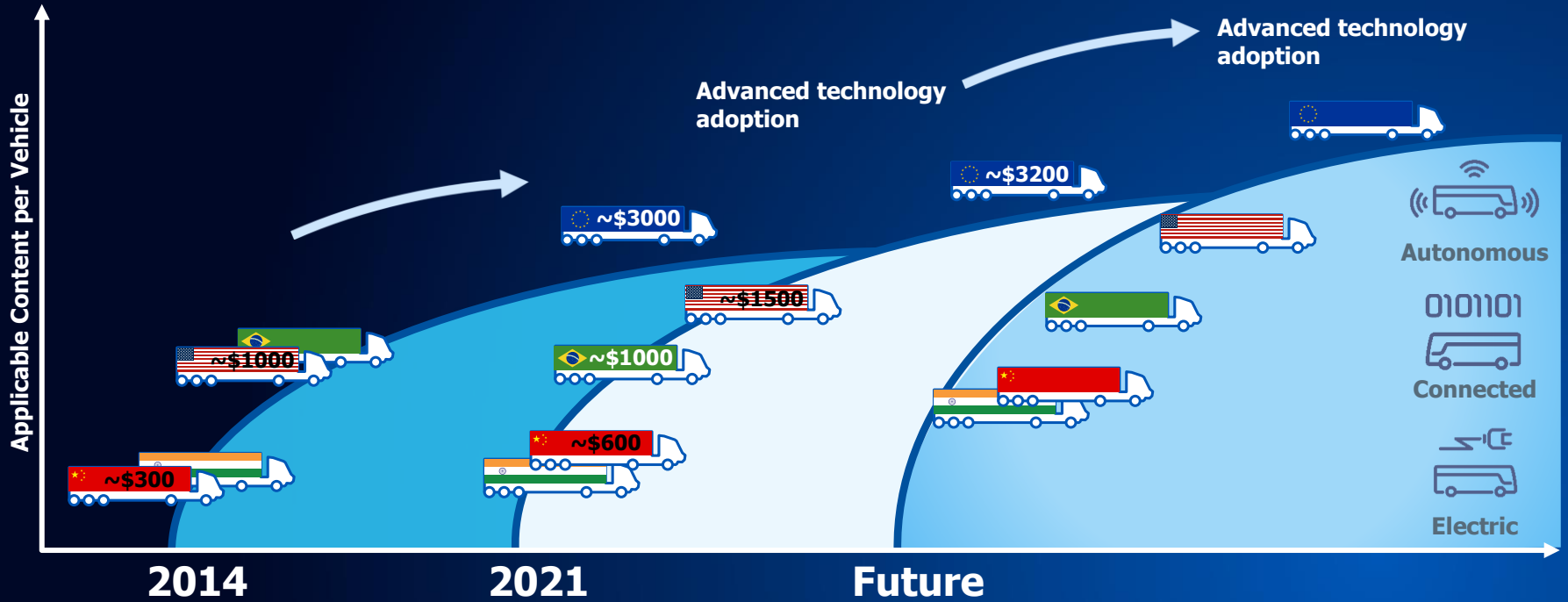
CoE for export  
manufacturing and  
services



Readiness for  
service business



# ... by (1) Riding on India's Growth & Increasing Penetration of Advanced Technologies



\* At constant FX



# (2) Pioneering Customer & Market-oriented, Cost-optimized Solutions

## Solving the industry's key challenges

### Focused on efficiency

Product and system solutions for the reduction of operational costs (**TCO**) as well as lower **CO2 emissions**



### Focused on safety

Assistance systems (**ADAS**) for the protection of road users, driver comfort and cargo integrity

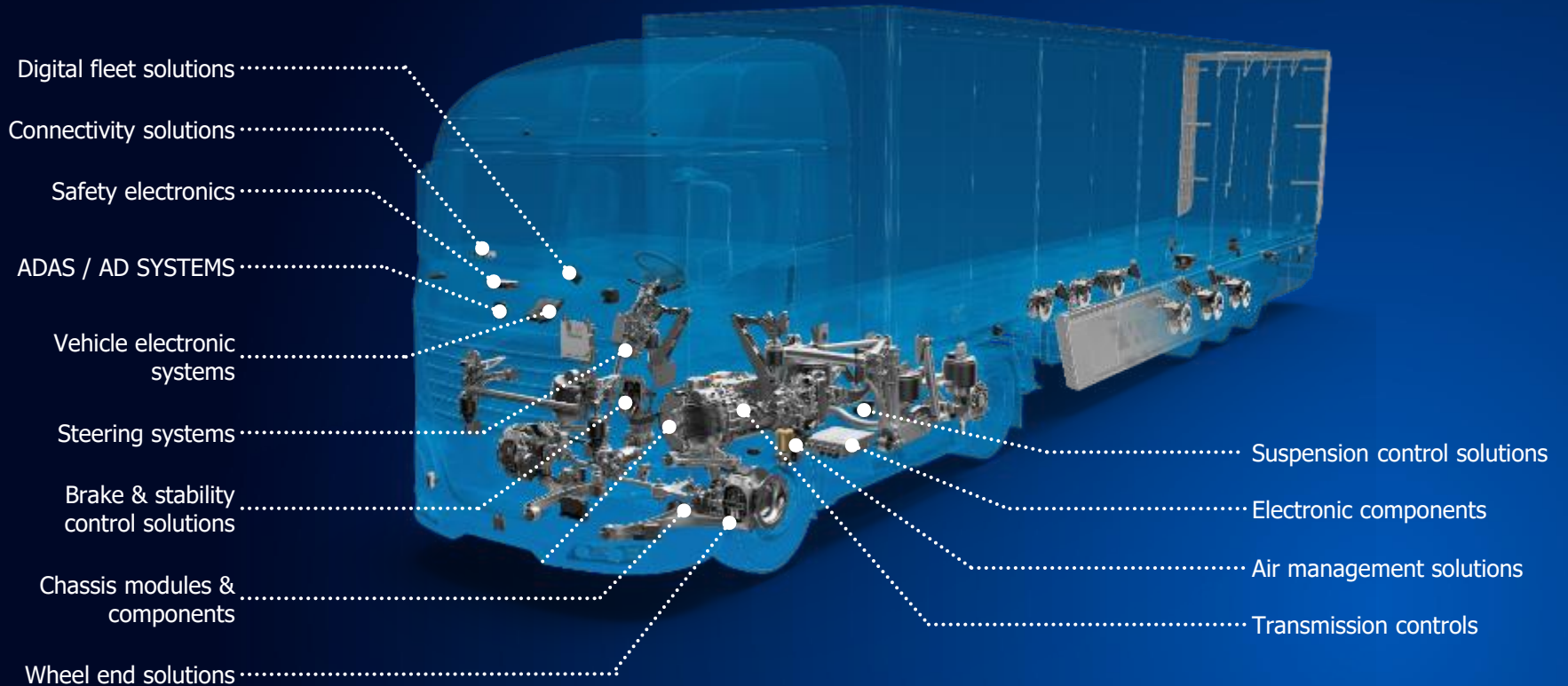


### Focused on digitalization

Connectivity and **software solutions** for efficient processes (fleet mgmt. predictive maintenance, digital applications)



# (3) Preferred Technology and Systems Solutions Partner to CV OEMs and Fleets



# (3A) Leading the Path to ACE

Solutions for each technology path in place

Leading player in ACE technologies and solutions



Increase of vehicle automation to higher safety and regulatory levels



Extend intelligent control system towards improving efficiency of the system



Transform braking, air Management technology from ICE to eMobility



Extend Digital products & Solution offerings

**Today**  
Technology leader in conventional products



**Safety & Autonomous**



**Efficiency & Comfort**



**Electric**

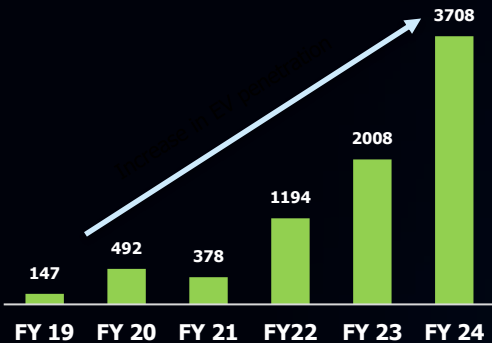


**Connected**

Offering solutions across diverse customer needs

# (3B) EV Market Poised for Exponential Growth

## EV Bus Sales India



## Factors Influencing the EV Penetration



Government Initiatives



Infrastructure development



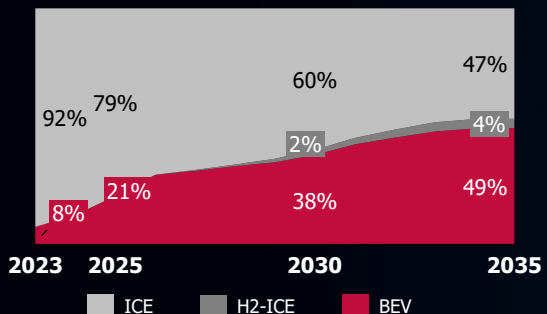
Climate Concern & initiatives of OEMs



Urbanization

EV Penetration in Buses expected to reach **>50 %** by 2035

## Electrification Scenario Outlook- Buses



## Key Government initiatives to boost the EV penetration

### Powering Up

Current Programmes:  
E-buses planned/procured

FAME I & II:

**7,635 units**

NEBP

**50,000 units**

PM E-bus

**10,000 units**

New Scheme\*

**800,000 units**

New 7-year Plan Includes

**200,000** electric buses for STUs

**550,000** for private operators

**50,000** for schools and employee transportation

According to industry estimates, **₹1.2-1.5 lakh crore** capital will be required to roll out **100,000 electric buses** in the country at current prices

Around 4,000 electric buses currently on India's roads, compared with **2.3 million** diesel and CNG buses

\*Planned



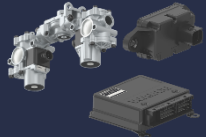
# (3B) Technology Solutions Ready for EV Migration



## Conventional ICE



Engine Driven compressor



ABS Based ESC System



Conventional Air Processing



Conventional Air Suspension

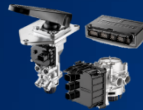


## Electrified



eCompressor

Electric compressor solution dedicated to electric & hybrid CV applications



EBS based ESC

EBS based ESC with improved regen efficiency & range



EC APU

Electronic controlled air processing for better efficiency & intelligent air management



ECAS

Electronic control air suspension with intelligent control & efficiency



# (3C) Advanced Driver Assistance Systems (ADAS)

Driving into the future

**Well Proven and New Functions**  
 ZF's 72 Radar and Camera Integration with APB for Pedestrian and Cyclist and ACC in Production since early 2020

**SEE**

Front Camera (CAMH)    Front Radar (R1000T)    Side Radar (SRAT)

**FUNCTION**  
 Integrated Front Looking Camera and Radar with Data fusion for Robust and Reliable AED and ADAS Performance

**THINK**

Image Processing Module (IC)    Gateway ECU

**ACT**

ABS CR / EBS 3.3 STD / EBS3.4 STD Braking System    Roll-Over Steering

**Hardware Roadmap to Meet India Regulations**

DATE/CY	REGULATORY MANDATE
2021-2022	AEB (Pedestrian / Cyclist) / Adaptive Cruise Control (ACC) / Lane Departure Warning
2022-2023	Driver Attention / Distraction (DAD) / Forward Collision Warning (FCW)
2023-2024	Blind Spot Detection (BSD) / Cross Traffic Alert (CTA) / Rear Cross Traffic Alert (RCTA)
2024-2025	Blind Spot Detection (BSD) / Cross Traffic Alert (CTA) / Rear Cross Traffic Alert (RCTA) / Adaptive Cruise Control (ACC) / Lane Departure Warning (LDW)
2025-2026	Blind Spot Detection (BSD) / Cross Traffic Alert (CTA) / Rear Cross Traffic Alert (RCTA) / Adaptive Cruise Control (ACC) / Lane Departure Warning (LDW) / Forward Collision Warning (FCW)

Pre-requisite for ADAS:  
 • Electronic Stability Control System  
 • ABS / EBS / ESP / DTC / DTC-Warning System

- Advanced driver assisted system towards improving safety
- Draft regulation approved by technology committee. Govt notification expected in H2 2024 (possible implementation time frame 24 to 36 months)
- Launched in 2018 with TATA Motors; successful market launch by TML in 2022
- AEBS regulation expected from 2026
- Targeting release with key OEMs



- "One Stop Shop" for ADAS solutions incl. MOIS, ISA, DDAW, BSIS, REIS and TPMS to comply with the regulations
- Applies to truck, bus and coach applications

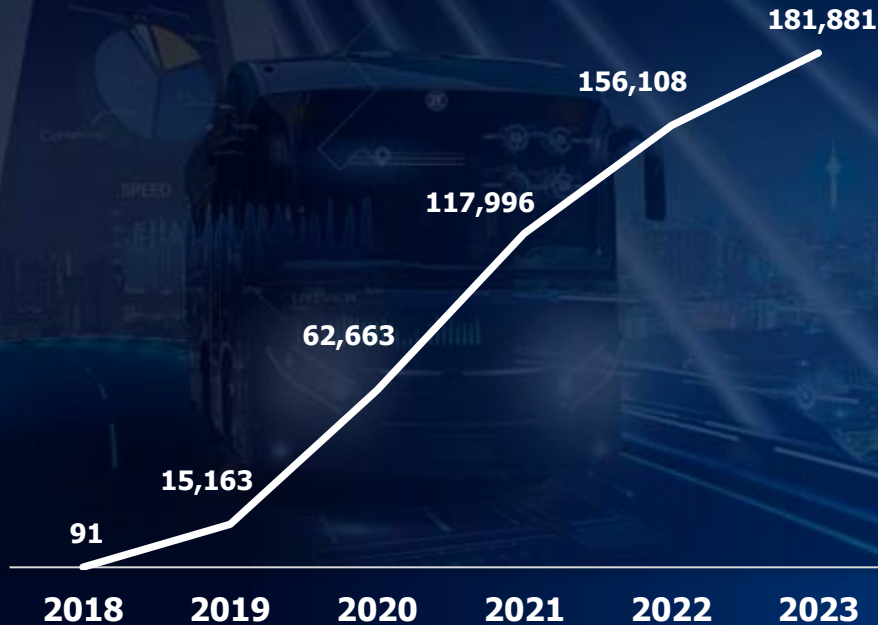


# (3D) SCALAR : Digital Fleet Orchestration Solution



# (3E) Connectivity Solutions to OEMs

## Connected Vehicles Trend



**181k +** vehicles connected with SCALAR



Highly secure hardware to meet the regulation



Data ingestion & API service to OEM cloud



SIM & KYC management



State level empanelment & vehicle tagging

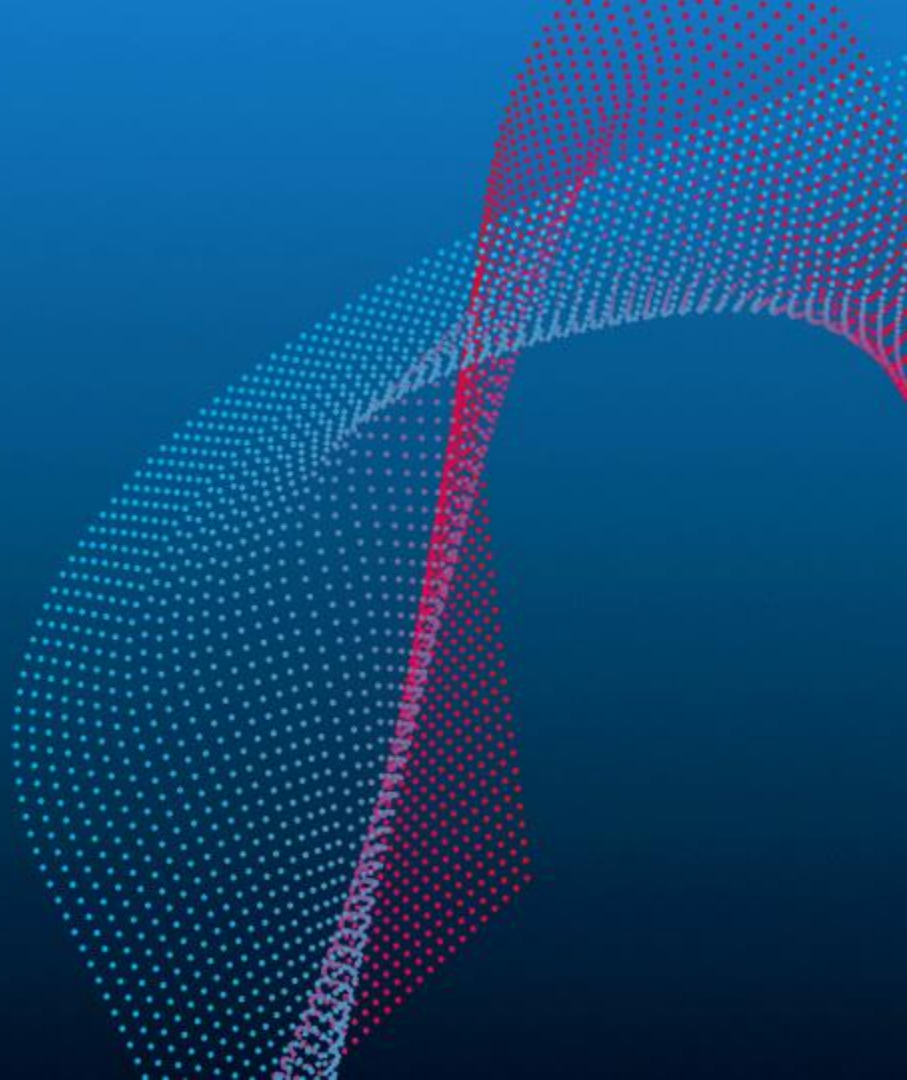
### Features in Pipeline

- Vehicle & prognostic service
- Logistics & load connectivity solutions from SCALAR
- Multi brand diagnostics
- Software vehicle management system



# 03

## ZFCVCS: Key Moats



# Trusted Innovation Partner for India's OEMs

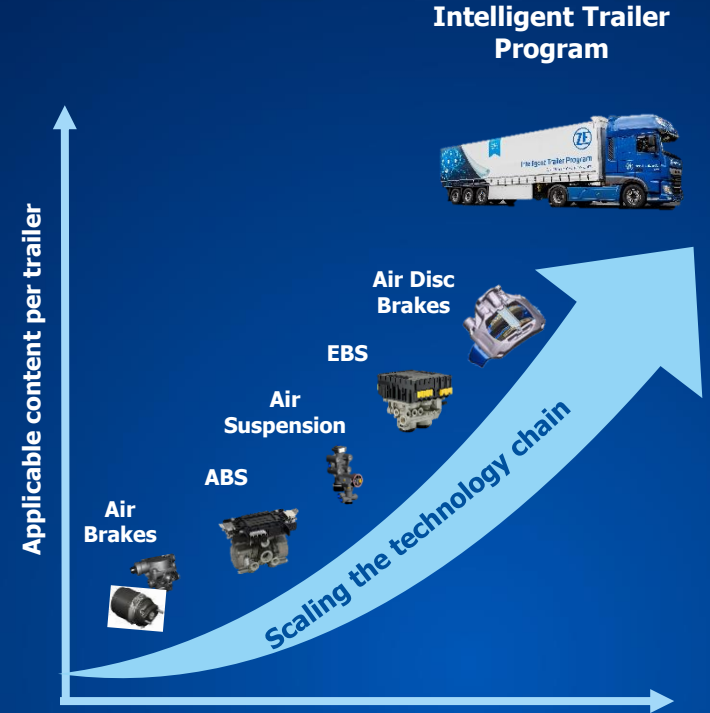
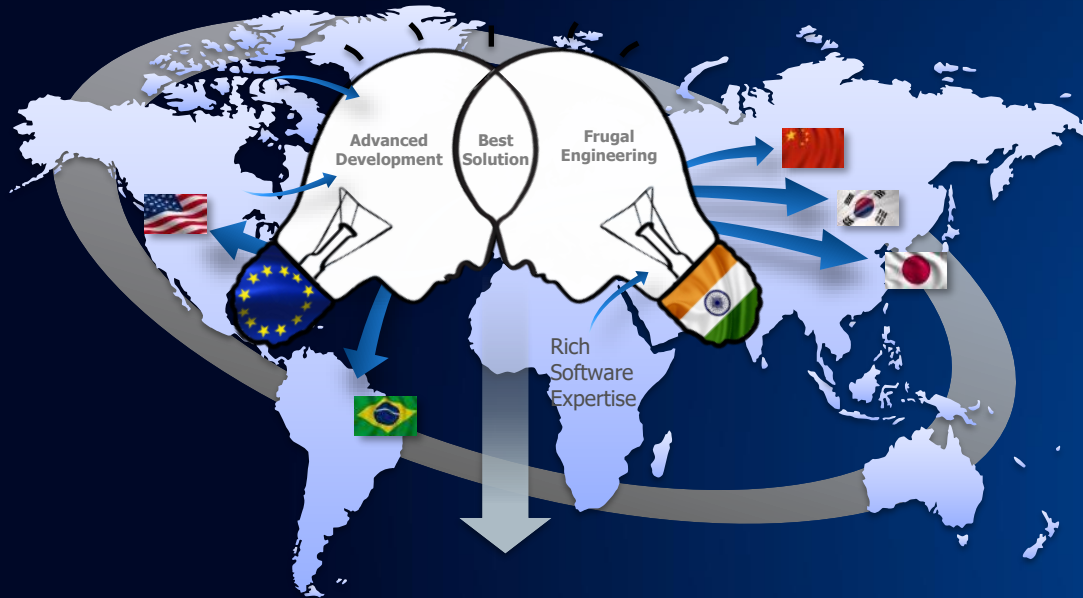
- First to bring advanced technology tailored for Indian CV market
  - **ABS, AMT, ESC, ADAS, ECAS, Intelligent Trailer Program**
- Advancing trailer safety and efficiency in India
- Development partner with deep local knowledge
- Serving industry through localized supply chain and country-wide service network
- Gateway to global operations to support Indian OEMs' export ambitions
- Proven technology ready to support advancing legislation



# Excellentlly Positioned to Deliver Advanced Technologies at Best Cost

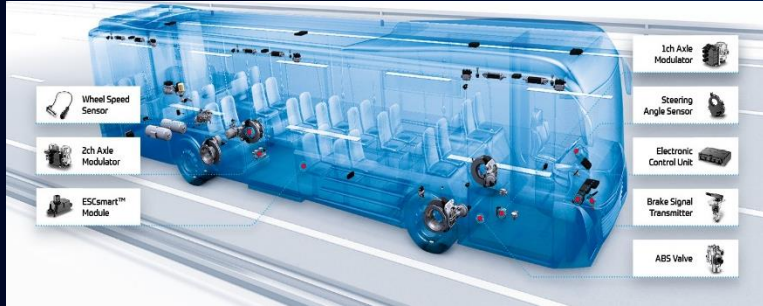
**Frugal engineering expertise** with an ability to redesign advanced technologies and mature products for price sensitive markets

**Skilled application engineers** provide excellent customer connectivity and support for adapting and homologating new technologies



# EBS and ESC for EV applications

Applied across all OEMs thus improving safety and regen efficiency



- Optimal grip under tough environmental conditions
- Ensures driving stability and steering ability
- Maintain control of vehicle even on slippery surface



- Increased road safety
- Control vehicle under slippery conditions
- Improved vehicle stability



- Optimized regeneration and range improvement
- Lower insurance cost



+5-10% regen efficiency



Closed loop system



Ready for **AEBS**



Fully supports **EV/Hybrid** vehicles

# Aftermarket Empowering Fleets with Retrofit and Digital Solutions

## End-to-end solutions and services

### Digital Services

Fleet Management Solutions encompassing all requirements of the fleet eco-system



### Pan India Sales & Service Network

700+ authorized service centers, and channel partner points



### Workshop Solutions

Remote diagnostics, predictive maintenance to improve fleet productivity and reduce down-time



**Delivering a complete range of product and service offerings**

## Spare parts along the lifetime of the vehicle

### Genuine Spare Parts

OE certified premium quality parts



### Retrofit Solutions

State-of-the-art technology upgrades and updates for fleets



### Professional Training and Consulting

Skill enhancement for fleets, OEM dealers and mechanics

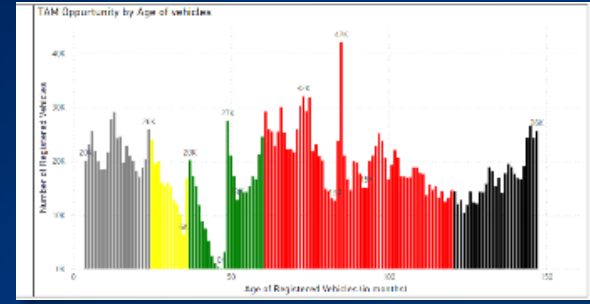


# Leveraging Digitalization & Data Analytics to Unlock Growth Opportunities in Aftermarket

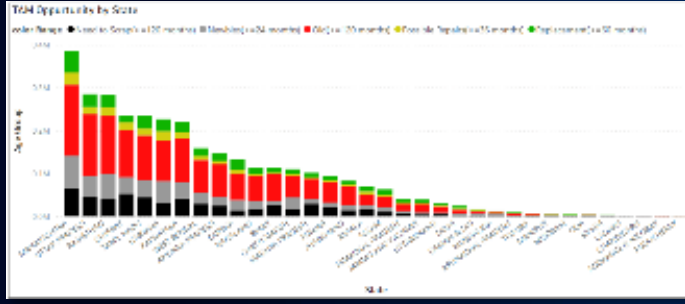
## Analysis of Vaahan Registration State Wise and Category Wise



## Insights from Vehicle Age Data Analytics



## State Level Analysis of Opportunities



## Sales Analytics



# Broad Market Focus Well-positioned for a Bright Future

## Truck & Bus



## Trailer



## Off-Highway



## Car



## Fleets



Customers (illustrative):



# Recognition for Excellence in Execution

- Strong relationship with customers for over six decades
- Recognized by leading customers for innovation, technology partnership, cost competitiveness, quality and excellence
- Recipient of **30+ customer awards** over the last decade+
  - **9 awards from Ashok Leyland** supplier samrat; overall quality excellence
  - **8 awards from TATA Motors** supplier of the year; innovation and technology award
  - **8 awards from VECV** best quality supplier; outstanding contribution in technology innovation
  - **3 awards from Daimler** – Q Prime, best supplier for innovation, partners for Asia
  - **1 award from Mahindra** – Best technology partner





# ESG Focused Business Model

E



## Driving Decarbonization for a Greener World

- Implementing technologies to improve vehicle efficiency and reduce carbon footprint
- Use of renewable energy sources and water conservation across our facilities

S



## Empowering Communities Through Upskilling

- Focused on **road safety**; **10,000+ drivers** upskilled in partnership with RTOs and STUs

G



## Building Success Through Governance

- Robust & effective corporate governance is the cornerstone of our business practices
- 4 highly qualified, well-acclaimed independent directors<sup>(1)</sup>

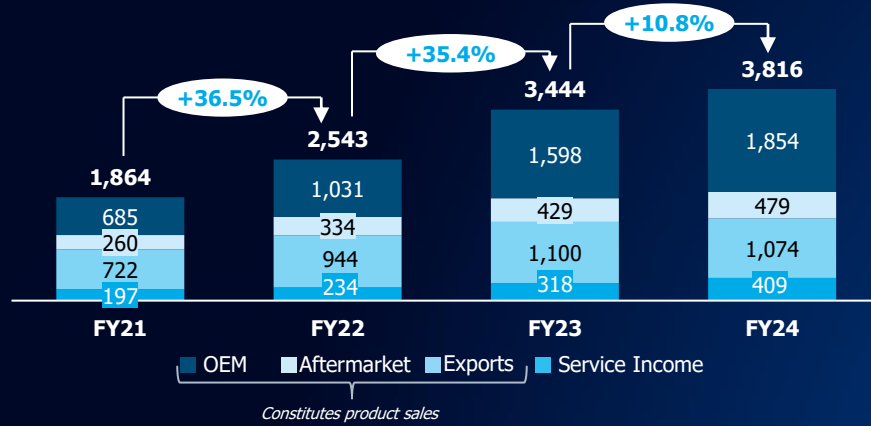
# 04

## ZFCVCS: Q4FY24 and FY24 Performance



# ZF CVCS India Annual Performance

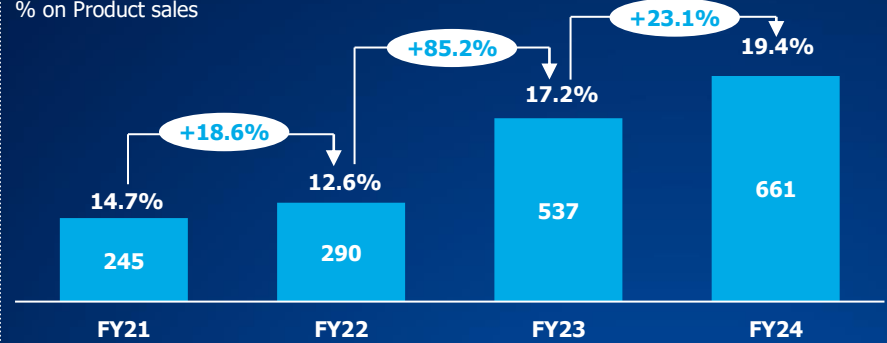
## Revenue from Operations



## EBITDA

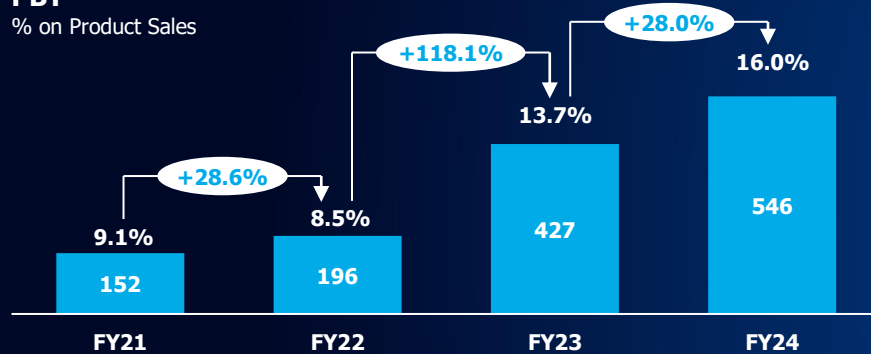
(Rupees in crore)

% on Product sales



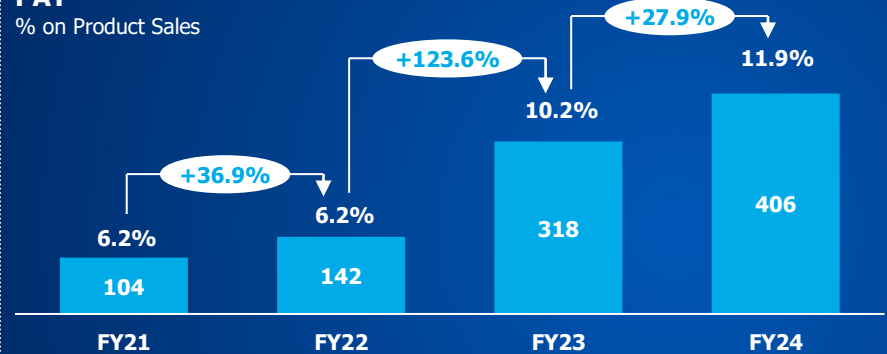
## PBT

% on Product Sales



## PAT

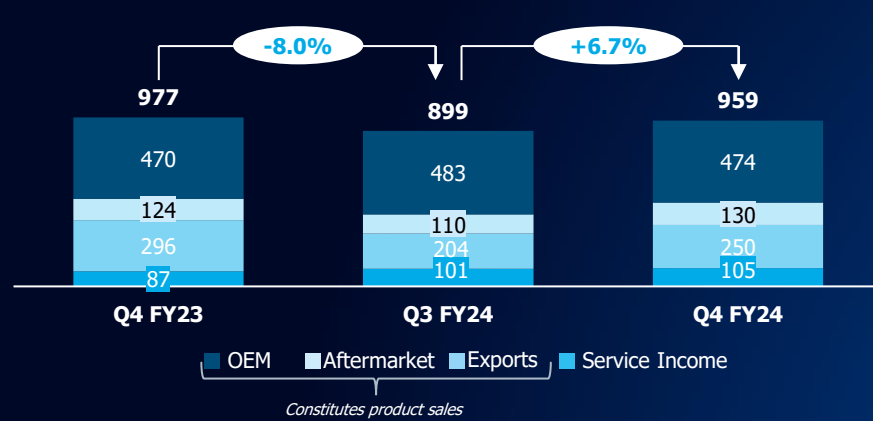
% on Product Sales



Notes: All figures refer to ZF CVCS consolidated numbers.

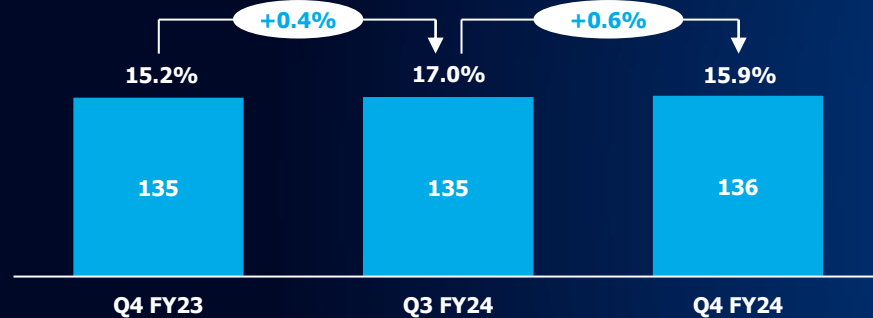
# ZF CVCS India Quarter Performance

## Revenue from Operations



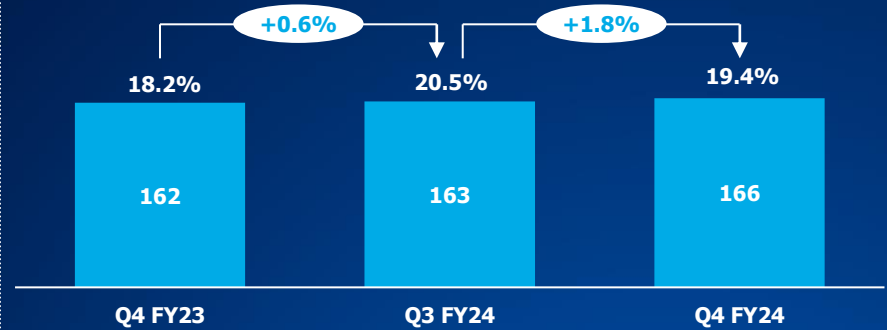
## PBT

% on Product Sales



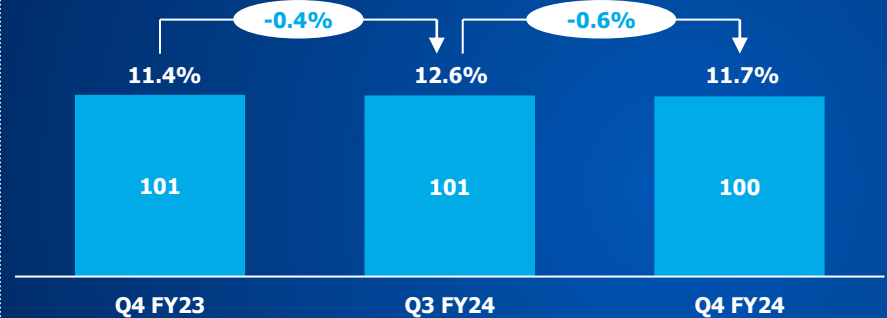
## EBITDA

(Rupees in crore)



## PAT

% on Product Sales



Notes: All figures refer to ZF CVCS consolidated numbers.

Thank you.

Welcome your questions and  
feedback.

