



BHARAT FORGE



KALYANI



**INVESTOR PRESENTATION  
ASIA NON DEAL ROADSHOW  
27 – 29 MARCH 2023**



Power electronics and Micro electronics



**PLANET POSITIVE**  
AN INITIATIVE BY KALYANI GROUP



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BF INDUSTRIAL  
TECHNOLOGY & SOLUTIONS LIMITED  
(FORMERLY SANKHYA FORGE & TECHNOLOGIES LIMITED)



KALYANI POWERTRAIN



Kalyani Strategic Systems Limited



*This presentation contains certain forward looking statements concerning Bharat Forge's future business prospects and business profitability, which are subject to a number of risks and uncertainties and the actual results could materially differ from those in such forward looking statements. The risks and uncertainties relating to these statements include, but not limited to, risks and uncertainties, regarding fluctuations in earnings, our ability to manage growth, competition ( both domestic and international), economic growth in India and the target countries for exports, ability to attract and retain highly skilled professionals, time and cost over runs on contracts, our ability to manage our international operations, government policies and actions with respect to investments, fiscal deficits, regulations, interest rates and other fiscal costs generally prevailing in the economy. The company does not undertake to make any announcement in case any of these forward looking statements become materially incorrect in future or update any forward looking statements made from time to time by or on behalf of the company. No part of this presentation shall be reproduced, copied, forwarded to any third party either in print or in electronic form without prior express consent of the company.*



# Bharat Forge at a Glance...

**68%**

Exports

**60+**

Global Customers

**40+**

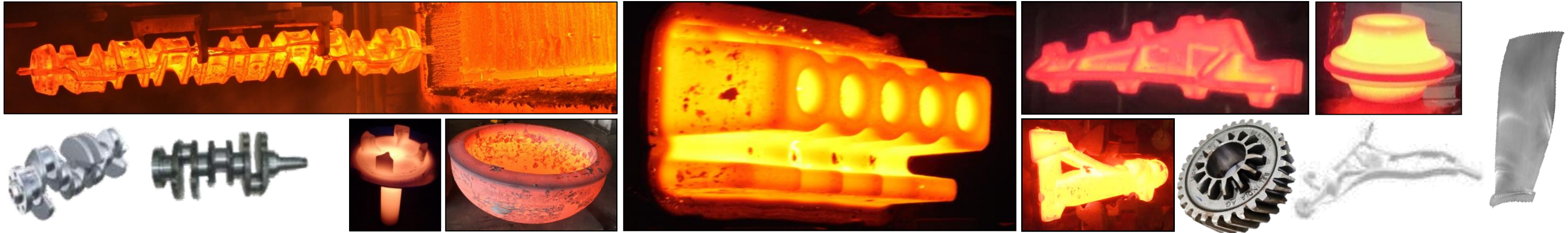
Domestic Customers

**15**

Plants globally

**700K TPA**

Global Forging Capacity



**50+ years**

Manufacturing Experience

**30+ years**

Exporting Experience

**70%**

of Revenue shipped as Finish Machined

**Materials**

Highly Engineered Steel, Aluminum, Titanium

**Weights**

1 kg – 2500 kg (CD)  
Up to 50,000 kg (OD)



Reliable



Trusted



World-class



Digitalized



Planet Positive



✓ Drive 60+% HD CVs in US & EU; also in APAC and S. America

✓ Drive 2.7 Mln+ new PVs annually

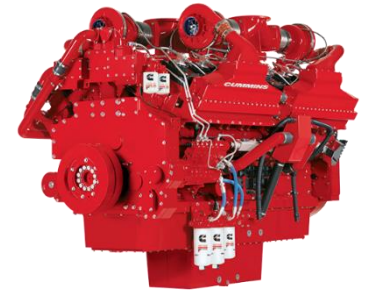
✓ Drive severe-duty construction vehicles

✓ Reliably operate standby power for hospitals, nuclear energy, data centers

✓ Support high efficiency Frac operations

✓ Fly business jets; take off & land commercial flights

✓ Power marine applications





## Commercial Vehicles

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All CV OEMS'  
*(except China)*



## Passenger Vehicles

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All leading  
PV OEMS' including some  
E-Vehicles



## Industrial Segments

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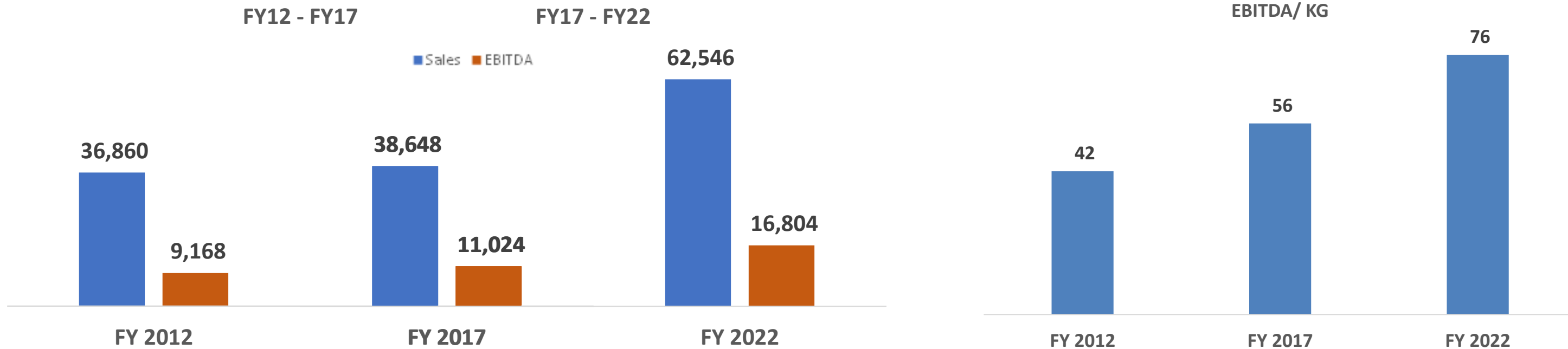
Major OEMS' across  
indicated segments

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## **The Past decade: Financial performance**

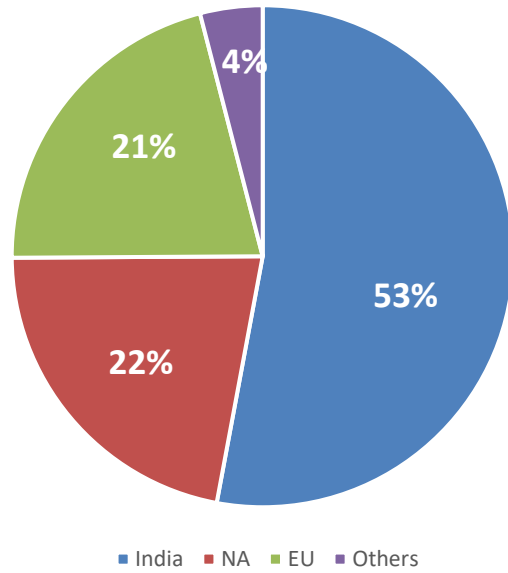
Figures in Rs Million



Particulars (CAGR)	FY 12 - FY 17	FY 17 - FY 22	FY 12 - FY 22	Consol (CAGR)	FY 12 - FY22
Sales	1%	10%	5%	Sales	5.2%
EBITDA	4%	9%	6%	EBITDA	7.1%

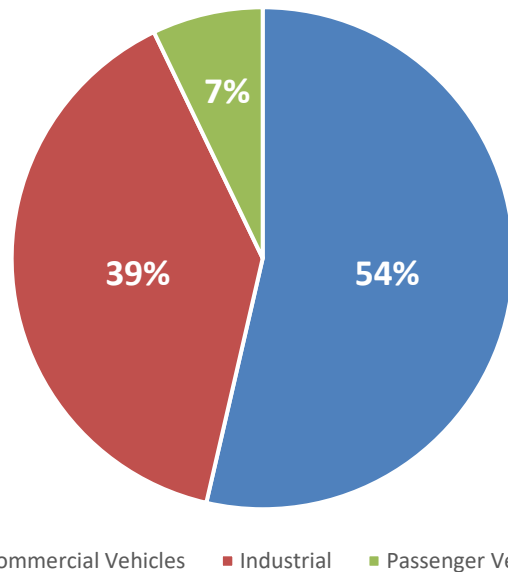
Sustained uptrend in operational profitability...  
**Product mix & Cost optimization**

FY12 - Revenue by Geography



FY12 Revenue – Rs 36,860 million

FY12 - Revenue by Business

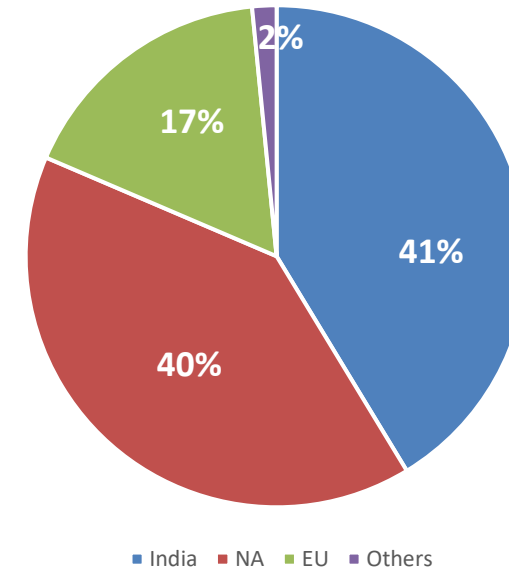


Commercial Vehicles Industrial Passenger Vehicles



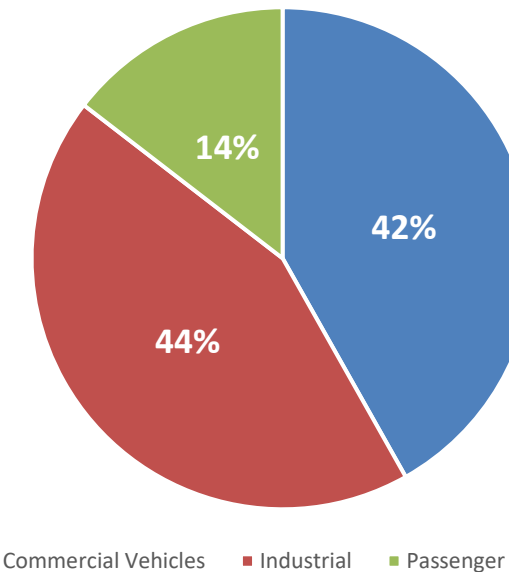
Balanced revenue stream  
NA exposure driven by broad based growth

FY22 - Revenue by Geography



FY22 Revenue – Rs 62,546 million

FY22 - Revenue by Business



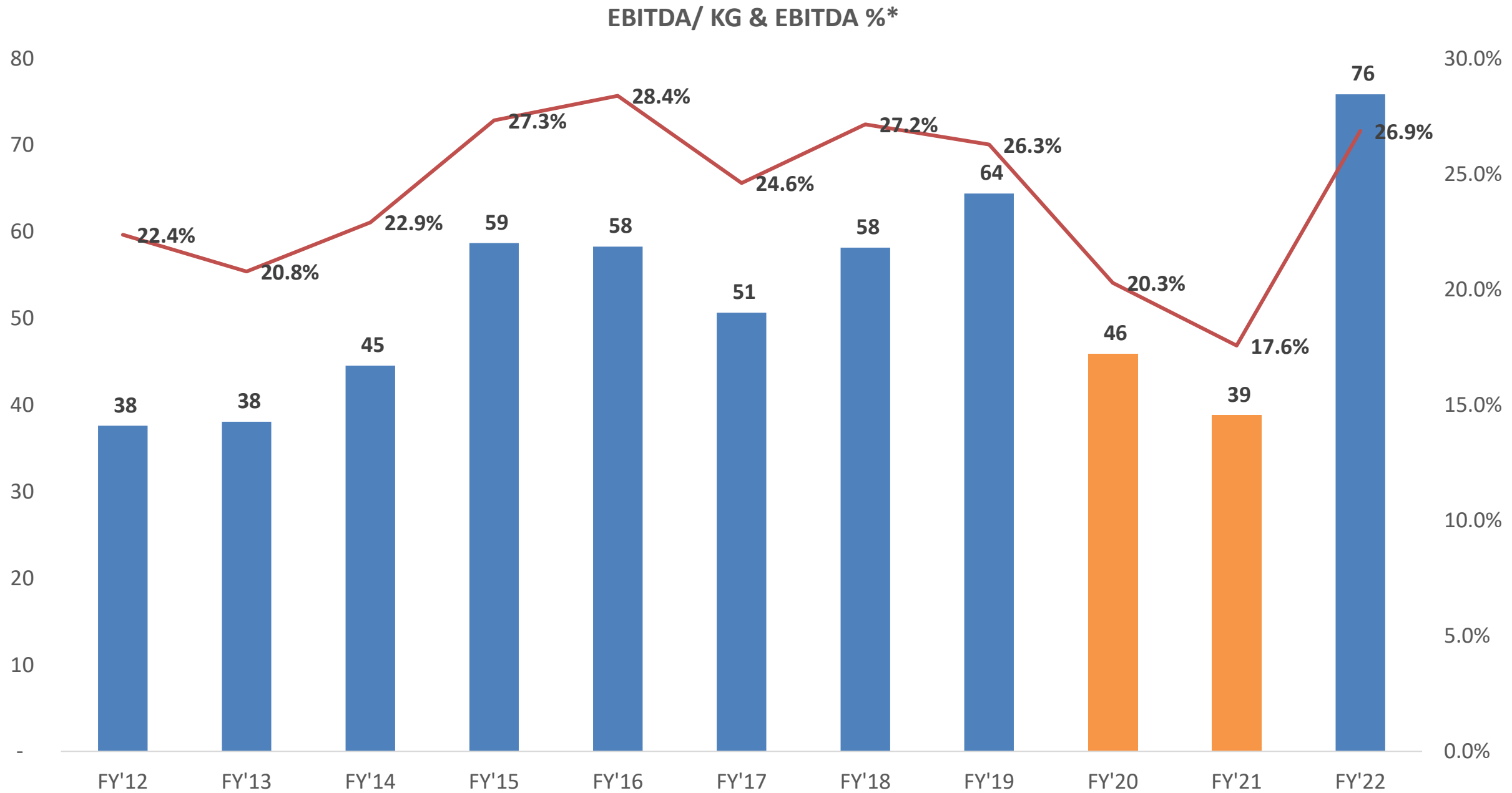
Commercial Vehicles Industrial Passenger Vehicles



3.5X growth in PV revenues

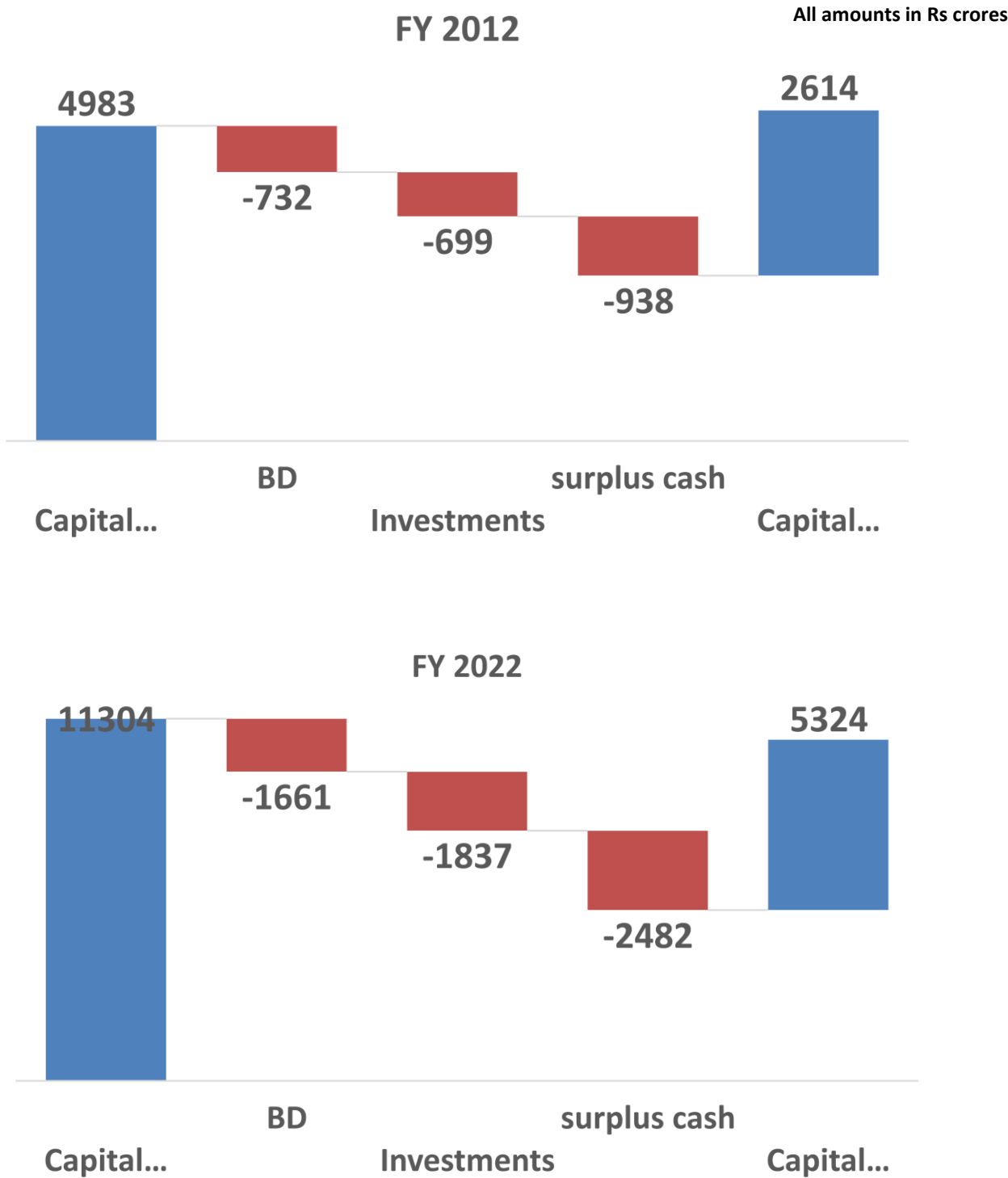


# Sustained uptrend in Profitability



\* EBITDA% has been adjusted for abolishment of MEIS and subsequent replacement with RODTEP

# .... Solid B/S creation and strong core ROCE



Particulars	FY 2012	FY 2022
D/E	0.92	0.32
D/E(Net of LTL)	0.49	(0.03)
Core ROCE%*	28.3%	28.6%
Consol Core op ROCE%*	19.8%	20.1%

\* ROCE net of BD, Investments and Cash

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## **Kalyani Strategic Systems Limited – Defence Business**



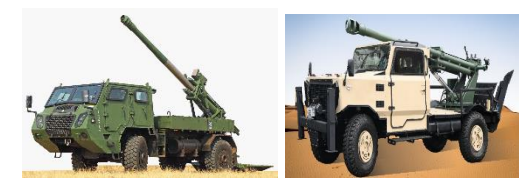
**Making In India for the world**

- Road wheel
- Empty Shells
- Barrel Manufacturing Plant



- Bharat 52 Developed
- Devp order of NFM with DRDO
- Mine Protected Vehicle Developed
- Garuda 105 Developed
- Bharat 45 Developed
- KRAS JV Incorporated
- Start of CIWS Program
- Supply of Mine Detectors to Indian Army.
- Acquisition of BAE Burrows Plant
- Strategic Stake in Aeron
- Start of ATAGS Development

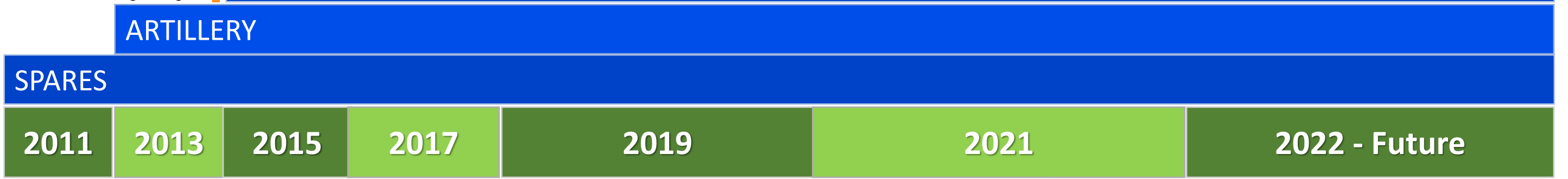
- MArG – TC20 – 4X4 Developed
- Garuda 105\_v2 Developed
- JVPC developed
- UGV – 6X6 developed
- Acquisition of KPIT Defence



- CIWS Trials completed Successfully
- ATAGS Trials completed Successfully
- Start of KM4 deliveries
- Start of TC-6 deliveries
- Protective Carbine developed
- AI based Language Translation



- EW Systems
- Unmanned Systems
- First Large Artillery Export Order
- Armoured Vehicles



Product Development is a 'Continuum' to create Technology and 'IP' for long term value

Core Business Line

## Artillery Business

- Towed Gun
- Mounted Gun



## Other Business

- Armoured Vehicle Spares
- Marine MRO
- NFM's
- Shells

Established Business Line

## Vehicles Business

- Protected Vehicles
- Drive Away Chassis



## Possible Future Business

- C4ISR Systems
- Marine
- Unmanned systems

New Business Line

- *Mix of Large Platforms and Steady State recurring revenue lines*
- **Export Order book of Rs 2,000 crores as of December 2022.**

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## Global Aluminium Strategy


# A Compelling Market Opportunity for Aluminum

BFAL is well positioned to benefit from several key industry tailwinds which supports demand for castings and forgings


## MARKET LANDSCAPE

- 1


- **Increasing auto production rates** - as supply chain issues abate and the world recovers from COVID-19, global lightweight vehicle sales are expected to recover to pre-pandemic levels


- 2


- Automotive industry has been **steadily increasing aluminum pounds per vehicle ("PPV")** to reduce weight for both internal combustion engine ("ICE") vehicles and electronic vehicles ("EVs")
  - Initial gains have been made in replacing steel with aluminum body sheet, but there are many further applications such as **battery enclosures and structural components** in electric vehicles


- 3


- Leading global auto OEMs have begun to **transition production from ICE to EV**, which have **more aluminum content per vehicle**
  - **90% of the top 20 OEMs** have publicly stated 2030 EV production goals


- 4



- BFL's **early investment in aluminum forging capability** has led to the development of a **robust product portfolio of lightweight products** positioned to capture meaningful market share, particularly with the **premium auto OEMs**
  - Forging capabilities are complemented by an **established and growing castings business**


- 5

- BFAL's **robust technology and proprietary processes** allow its products to outperform peers



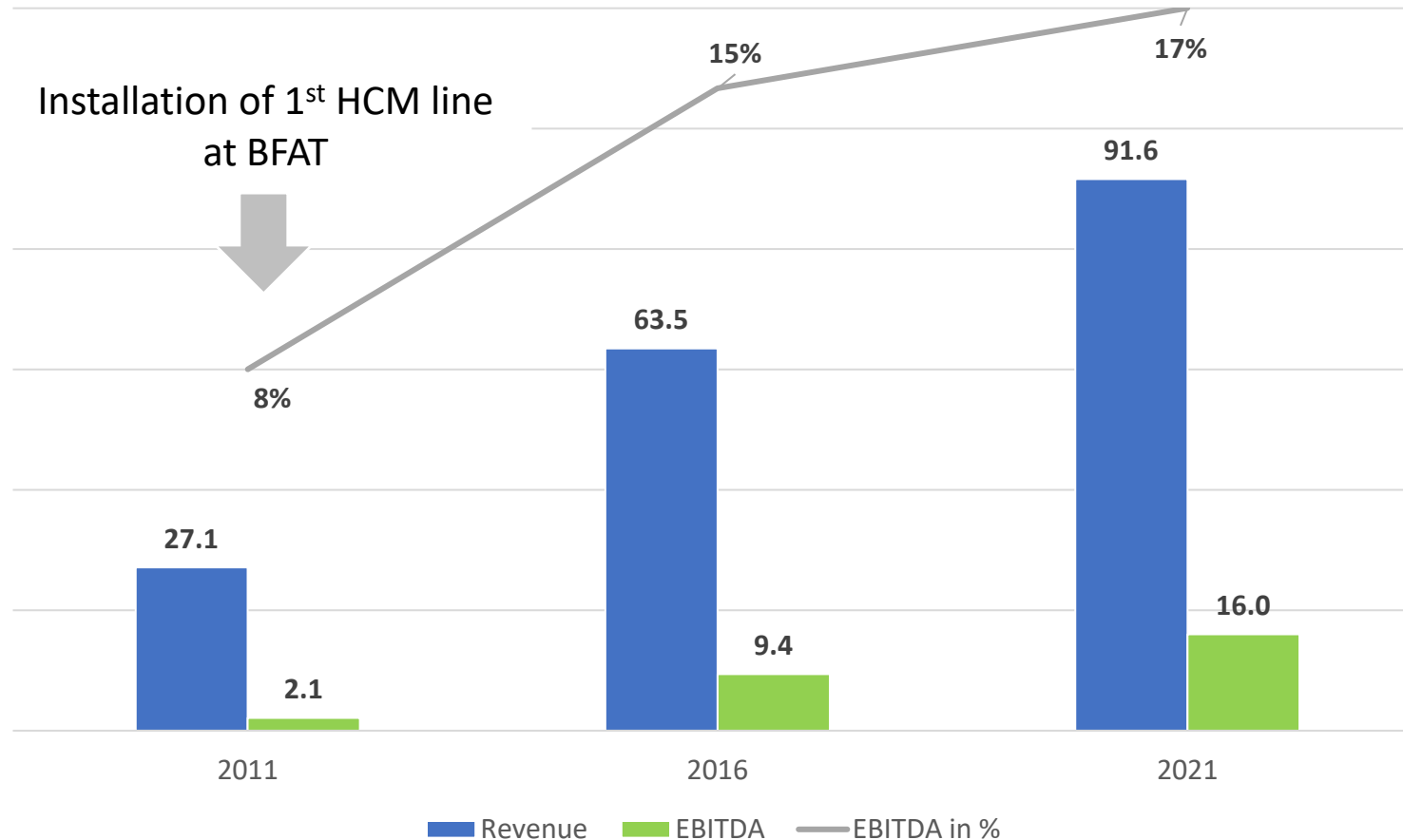
BFAL anticipates to comprise four plants leveraging relationships with marquee OEM customers, and portfolios of key products

	BFAT	BFALUS	CLWT
	<i>Forging</i>	<i>Forging</i>	<i>Casting</i>
<b>Overview</b>	<ul style="list-style-type: none"> <li>Aluminum forging facility located in Germany, established in [1996]</li> <li>Holds multi-year contracts with marquee European OEM customers</li> <li>Demonstrable ramp in financial profile, with EBITDA margin doubling over the last 10 years.</li> </ul>	<ul style="list-style-type: none"> <li>Aluminum forging facility located in Sanford, USA</li> <li>Launched in 2019 and began shipping product in 2022</li> <li>In-house engineering and design capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Aluminum casting / lightweighting facility located in India, launched in 2018</li> <li>Key products across categories: powertrain, chassis, EV motors and EV battery housing</li> <li>Specialized in Die Casting, Hydroforming, Carbon Fiber, Foundry, Light Tooling</li> </ul>
<b>Capacity</b>	<ul style="list-style-type: none"> <li>7.0mm pcs</li> </ul>	<ul style="list-style-type: none"> <li>2.0 mm pcs</li> </ul>	<ul style="list-style-type: none"> <li>2,400 tons</li> </ul>
<b>Products</b>	 <p>Front LCA    Wheel Carriers    Knuckles    Knuckles    Front LCA</p>		 <p>T/M Support Bracket    Battery Housing for E2W    Engine Mtg. Bracket LH    Rocker Cover</p> <p>Engine Mtg. Bracket RH    Cooler Cover    Escalator Steps    Motor Housing for E2W</p>



BFAT's successful ramp highlights the potential in BFAL's other facilities

## BFAT HISTORICAL PERFORMANCE (\$MM)



### Key Messages

- **15+ years** experience in the Aluminum Forgings space
- **Leading & critical** supplier of aluminum forgings for premium brands in Europe
- **13% CAGR growth** in revenues
- **22% CAGR growth** in EBITDA
- **Doubling of EBITDA margin** over the period in reference
- Utilizing **Clean, Green & Efficient** processes

➤ **HCM Process and further investments in Aluminum Production contributed meaningfully to EBITDA Margin Expansion**

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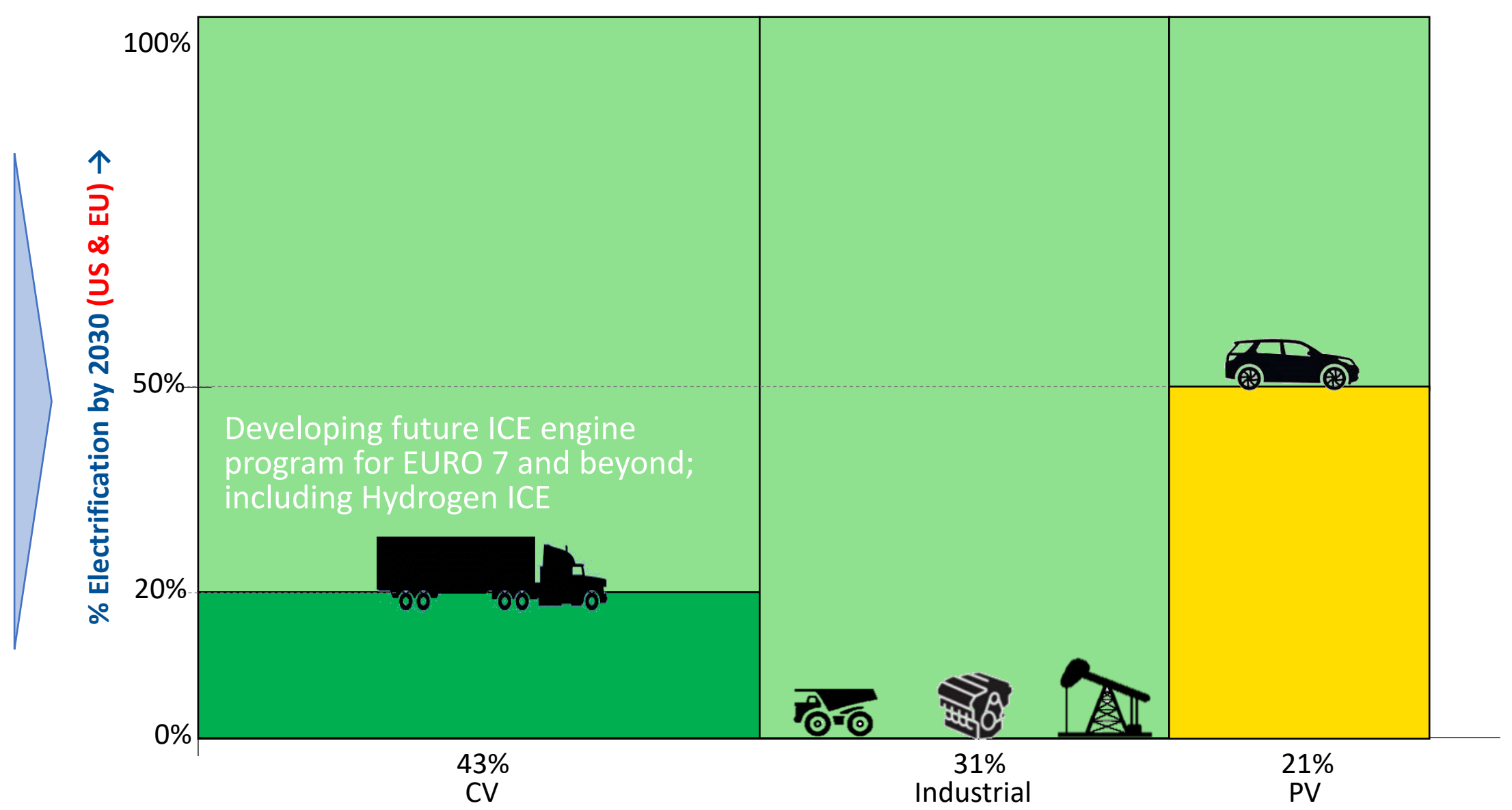


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**E – Mobility: probable Impact & Growth strategy**

## 2030 View: Expected penetration of Electrification<sup>1</sup>

✓ Limited impact expected in core areas till 2033-34



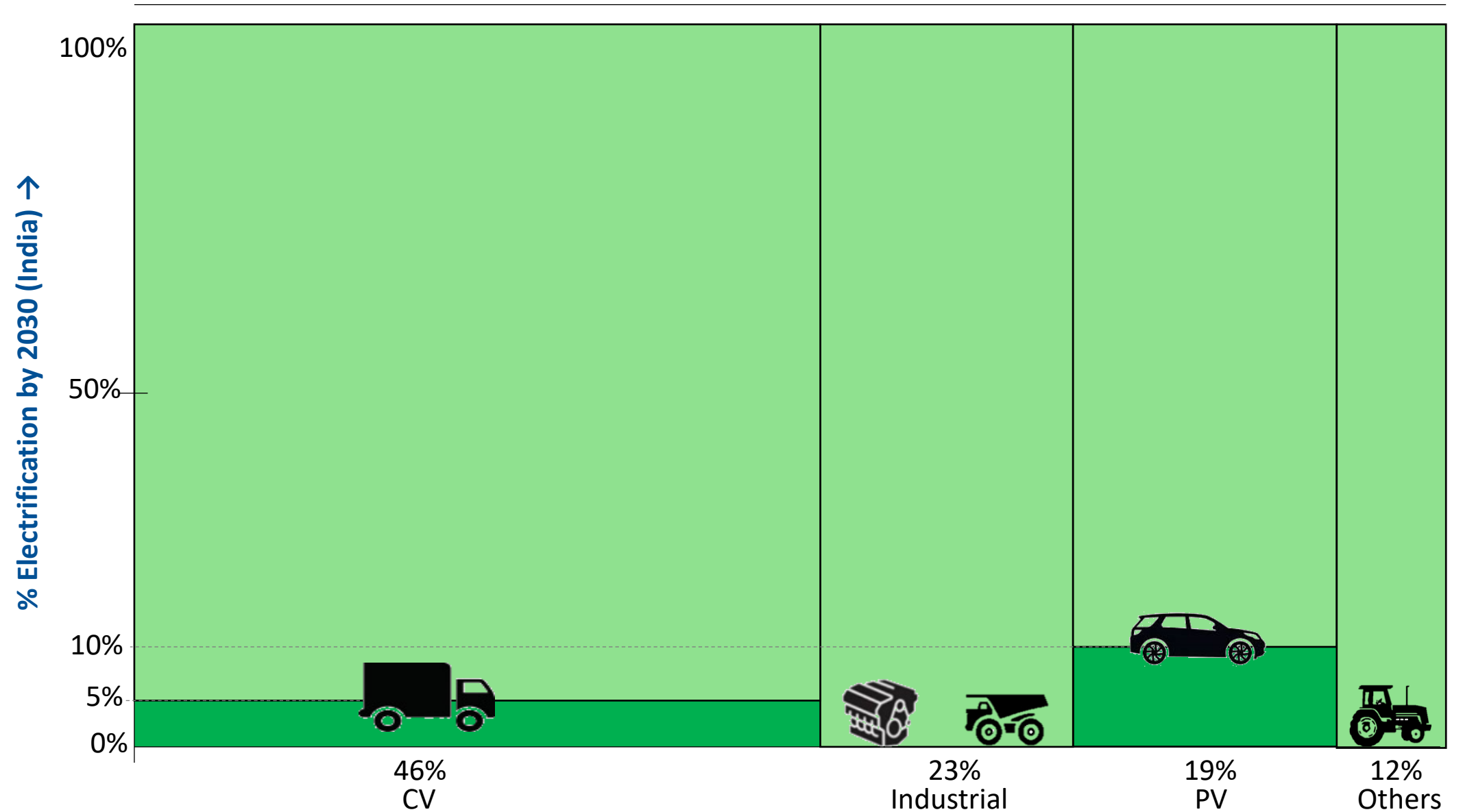
BFL's Exports Revenues<sup>2</sup>

- No impact expected
- Expected impact not significant
- Expected impact significant

1. Mckinsey Report: "The future of mobility: Transforming to be ahead of the opportunity", Sep 2022  
 2. Basis FY23 H1 revenue mix (Components BU); others contribute 5% to revenue  
 3. BFL assessment, basis Platform-level discussions with customers

## 2030 View: Expected penetration of Electrification<sup>1</sup>

- ✓ Only 3W & 2W to see significant EV transition
- ✓ Among pass cars, EV transition to be slower in SUV segment<sup>3</sup>



BFL's Domestic Revenues<sup>2</sup>

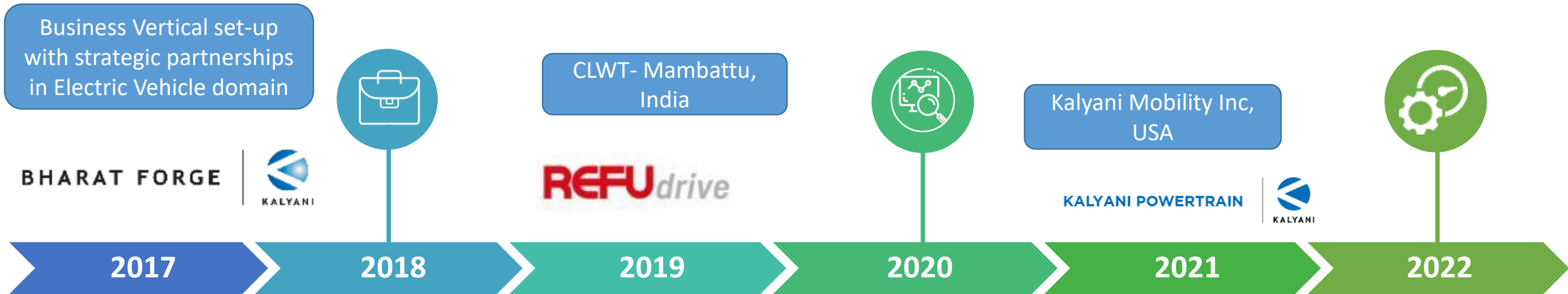
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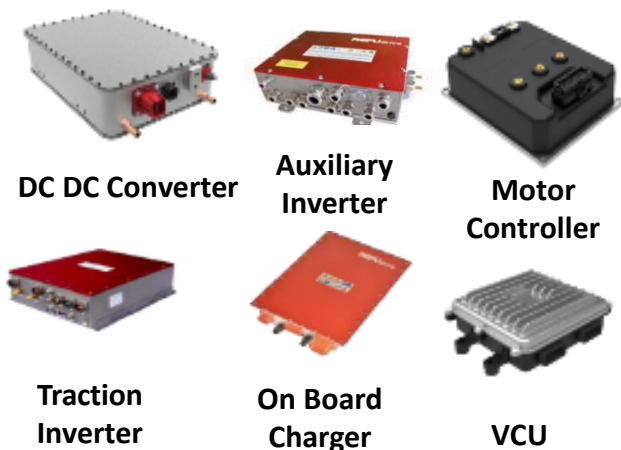
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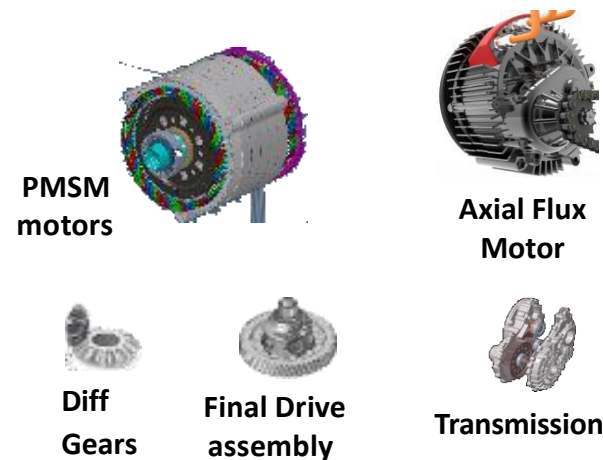
# Bharat Forge | E-Mobility Journey



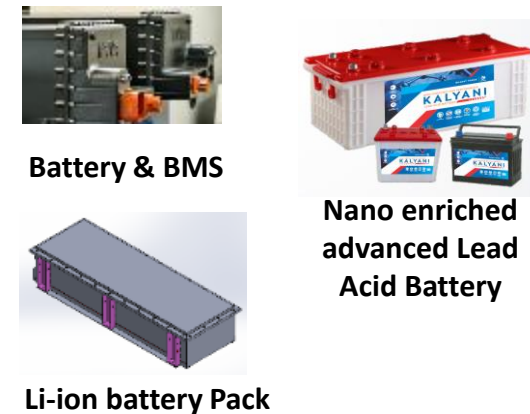
## Power Electronics



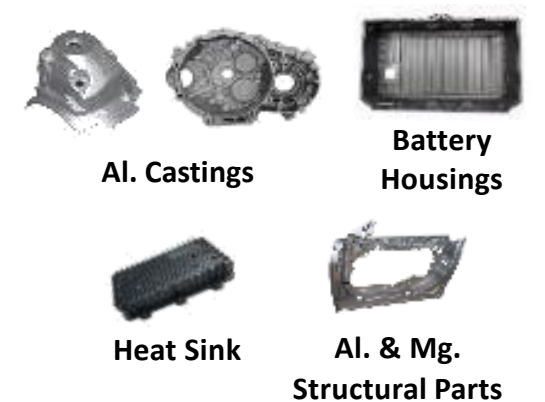
## Traction / Drivetrain



## Energy Storage



## Mechanical (Light Weighting)



**PLI Covered**



## Electronic Components Manufacturing

Make in India for global markets; Automotive Grade Power & Control Electronics



## Commercial Vehicle Re-Powering

Immediate market necessity for existing mid-life Trucks / Buses



## 2W e-Bike & 3W Kits (TORK Motors)

White labelled manufacturing to harness inherent Kalyani group manufacturing excellence



## Traction Drives, EDU & E-Axles

In-house development and manufacturing of EV traction drives



\* eMotor

- ✓ 500+ happy customers till date
- ✓ Pune's first **experience centre** inaugurated on 26<sup>th</sup> Nov'22
- ✓ **Dealers appointed** in Hyderabad; Bangalore & Chennai
- ✓ **YTD PAN India online Bookings: 4,637 Bikes** (registered leads: 19K)

- ✓ **FAME-II certificate** received on 19<sup>th</sup> Oct'22
- ✓ **Cumulative Mileage** covered **1M+ KM**
- ✓ **Successful launch of Kratos-X** in **Delhi Auto show**
- ✓ **2 new patents** granted
- ✓ **No Field Complaints, Recalls or Fires** till date

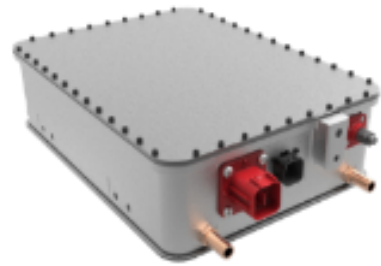


# KPTL: E-Mobility Business update: CV Re-Powering

- ✓ KPTL- Repowered Commercial Vehicle in N3 Category – 1<sup>st</sup> of its kind to get AIS123 (EV Retro-fitment) Certification in India
- ✓ Full load mileage accumulation – cumm. 47K+km as on date
- ✓ 2 vehicle platforms and 3 model variants and end use applications ready for field deployment
- ✓ Field deployment at Customer lined-up, Route study complete
- ✓ Service network – 5 workshop locations established
- ✓ EV02 in process of Re-registration to EV with “Green Number plate”
- ✓ Program extension for Bus Retro-fitment started







## High Voltage DC-DC Converter

4 kW, 650VDC to 24VDC:

First Application : Electric HCV

1<sup>st</sup> patent filed on Architecture

Pilot Customer - Vehicle trials started

Serial production : Q1/23



## Vehicle Control Unit (VCU)

Platform Hardware ready, EMI/EMC Certified

First Application : Electric CV

USP: CCS2 Charge Controller integrated

Serial production : Q2/23



## 48V Motor Controller (MCU)

Platform Hardware ready

First Application : e2W (Tork)

USP: Integrated VCU

SOP : Q2/23



## Auxiliary Dual Invertor ( Dragonfly)

Project – co development with REFU

USP: Automotive Grade, wide application for Truck & Bus

Local Supplier Value Chain

SOP: Q2/23



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## **India Industrial Journey: Inorganic Approach**



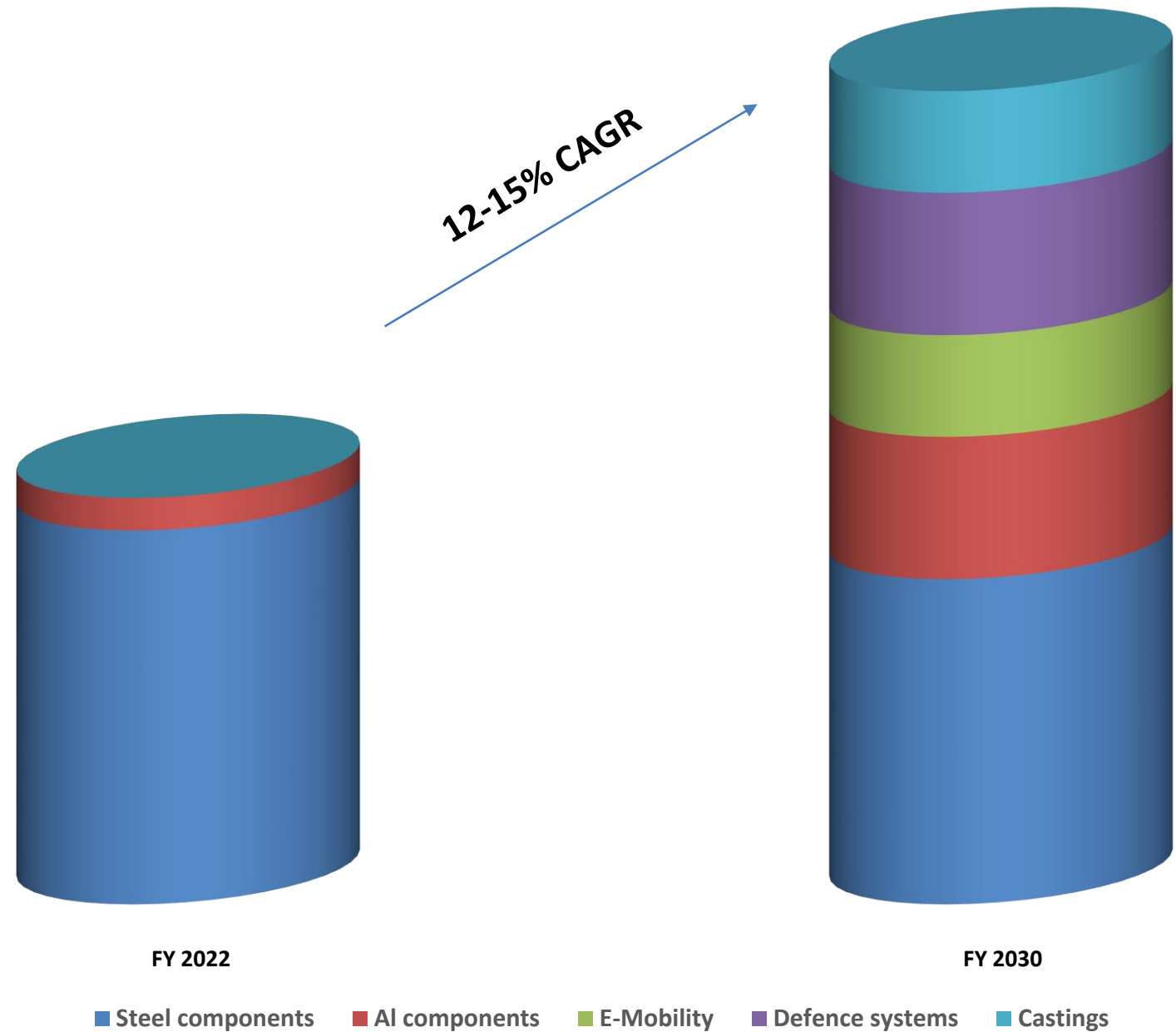
## Overview: SFEL

- SFEL is leading forging company based in Vadodara, Gujarat. Acquired by BFL through the IBC process in June 2021.
- SFEL is supplying forgings to OEMs and customers belongs to core sectors such as Oil & Gas, Hydro, Power, Space, Defence, Steel Making, Equipment Manufacturer etc.
- 4,500T Open die press which perfectly complements the existing Open die facility at Pune.
- Enhances the Heavy forgings capability of BFL.
- Minimum de-bottlenecking required to increase turnover of the company.
- FY22 sales of around Rs 80 crores with EBITDA% of ~ 20%.



- **18-year-old young company**, initially supplying to the automotive sector.
- Leading manufacturer of high-grade machined ductile iron castings, which find applications in wind energy, hydraulics, automotive and power generation sectors.
- Manufactures machined castings of up to ~400kgs (small size) using green sand molding process
  - over 50 % of products are exported
  - 100% of products are machined in-house
  - Provides sub- assembly services for select customers.
- Fully-integrated manufacturing setup with in-house design, melting/ molding, machining, metalizing/ painting, testing, and packaging
  - **Unit -I in Coimbatore (2005)** – Designing, core making, melting, molding, testing facilities and 96 CNC machines for machining
  - **Unit-II in Perundurai (2020)** – core making, melting, molding, heat treatment facilities
- **Combined capacity of ~ 72,000 MTPA (SIPCOT) + 28,800 MTPA (Coimbatore)**
- **Direct single source supplier to reputed domestic and global customers. 100% SOB with major customers.**

# Vision 2030: Gradual transition from Tonnage to Technology



- 3X growth in Revenues driven by new businesses & Verticals
- 500 bps improvement in Consolidated Core ROCE%
- Sustained consolidated EBITDA% above 20%.
- Reduction in capital intensity as new product driven businesses ramp-up

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**Let's outdo the future, together!**