December 09, 2022

To,

**BSE Limited,** 1st Floor, New Trading Ring, Rotunda Building, P.J. Towers, Dalal Street, Fort, Mumbai - 400 001 **BSE SCRIP CODE – 500493**  National Stock Exchange of India Ltd., 'Exchange Plaza', Bandra-Kurla Complex, Bandra (East) Mumbai- 400 051 Symbol: BHARATFORG Series: EQ

Dear Sir/Madam,

#### Sub: Institutional Investor Meet

In terms of Regulation 30 read with Schedule III and Regulation 46(2) of SEBI (Listing Obligations and Disclosure Requirements) Regulations, 2015, please find attached herewith copy of Presentation made at the Institutional Investor Meet held today i.e. Friday, December 09, 2022.

Please note that the aforementioned Presentation has also been hosted on the website of the Company at the following link:

https://www.bharatforge.com/assets/pdf/investor/quater-results/analyst-meet-2022.pdf

Please take note of the same.

Thanking you,

Yours faithfully, For Bharat Forge Limited

Tejaswini Chaudhari Company Secretary & Compliance Officer

Encl.: As above



BHARAT FORGE LIMITED, MUNDHWA, PUNE 411 036, MAHARASHTRA, INDIA. PHONE: + 91 20 6704 2476 6704 2777 (Secretarial) Fax 020 2682 2163 CIN L25209PN1961PLC012046 Email: <u>secretarial@bharatforge.com</u> WEBSITE: <u>www.bharatforge.com</u>



BHARAT FORGE



# ANALYST **MEET 2022**

# All Hands.One Goal.

**Inclusive & Sustainable Development** 



Power electronics and Micro electronics



SAUTO CAST

TEVVA

BFINDUSTRIAL

ElectroForge





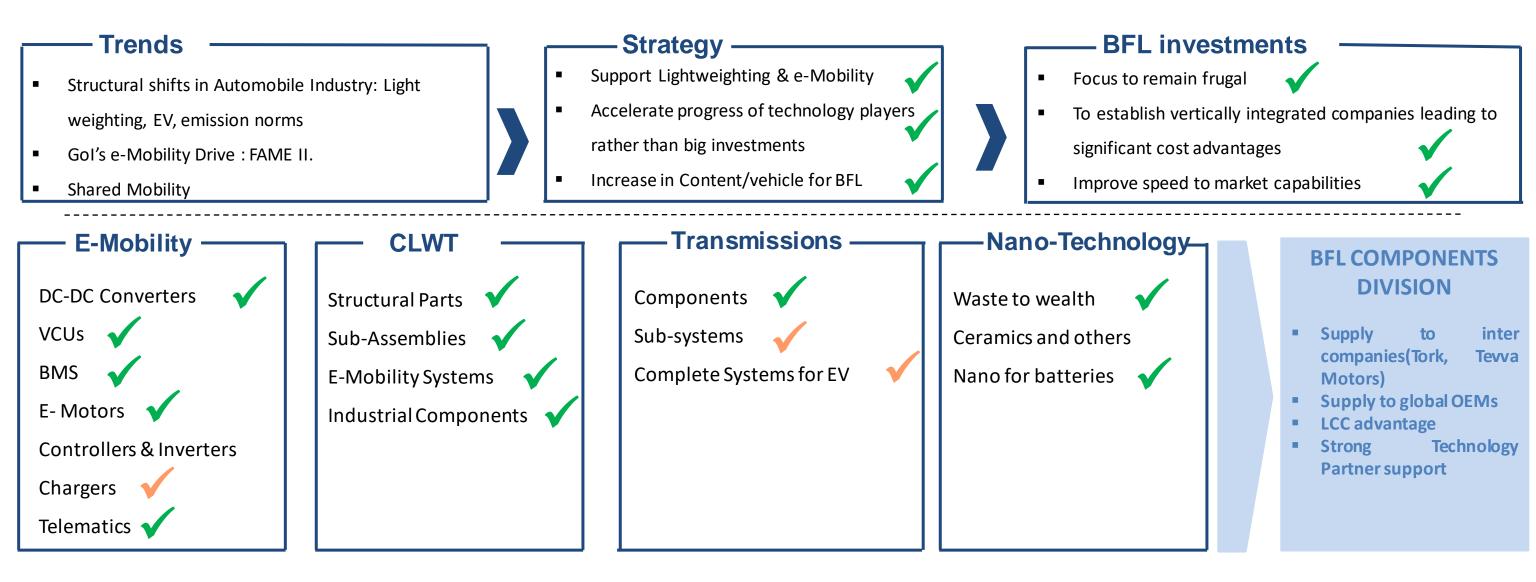
This presentation contains certain forward looking statements concerning Bharat Forge's future business prospects and business profitability, which are subject to a number of risks and uncertainties and the actual results could materially differ from those in such forward looking statements. The risks 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 of in electronic form without prior express consent of the company.



**Recap of 2019 Analyst Meet** 

3

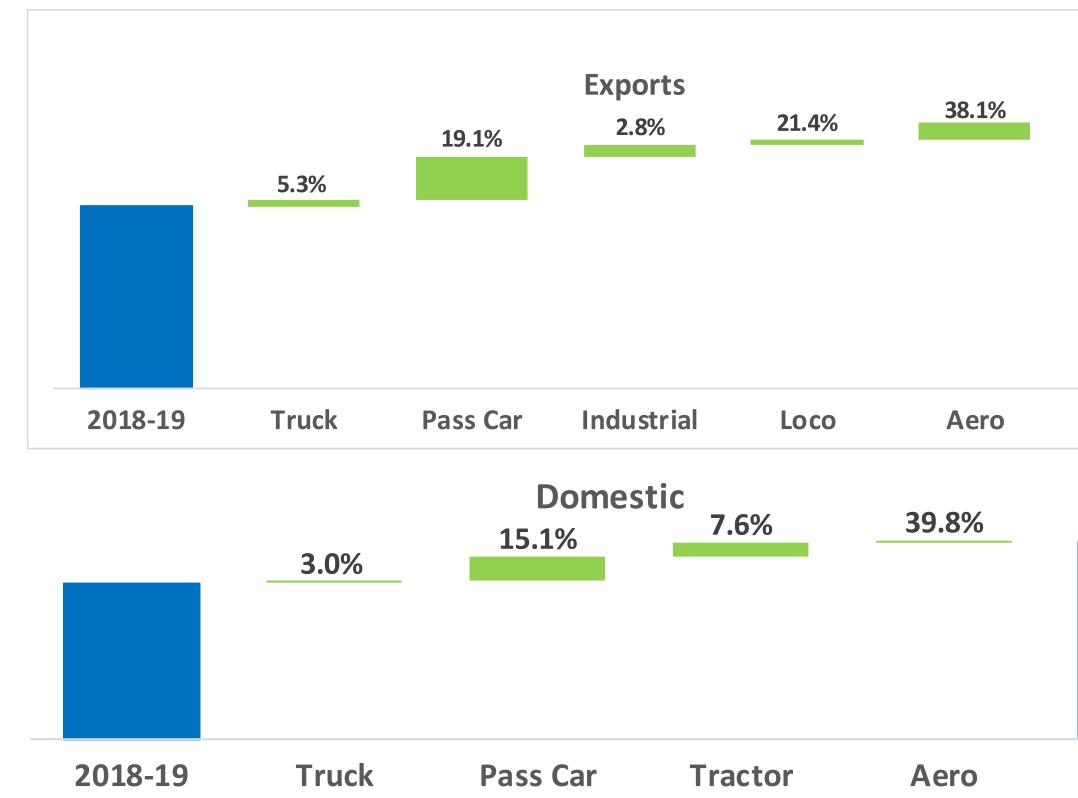
# 2019 Analyst Meet Recap







**2025 Projections: On Track To Surpass** 





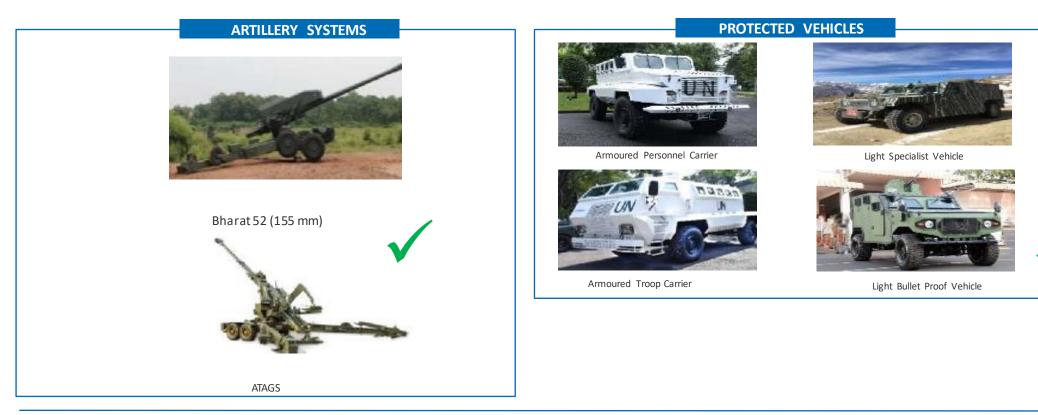
# Projected CAGR

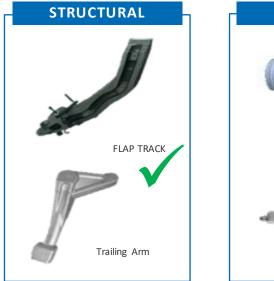
#### 2024-25



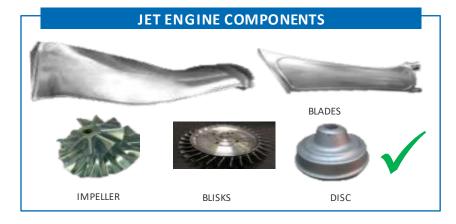


# **Product Overview | Defense & Aerospace**













- Currently aluminum component business is approx. 15% of total turnover of overseas subsidiaries
- BFL group has undertaken expansion of aluminum business in different entities:
  - BF AT: 4<sup>th</sup> press line dedicated for aluminum business (SOP: 2020)
  - CDP: Conversion of 1 press line from steel to aluminum (SOP: 2020) ✓
  - US: Invest in first aluminum line to cater US/German OEMs (SOP: 2021) 🗸
- With this expansion in place, aluminum will contribute approx. 40-45% of revenue of overseas subsidiaries (2024) 🗸



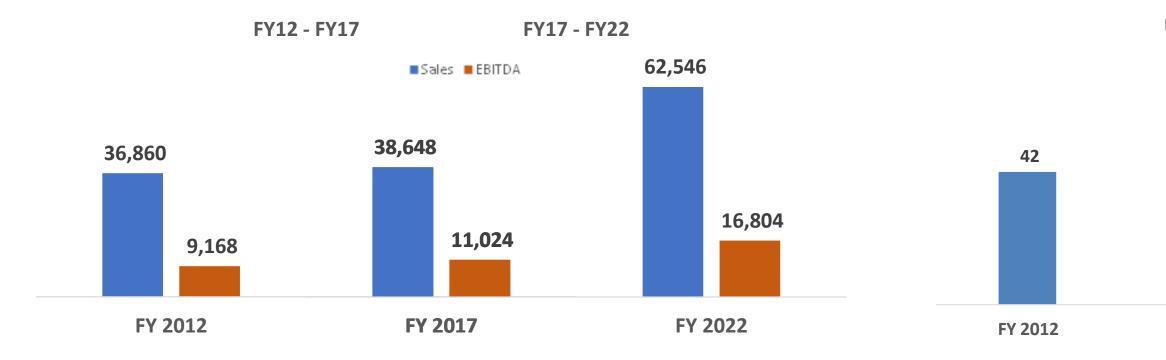
7



# The Past decade: Financial performance

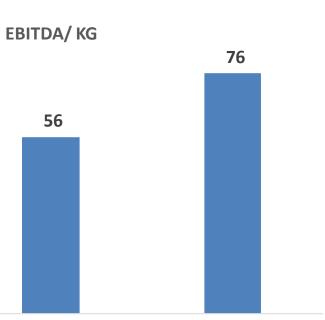
8





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%

#### BHARAT FORGE



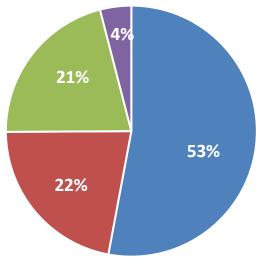
FY 2017

FY 2022

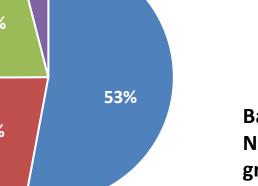
Sustained uptrend in operational profitability... Product mix & Cost optimization



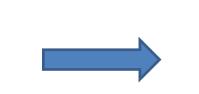
FY12 - Revenue by Geography



FY12 - Revenue by Business

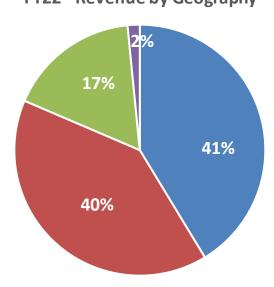


India NA EU Others



**Balanced revenue stream** NA exposure driven by broad based growth

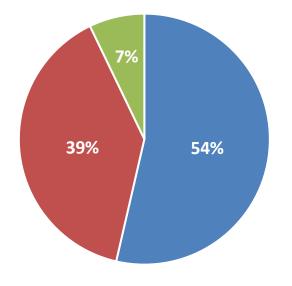
FY22 - Revenue by Geography

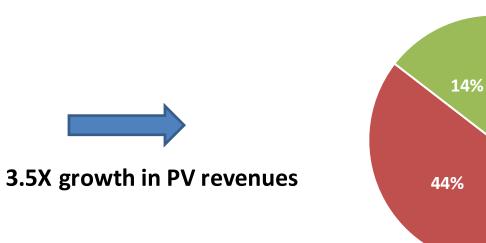


India NA EU Others

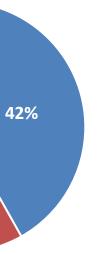
#### FY22 Revenue – Rs 62,546 million

FY22 - Revenue by Business





FY12 Revenue – Rs 36,860 million





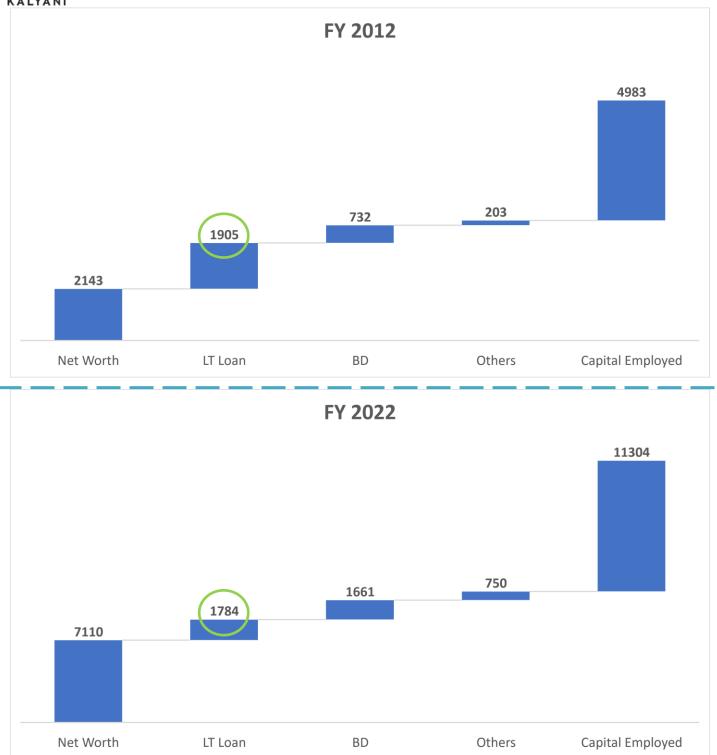
Share Price FY 2013 - FY 2022

- 15.9% CAGR over the past decade
- Zero Equity Dilution
- Consistent Dividend payout



- Incubated Defence (2012), EV (2016) & Light weighting (2018) verticals.
- Consistent dividend Payout ratio @30%
- Invested close to Rs 4,500 crores in CAPEX
- Invested ~Rs 1,100 Crores in Subsidiaries
- Increased liquidity by ~Rs 1,500 Crores through the decade



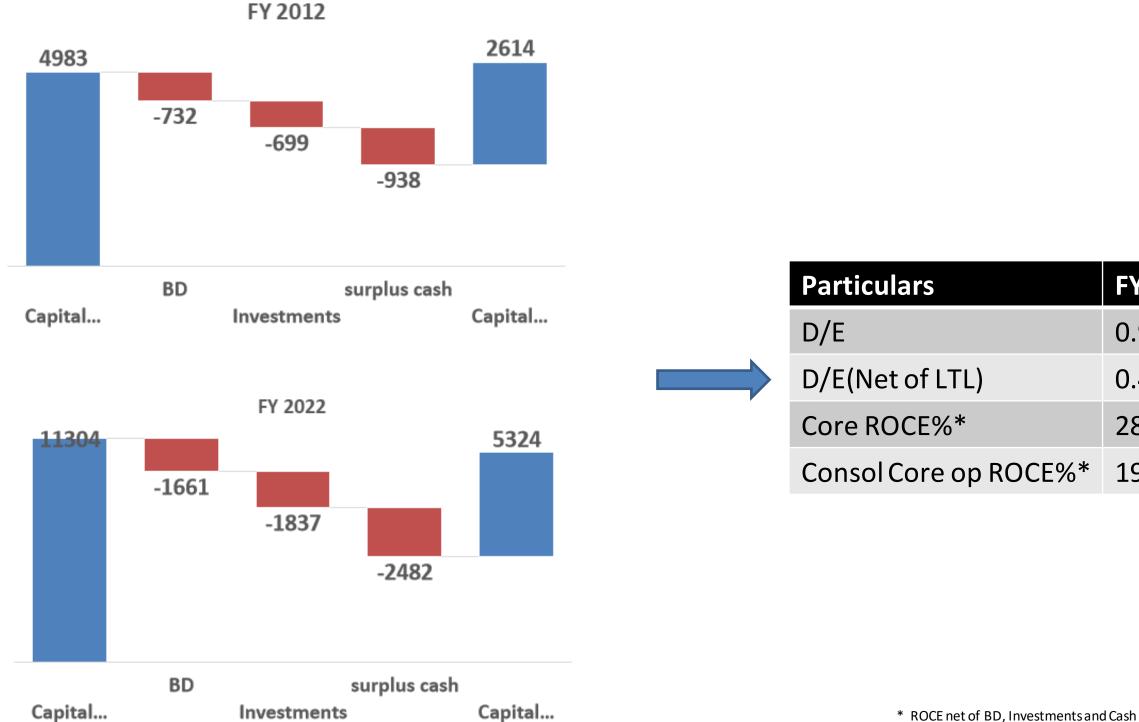


- Close to Rs 5,000 Crore accrual to Net Worth ! ullet
- debtor default.
- Long Term Loan actually reduced by Rs 120 • Crores over the past decade.

All amounts in Rs crores

# Bill discounting increase led by Exports. ZERO





All amounts in Rs crores

FY 2	2012	FY 2022
0.92	2	0.32
0.49	)	(0.03)
28.3	8%	28.6%
19.8	3%	20.1%

# Kalyani Strategic Systems Limited

BHARAT FORGE



Investor Presentation – Defence Business



# Making In India for the world

09<sup>th</sup> Dec 2022

#### RESTRICTED

#### **Defence Policy and Structural Reforms -**KALYANI **Forefront of Policy Framing**



Nation is at an *Inflection* Point

#### Kalyani Strategic Systems Limited









2019- Business poised for Exponential growth

2016- ATAGS / Exports Breakout

2014 - Development of Bharat 52 and GARUDA Complete

2013- Development of GARUDA, Signing of JVs, Other DRDO programs

2012 – Start of Development of first Indigenous gun - Bharat 52

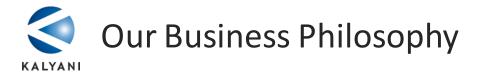
Nov 2011 – Acquisition of Ruag Plant

#### Focus on Financial Prudence



#### Kalyani Strategic Systems Limited



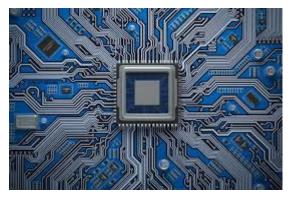




**Product** 



Technology Indian IP



Frugality

# Passion



Accomplish more with less



Commitment towards National Defence

### Kalyani Strategic Systems Limited

# Intellectual Property



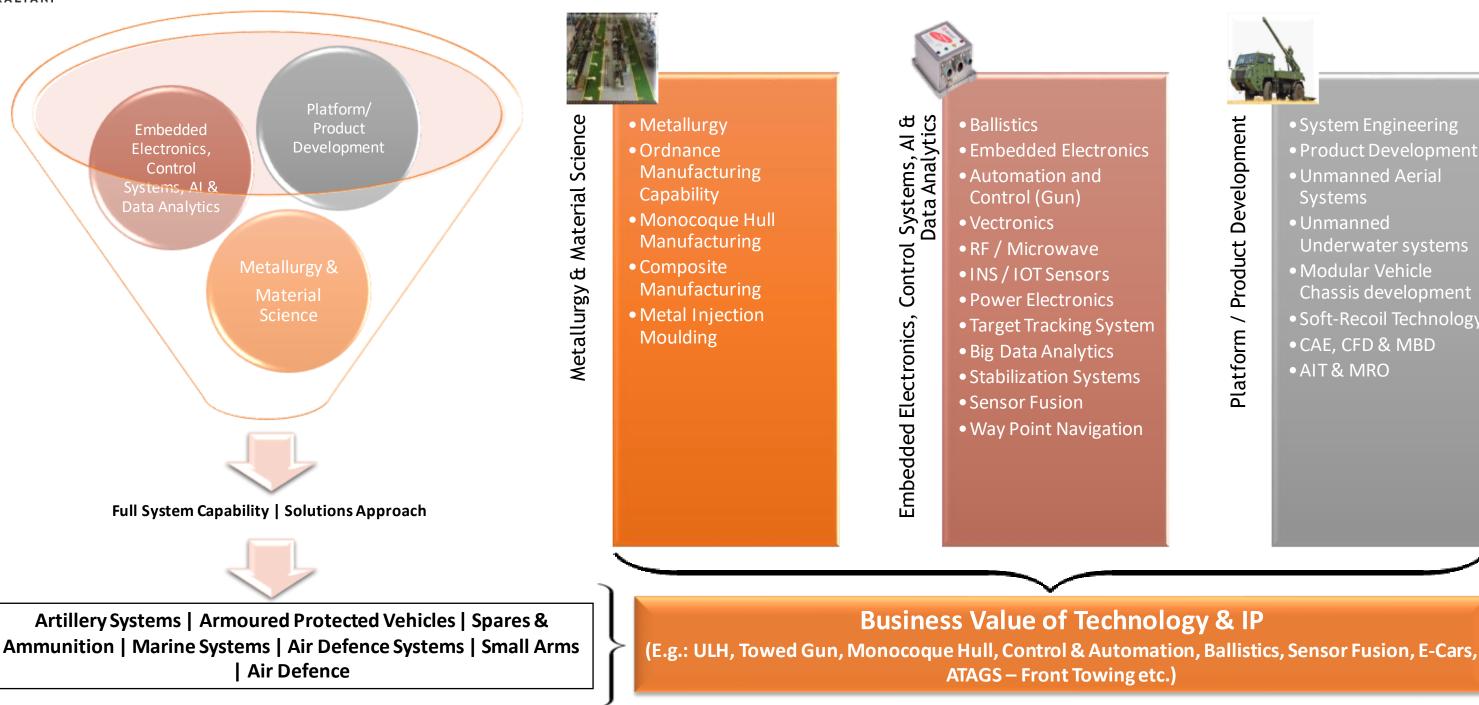
#### Long Term View



Looking beyond the present to deliver future value

# Technology + IP Creation $\rightarrow$ Capability Driven Strategy





"Incubated in Defence but with wide Industrial applications"

#### Kalyani Strategic Systems Limited



Platform / Product Development

- System Engineering
- Product Development
- Unmanned Aerial Systems
- Unmanned Underwater systems
- Modular Vehicle Chassis development
- Soft-Recoil Technology
- CAE, CFD & MBD
- AIT & MRO

# **Solution** Defence Product Line (1/2) – In 10 years



#### KALYANI

# **ARTILLERY SYSTEMS**

ATAGS



Bharat ULH (Steel)



Bharat 52

Bharat ULH (Titanium)

Bharat 45



Garuda 105

MArG 155-BR

ATAGS MGS

Bharat ULH (ER)

MGS 6X6 \*









Armoured Troop Carrier



Armoured Personnel Carrier



Armoured Troop Carrier



Light Bullet Proof Vehicle



**Light Tactical Vehicle** 





**Mine Protective Vehicle** 





TC 9 \*



**ARMOURED VEHICLES (MRO)** 



**Mobility Solutions** 

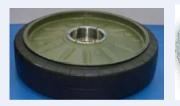
**Fire Power Solutions** 













Components









**Ultra Light Strike Vehicle** 









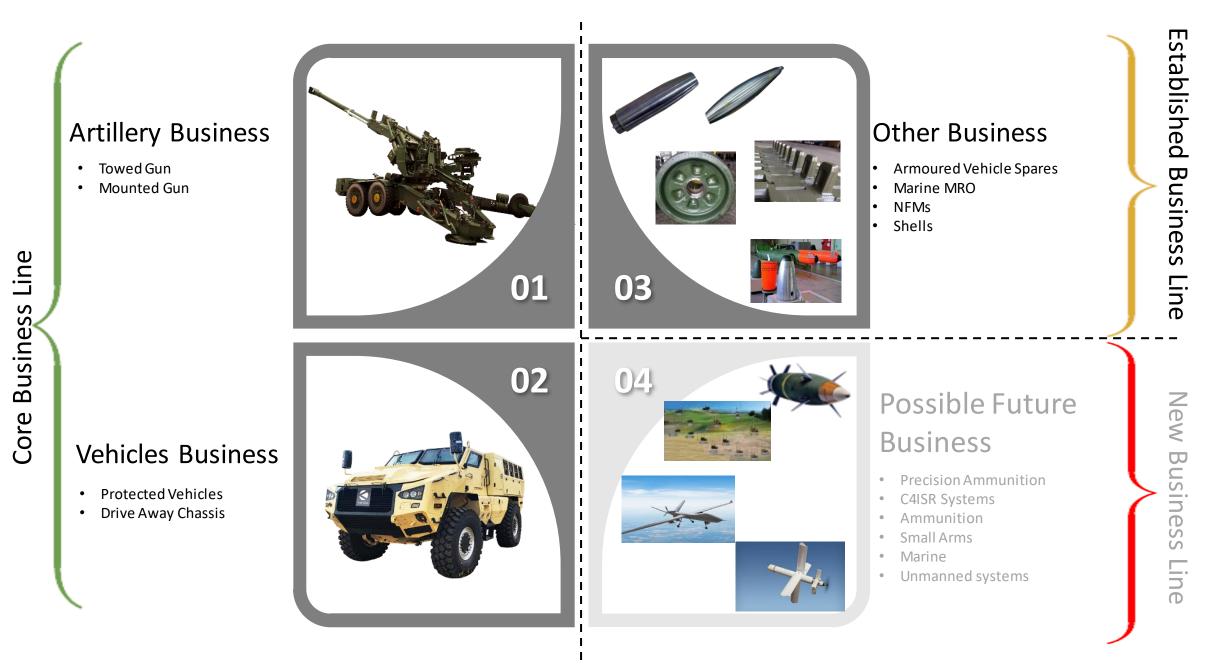


# Kalyani Strategic Systems Limited









Mix of Large Platforms and Steady State recurring revenue lines •

# Kalyani Strategic Systems Limited







# Kalyani Strategic Systems Limited

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Kalyani M-4



**Inducted in Indian Army** 

Exported

# <image>

Successfully Tested by Indian & Military Agencies

#### TC 6 : Light Tactical Vehicle



Successfully Tested by Indian & Military Agencies

Ongoing supplies for 50+ vehicles

#### TC 6 : Garuda 105



Successfully Trail Evaluated

#### Ultra Light Strike Vehicle



Successfully Tested by Indian Military Agencies

#### Mine Protected Vehicle



Successfully Tested by Indian Military Agencies



Successfully Tested by Indian Military Agencies

#### **Armoured Troop Carrier**



Successfully Tested by Indian & Sri Lankan Military Agencies Exported

Exported

#### Kalyani Strategic Systems Limited

#### TC6 : Light Bullet Proof Vehicle



Tested by Indian Army & VRDE

#### TC 8 : Light Armour Troop Carrier



Platform Tested by Indian Military Agencies



# **Specialist Vehicles Portfolio**



#### WHEELED VEHICLES & **TRUCKS PLATFORMS** ( 3 Ton to 20 Ton)

- Military Logistic trucks /Load Carriers
- Speciality Vehicle's (MGS/BEL) •
- Special Purpose Vehicle •
- **Bullet Resistant Vehicles** ٠
- Mine /Blast Resistant Vehicles •
- **Command Control Vehicles** •



#### **KALYANI M4** - Autocar India

https://www.youtube.com/watch?v=N8lAqlIP7uc&ab\_c hannel=AutocarIndia



WHEELED ARMORED FIGHTING VEHICLES (15 Ton to 25 Ton)

- IFV Amphibious ٠
- WAFV Amphibious ٠
- BMP (APC) •
- **Command Control Vehicles** •
- **Recovery Vehicles** •



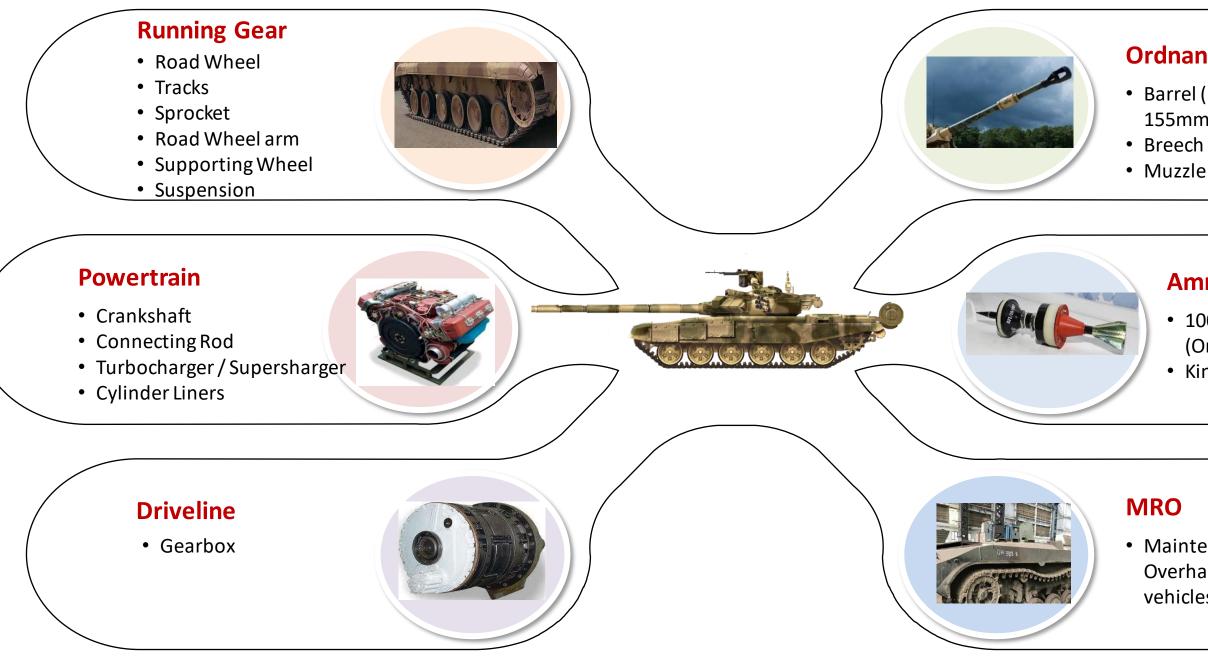
- Light Weight Tank •
- **FICV** •
- FRCV •



#### Kalyani Strategic Systems Limited

#### **TRACKED VEHICLES / TANKS TRACKED RECOVERY VEHICLES** (25 Ton to 45-50 Ton )

**Armoured Vehicles – Spares & MRO | Product Overview** KALYANI



#### Kalyani Strategic Systems Limited

#### **Ordnance**

• Barrel (100mm, 120mm & 155mm • Muzzle brake

#### Ammunition

- 100mm to 155mm Shells (Only empties)
- Kinetic Ammunition FSAPDS

• Maintenance, Repairt & Overhaul of all armoured vehicles platform

# **Unmanned Systems | Product Profile** KALYANI

# UNMANNED GROUND VEHICLE (UGV)



Wheeled

Speed: Up to 20 kmph (manual drive), up to 10-15 kmph (autonomous missions)

Climbing capability: 45° slope (max)

Operation: Up to 48 hours (battery + continuous generator), up to 6 hours continuous (silent mode)



**Tracked** 

Multi-role Modular UGV with applications like

- Weaponized Strike
- Ordinance Disposal
- Support Intelligence **Operations**

Hybrid Diesel Engine Drive Pulling Force – 21,000 N Max Speed – 20 Km/h Runtime Electric – Upto 15 h Runtime Hybrid – Upto 1.5 h



Multi Rotor (VTOL)

- Maximum Take off weight 150 Kg
- Multi-pay load, Multimission drone
- Rapid deployment -Plug and fit assembly
- Payload Multi Capability Heavy -Weight Logistic Payloads
- Flexible and modular with fast payload swap



**UNMANNED AERIAL VEHICLE (UAV)** 

#### **Loitering Ammunition**

- TBRL Loitering **Munition Program**
- birds in 95 13 category of Loitering to be developed
- birds These are payload dropping and homing-on type
- Most of these drones are vertical takeoff landing types, and some and are canister launch type



#### Expendable **Underwater Targets**

- Simulates Submarine for Firings/Training
- Active self-propelled unit launched from ships, submarine or helicopters

#### Autonomous underwater Vehicle - MAG

ranges

#### Kalyani Strategic Systems Limited

#### **UNMANNED UNDERWATER VEHICLE (UUV)**



# Torpedo

#### **Mobile Target Emulator**

Simulates	s sub	submarine		
target,	Active	self-		
propelled Decoy				
Defence	С	Counter		
Measure		from		
active/passive homing				
incoming Torpedo				

Ship/subs signature being measured at UW





#### **PRINCIPLES**

Kalyani Strategic Systems Limted (KSSL), wholly owned subsidiary of Bharat Forge Limited (BFL), being a global engineering and technology organization with significant interest in Defence & Aerospace, aims to contribute to India's strive towards self-reliance (Atmanirbhar Bharat). While meeting the national and global security needs through engineering and innovation, BFL is committed to undertake this with full consciousness towards our "EthOSS" - "Ethical Organizational & Societal Sustainability" pledge

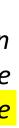
#### **"ETHOSS" – OUR PLEDGE**

**Customer & Partners** – We wish to serve all our Customers, both in India and internationally, in their bid to achieve effective deterrence to any threat on their integrity and we aim to create sustainable relationships with our Partners in this endeavor. Our pledge however is to engage honorably and ethically with the **Right Customers/Partner** and in the **Right Way.** 

**PRODUCTS**-We have not and will not engage in development, manufacturing or distribution of weapons/systems restricted by international conventions (*Personnel Land Mines, WMD, Cluster* **Munitions etc.)** 

There will be continuous efforts towards developing better products / establishing better processes so as to have minimum impact on the environment

# Kalyani Strategic Systems Limited







# BHARAT FORGE



# Aerospace

**Aerospace Business -** Leveraging our expertise in components – Building a value-added product portfolio

- **Gas Turbines** Marine, Aerial (Microturbines & APUs)
- **Turbomachinery** Aerospace, IC. Engines-Railways, Submarines, Tanks
- Undercarriage
- Sub-Assemblies

Integrated

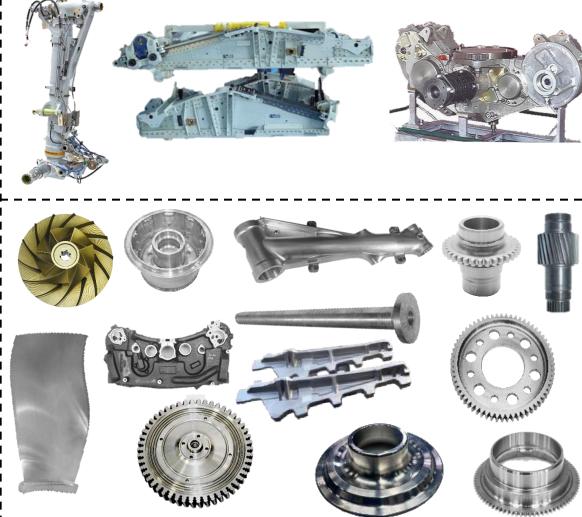
Systems &

Projects

KALYANI

- Transmission System
- LRUs for Engines, Rotary Wing & Fixed wing Platforms
- **Engine Rotative's, Transmission, Undercarriage** & Aircraft Structural
- Components
- **Commercial Aviation** Exports
- **Defence Aviation/GTs** IAF & IN Indigenization & HAL



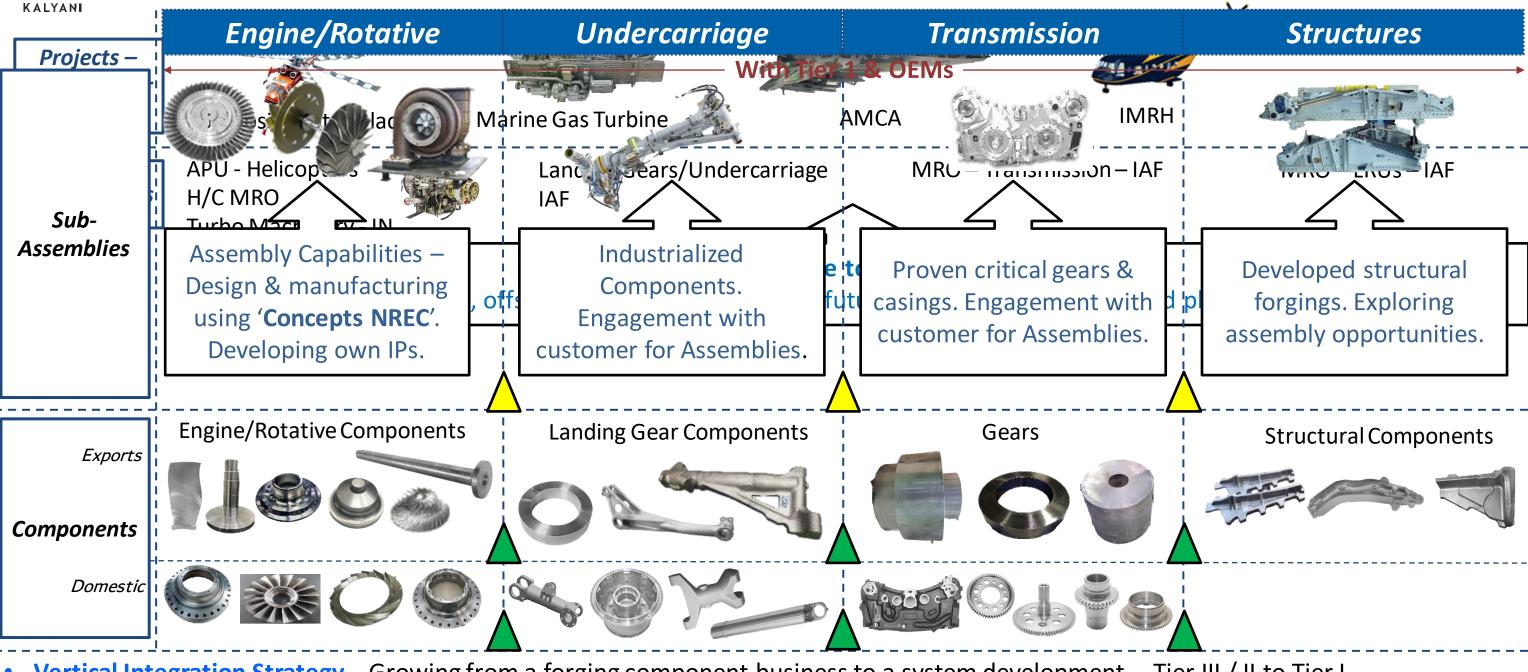






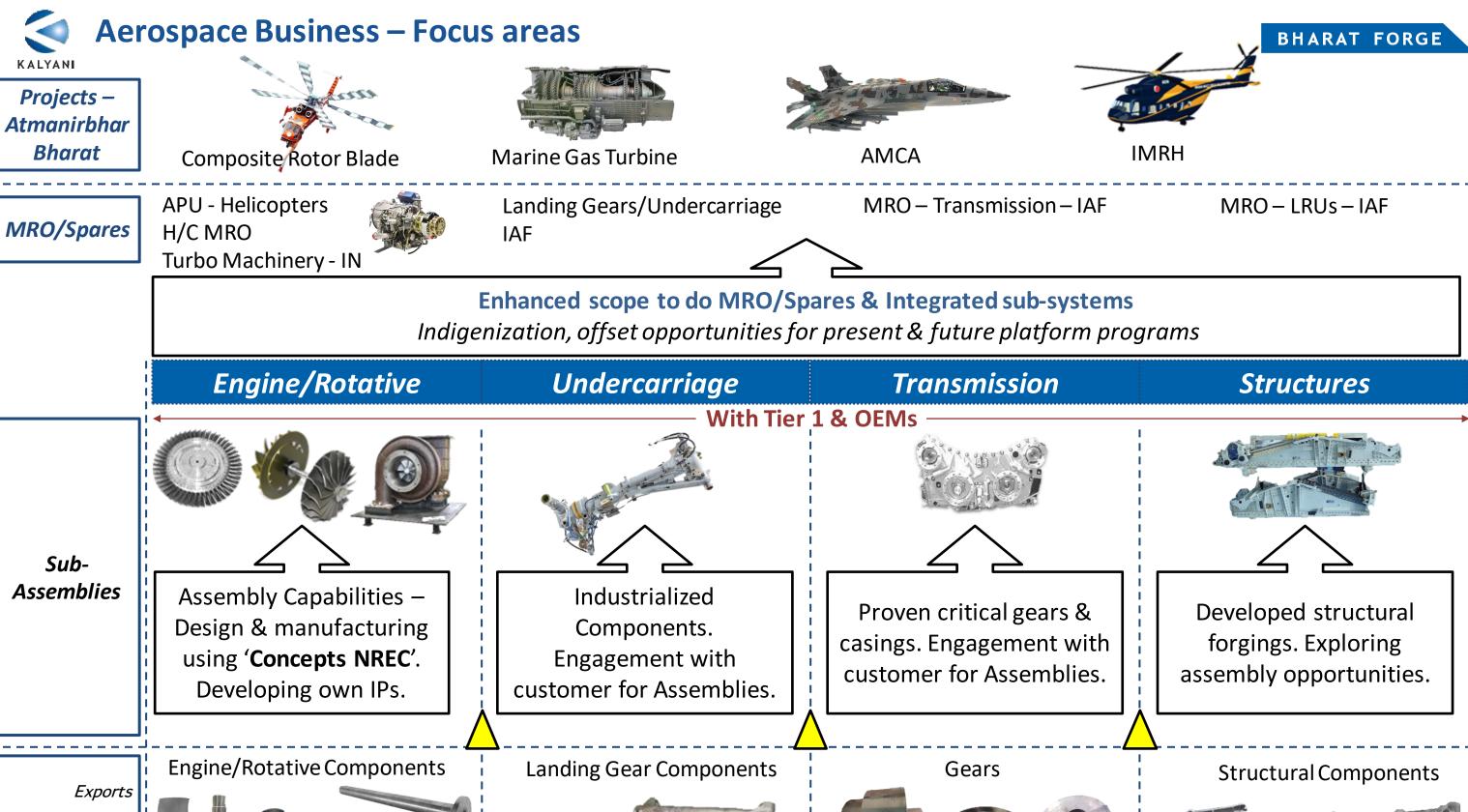






- Vertical Integration Strategy Growing from a forging component business to a system development Tier III / II to Tier I
- Leverage domestic product portfolio to penetrate exports market
- 'Make in India' Indigenization of spares & MRO for IAF/IN





# BHARAT FORGE



# Global Aluminium Strategy

#### Pune, 9th December 2022

# **A Compelling Market Opportunity for Aluminum**

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

#### MARKETLANDSCAPE

- 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
- 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
- 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
- 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**

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





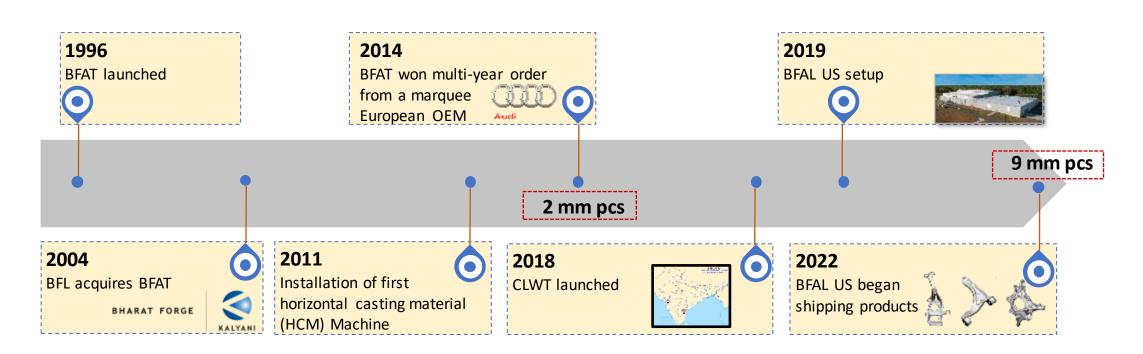




# **Overview of BFAL's History**

BFAL has a long track record of launching new businesses in distinct markets across geographies; the creation of a holding company to manage these assets will enhance focus and drive growth

#### **TIMELINE AND KEY MILESTONES**



#### COMMENTARY

- Over 20 years of history in the aluminum forgings industry; proven technology and financial profile support investment
- Current market trends support investment and focus on the opportunity in forgings and castings
- Proven team with global reach across the US, India and Europe

# **Bharat Forge Aluminum Overview**

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

	BFAT	BFALUS	CLWT
	Forging	Forging	Casting
Overview	<ul> <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, and now at ~20%</li> </ul>	<ul> <li>Aluminum forging facility located in Sanford, USA</li> <li>Launched in 2019 and began shipping product in 2022</li> <li>HPDC<sup>1</sup> technology for structural and transmission components</li> <li>In-house engineering and design capabilities</li> <li>Specialized in lightweighting, Aluminum forging, HPDC, machining, foundry, assembly</li> </ul>	<ul> <li>Aluminum casting / light located in India, launched</li> <li>Key products across cates chassis, EV motors and Ex</li> <li>Specialized in Die Casting Carbon Fiber, Foundry, Light</li> </ul>
Capacity	■ 7.0mm pcs	<ul> <li>2.0 mm pcs</li> </ul>	<ul> <li>2,000 tons</li> </ul>
Products	Front LCA Wheel Carriers Knuckles Kn	uckles Front LCA Engine Mtg. Bracket RH	Battery Housing for E2W er Cover

#### BHARAT FORGE

#### ing

htweighting facility ned in 2018 tegories: powertrain, EV battery housing ng, Hydroforming, Light Tooling



# **Extensive Product Development Capabilities**

Leading Research & Development at CLWT

**OPERATING FOOTPRINT** 

CLWT will allow BFAL to innovate and design various casting products quickly to meet customer needs

#### Distance from plant: Technologies Chennai Airport – 90km Design <u>Chennai Seaport – 50km</u> Tirupathi Airport – 80km **High Pressure Die Casting** Machining & Assembly **Gravity Die Casting** Low Pressure Die Casting Head Office at Pune C 1100 T to 4200 T HPDC Machines VA/VE Suggestions Annual Capacity: 36,000 Tons **CLWT Manufacturing site** Castings/HPDC/LPD at Mambattu, Andhra C/GDC Product range: 0.75 kg to 30 kg Pradesh

#### **MANUFACTURING CAPABILITIES**

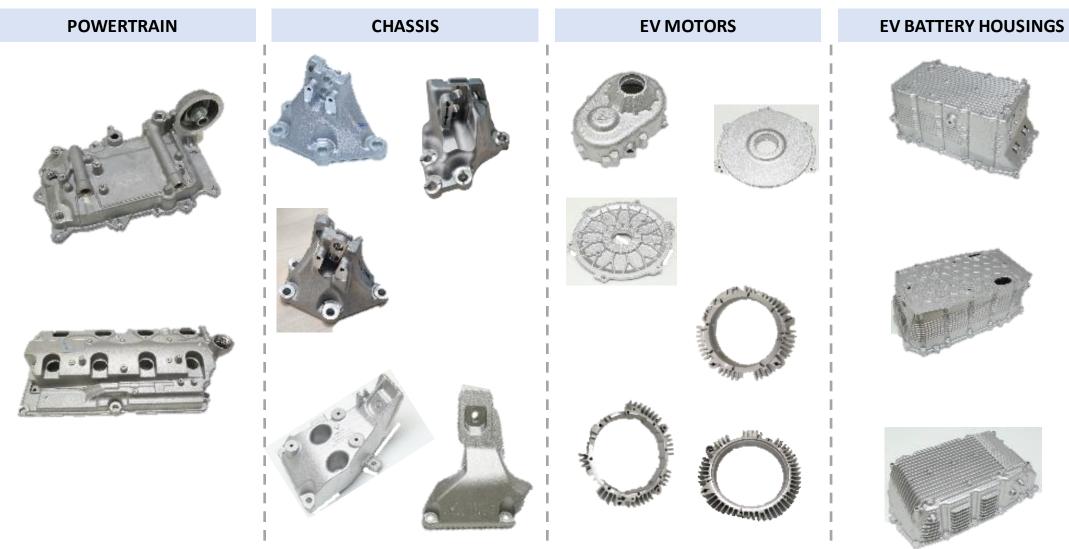
Full System Lightweighting Solution Provider



# **Extensive Product Development Capabilities**

**CLWT** Delivers Key Products in Aluminum Lightweighting

CWLT's mission-critical products are well-diversified across the parts spectrum and position the business to capitalize on the secular shift toward lighter-weight aluminum, as well as electric vehicles more broadly



**CLWT** Designs Mission-Critical Products to Address Lightweighting Needs Across the Vehicle







# **Strategic Investments in Global Footprint**

Meaningful capital has been invested to establish a global footprint to support planned growth; locations strategically placed in close proximity to top customers

#### **GEOGRAPHIC OVERVIEW**



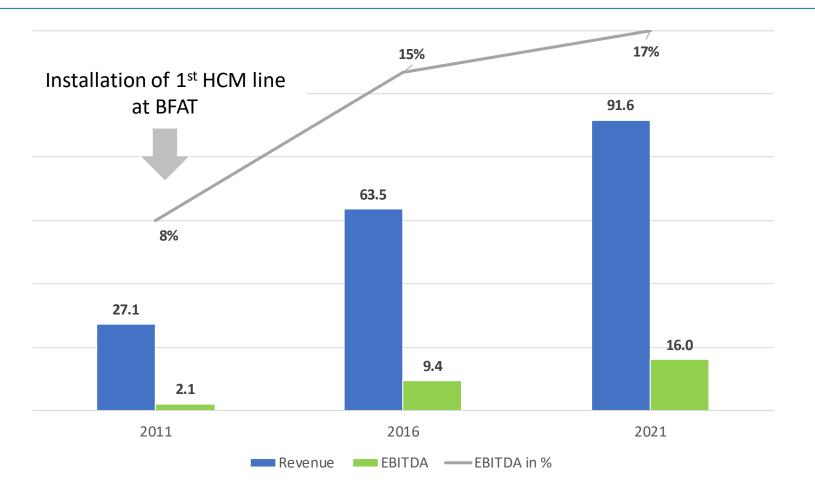


[2019] [Owned]

# **BF Aluminum Strategy – Based on BFAT 10-years Journey**

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

### **BFAT HISTORICAL PERFORMANCE (\$MM)**



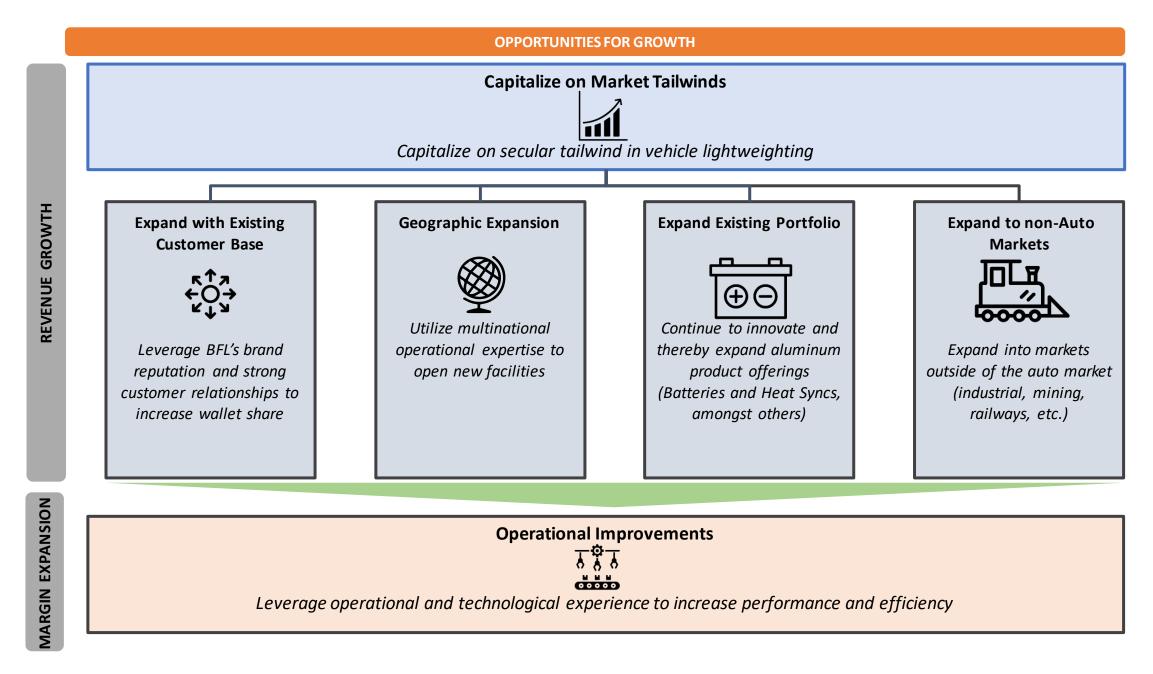
### **Key Messages**

- **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

# **BFAL has Multiple Growth Levers**

BFAL has multiple levers to grow above and beyond what is in the financial forecast



# **BF Aluminum Strategy – BFALUS**

Impressions of the New Plant in Sanford, NC



# **BF Aluminum Strategy – BFALUS**

Impressions of the New Plant in Sanford, NC - HCM Melting Furnaces & Casting Modules incl. Racking



# **BF Aluminum Strategy – BFALUS**

Impressions of the New Plant in Sanford, NC - Forging Line incl. Billet Heating & Heat Treatment, Shot Blasting & Testing & Lab



**BF AT Video** 





# Kalyani Powertrain Limited

# e-Mobility presentation for 2022 BFL Analyst meeting

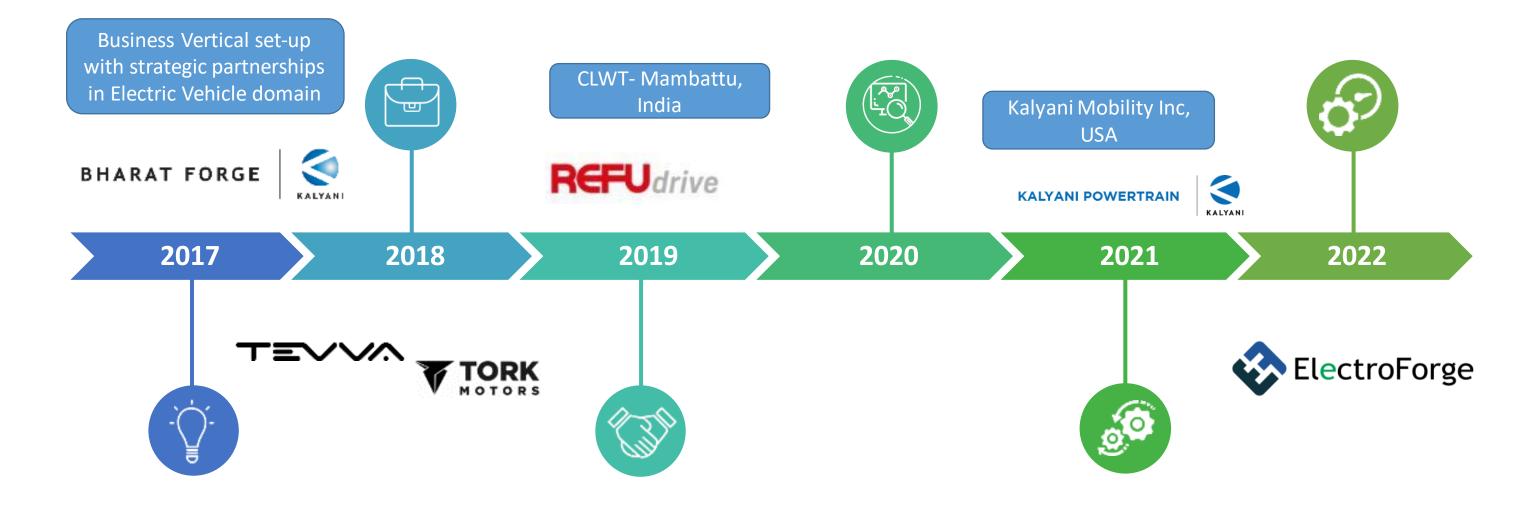
**BFL Analyst meeting** | 09th Dec 2022

#### KALYANI POWERTRA



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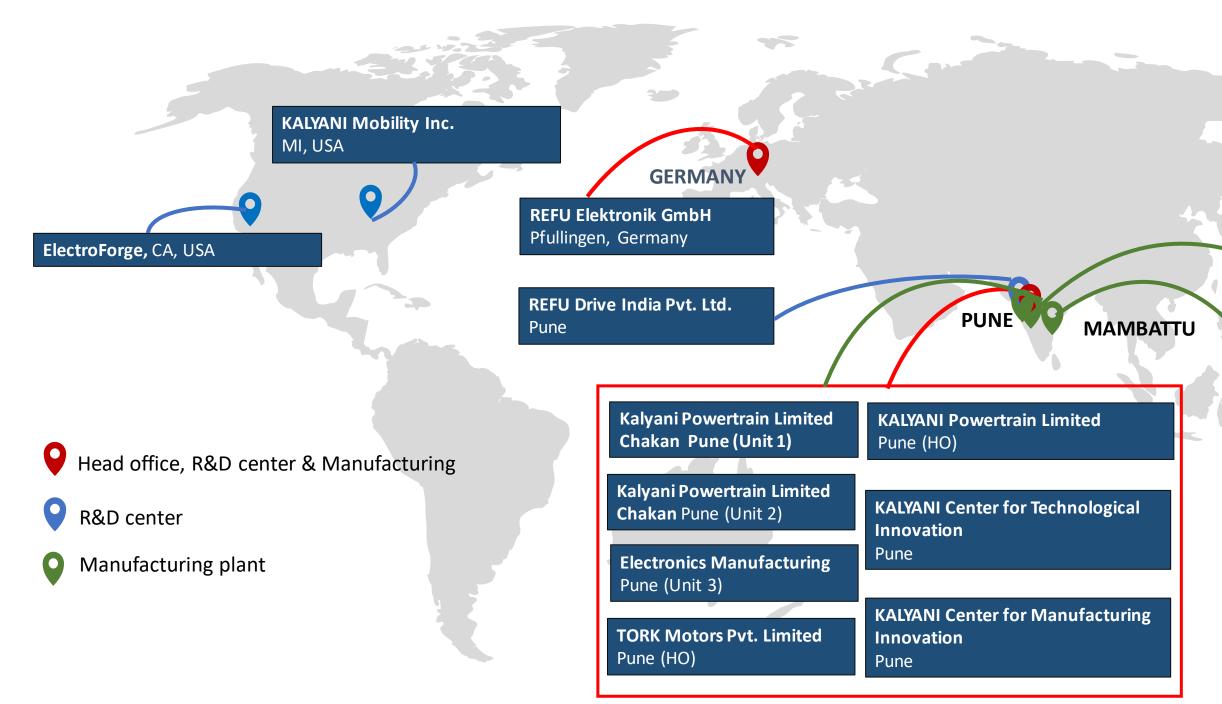
# **Bharat Forge | e-Mobility Journey**



#### KALYANI POWERTRAIN



# **KPTL: e-Mobility Business update Kalyani Powertrain Locations**

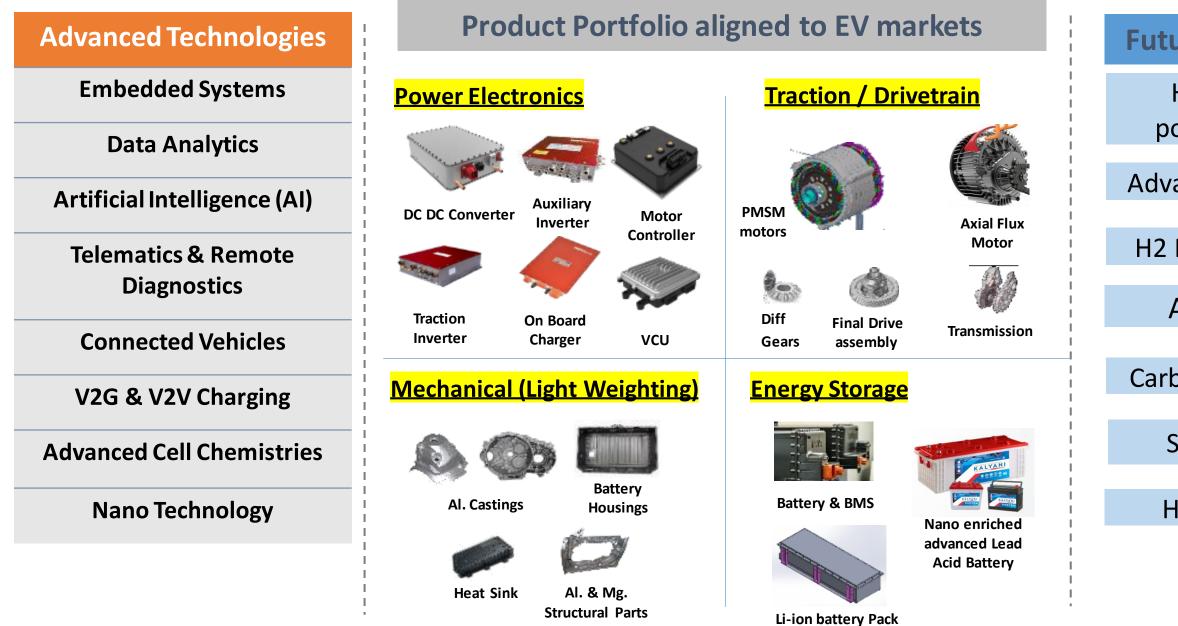




#### ElectroForge Ltd. Pune

Kalyani Centre for Lightweighting Technology Limited Nellore, Andhra Pradesh

# **KPTL: e-Mobility Business update Product Portfolio and Capabilities**





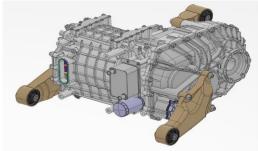
# **Future products (2025)**

- H2 Fuel cell based powertrain solutions
- **Advanced Electric Chassis**
- H2 Fuel Cell Membranes
  - Advanced e-Axle
- **Carbon Fiber Composites** 
  - Sodium ion Battery
  - Hydrogen Cylinders

# **KPTL: e-Mobility Business update Electroforge JV status update**

- JV with Harbinger Motors "ElectroForge" unveiled on 14<sup>th</sup> Sep'22 at Detroit ٠ Auto show
- Electroforge will operate from India for high volume production and ۲ cater to requirements of a) Harbinger for their Skateboard Chassis
  - b) India Domestic Market both OEM & Retrofit
  - c) Global Auto OEMs and new age customers
- ElectroForge products eMotor, EDU
  - For Bus and MHCV segments
    - > Modular design with competitive specifications
  - Product Beta build in progress •
    - > Alpha sample testing completed
  - Motor Mfg. lines design WIP •
    - SOP target Q4 FY23-24
  - JV agreement and product offering definitions in progress •













### EDU / e-Axle

# **KPTL: e-Mobility Business update** Business Verticals



# **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



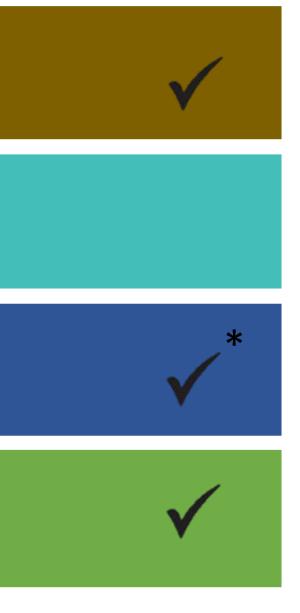
## **Traction Drives, EDU & E-Axles**

In-house development and manufacturing of EV traction drives

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### **PLI Covered**





# **KPTL: e-Mobility Business update** TORK Motors Update

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



**CO-CO** First Experience Centre in Pune

- ✓ **FAME-II certificate** received on 19<sup>th</sup> Oct′22
- Cumulative Mileage covered 619,000 KM  $\checkmark$
- ✓ **No** Field **Complaints**, **Recalls** or **Fires** till date





Unit-1 (contract mfg.): Plant readiness status update



# Manufacturing of :





#### e-Motor Battery pack



## Bike Assembly



# First Micro-factory for e2W & e3W Kits mfg.

Asset Lite model: Chakan – Phase II, Pune

**Plant SOP : Q1 / 2023** 



#### KALYANI POWERTRA



# **KPTL: e-Mobility Business update CV Re-Powering business update**

# STATUS : 6.12.2022

- ✓ 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. **11500+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 comp
- ✓ Service network 5 workshop locations established
- ✓ Program extension for Bus Retro-fitment started

#### KALYANI POWERTRAIN





Unit-2 (CV Re-Powering): Plant readiness status update

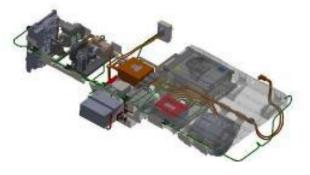


External view of Construction site at Chakan, Pune

✓ CV Repowering Pilot Plant : Chakan Phase II, Pune

- ✓ Capacity : **1000 CV Conversions / Annum**
- ✓ 10 Production bays, 3 Inspection bays
- $\checkmark$  With additional scope for e-CV kitting
- ✓ Plant SOP : **Q1 / 2023**

### **Products:**



e-CV Kit



### **Re-Powered e-Truck**



**Re-Powered e-Bus** 

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Electronic Components business update – Power & Control tgt. products



### **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







Unit-3 (Electronic Components): Plant readiness status update

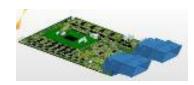


**State of the art Electronic Manufacturing Plant** 

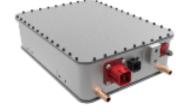
- ✓ **EMS Solution under 1 roof:** SMT, Conformal & Box assy line
- ✓ **SMT Line** from **reputed m/c OEM's** to arrive by Dec'22
- ✓ Chakan Plant: Clean room with ESD protection
- ✓ **Automotive Grade / IEC Qualified** Electronic Products
- Plant SOP : Q1 / 2023  $\checkmark$

### **Products :**

PCB-A for various products; VCU, DC-DC, OBC, Invertors, Motor Controllers, BMS.









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Overall Business Plan "Strong Growth opportunity across segments"

- ✓ Clearly defined Market Go-To strategy, working as per plan
- Growth opportunities in all market segments & EV business verticals
- Market launch confidence via product testing & validation
- ✓ Building team competency & Right sizing to realize the business vision
- ✓ Focused Projects Execution & Volume ramp-Up





# **Investor Presentation – JS Autocast**



# Foundry –SIPCOT Erode

# Machine Shop-Coimbatore





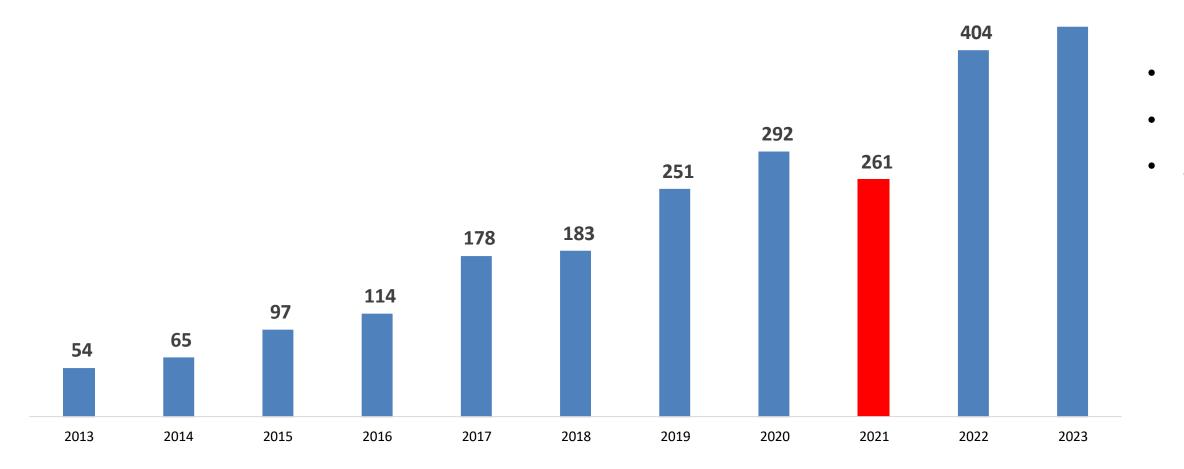


- **18-year-old young company**, initially supplying to the automotive sector.
- Leading manufacturer of high-grade machined ductile iron castings, which find applications in wind energy, hydraulics, automotive and power generation sectors.
- Manufactures machined castings of up to ~400kgs (small size) 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.





Revenue (Rs Crores)





37% CAGR since inception 23% CAGR in the past decade Annual growth in revenues continuously over the past decade barring Covid 21 lockdown.



- Full-service supply capability
- Expertise in manufacturing and handling unique grades and critical components. "We take up what others regret"
- Leader in small sized wind turbine castings
- New product development: First Time Right
- Environment conscious plant with focus on certifications and quality





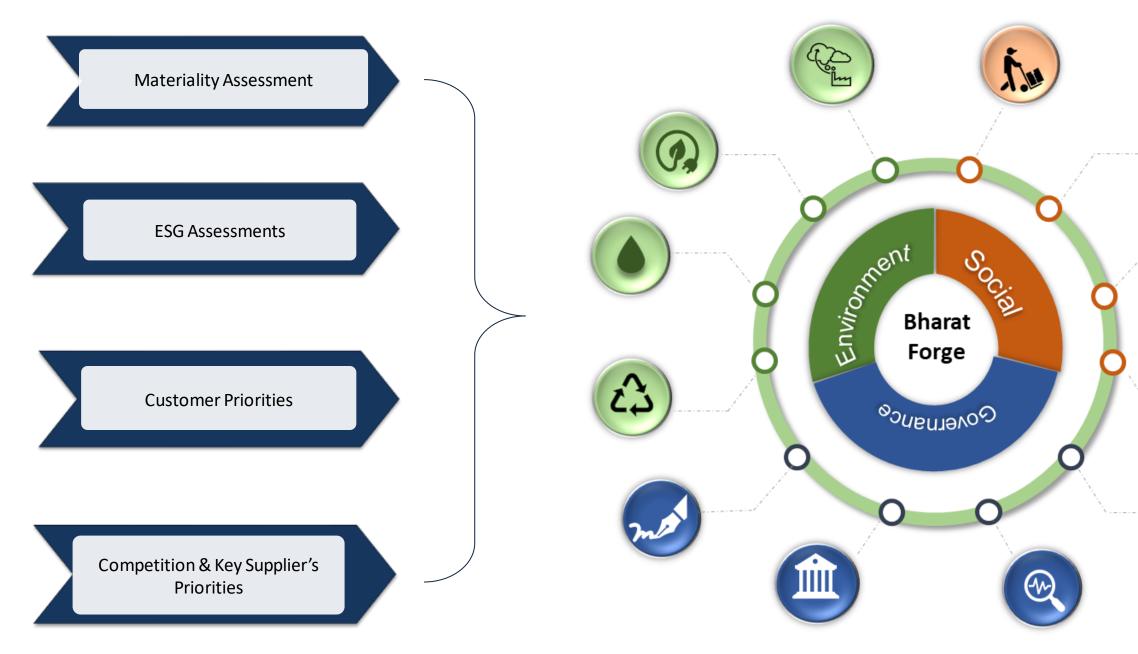
- Growth from Key Existing Customers
- Growth from Newly Acquired Customers
- Growth from Hydraulics, Earthmoving and off-Highway Segments
- Investing in New Technology leveraging KCTI & KCMI facilities
- Green Castings using 100% Renewable Energy
- Expand product portfolio across small & medium castings





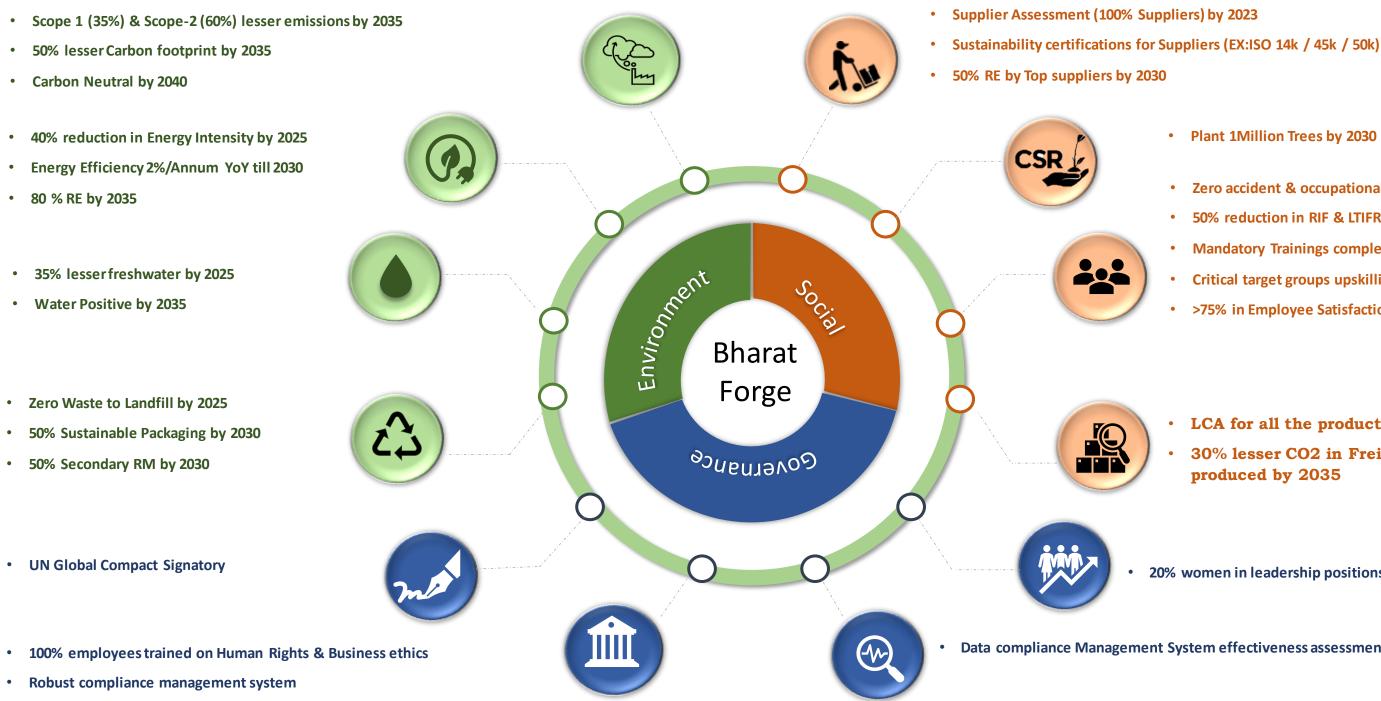
# **Investor Presentation – ESG**

# **BFL ESG & Sustainability Framework – Approach adopted**









#### BHARAT FORGE

• Plant 1Million Trees by 2030

• Zero accident & occupational illness 50% reduction in RIF & LTIFR by 2023 Mandatory Trainings completion by 2023 Critical target groups upskilling by 2025 >75% in Employee Satisfaction by 2025

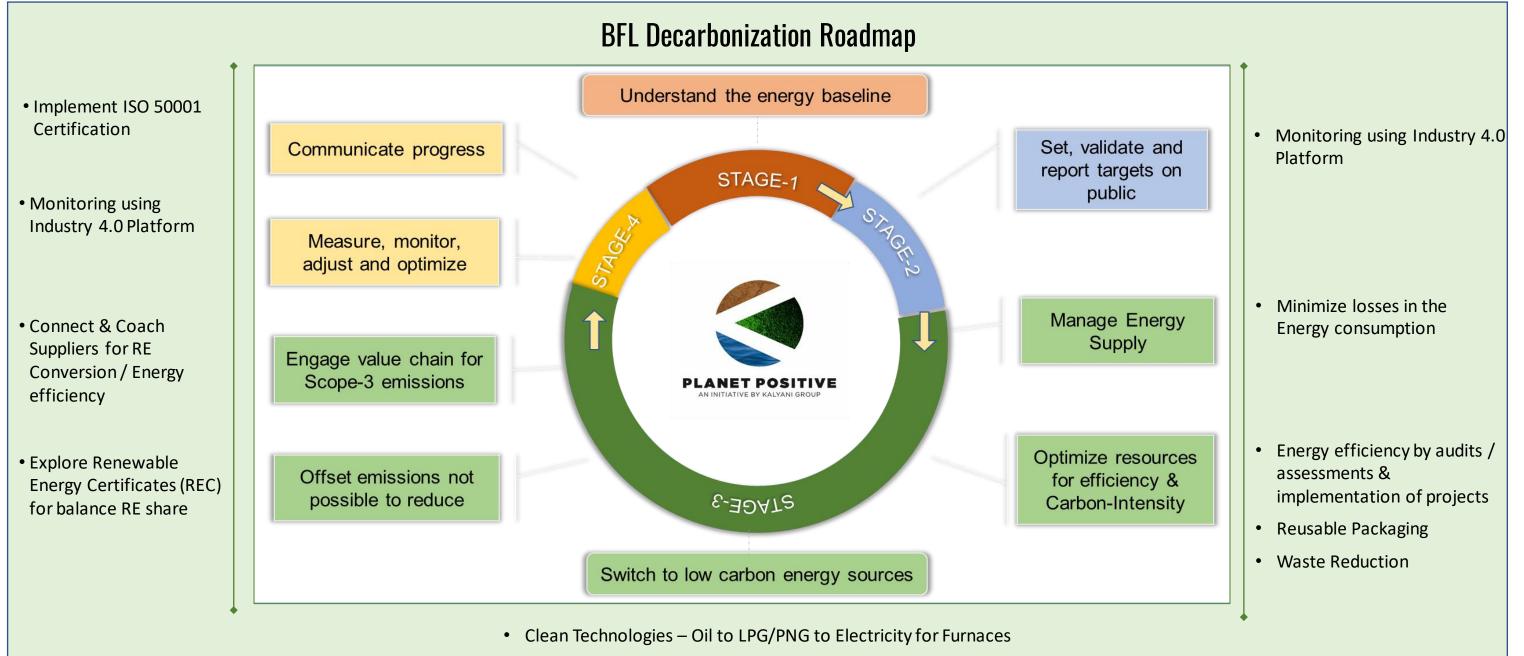
LCA for all the products by 2025 30% lesser CO2 in Freight / Unit produced by 2035

20% women in leadership positions by 2030

Data compliance Management System effectiveness assessment by 2023

\* 2019 is considered as Baseline

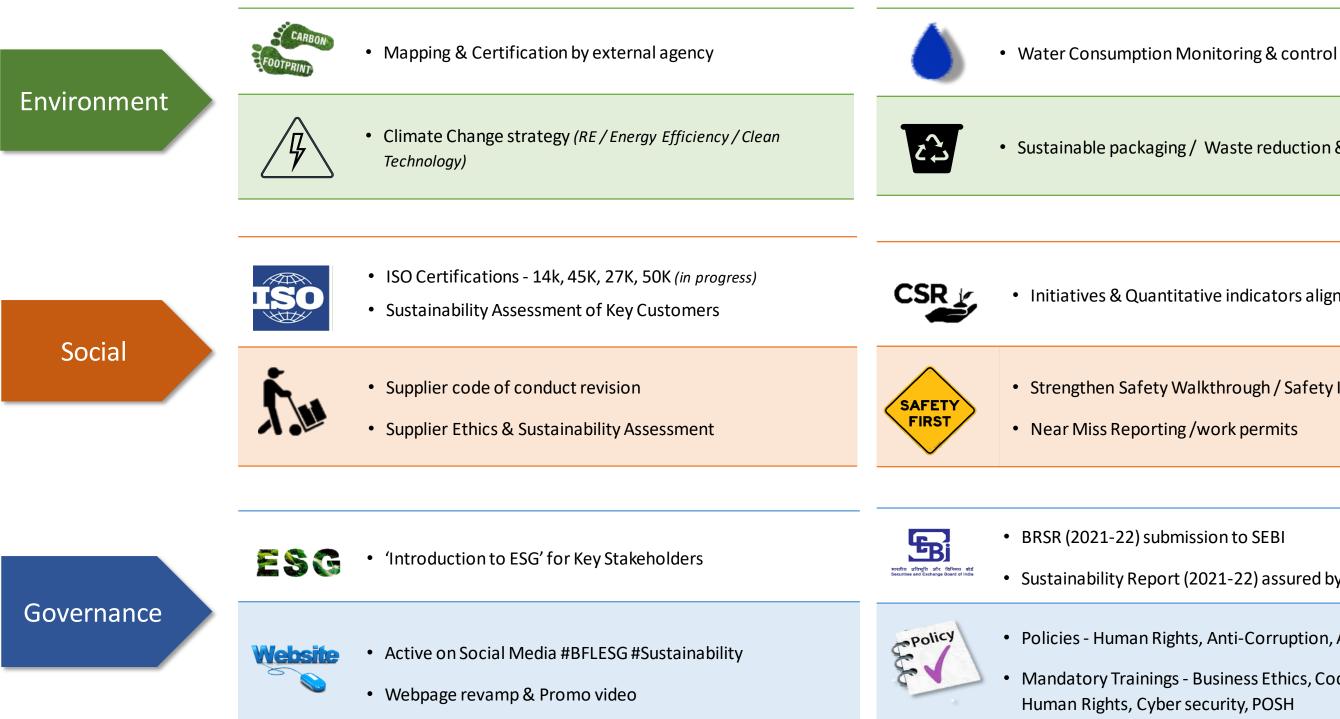




- Renewable Energy through Group Captive / Open Access
- Conversion of systems Fork-lifts (EV)

# **BFL ESG & Sustainability – Key Initiatives**

KALYANI



#### **BHARAT FORGE**

#### • Sustainable packaging / Waste reduction & recycling

• Initiatives & Quantitative indicators aligned with ESG

• Strengthen Safety Walkthrough / Safety Induction

• Sustainability Report (2021-22) assured by 3rd Party

Policies - Human Rights, Anti-Corruption, Anti-Bribery, Taxation

• Mandatory Trainings - Business Ethics, Code of conduct,

# **BFL ESG & Sustainability – Planet Positive Initiative**





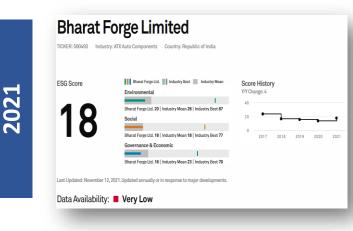
### Sustainability Report – 2021-2022

### BFL – ESG Webpage

70







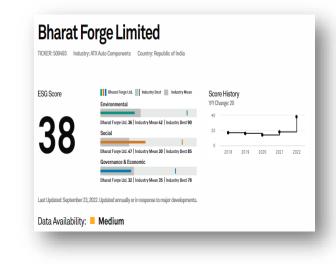


# ecovadis

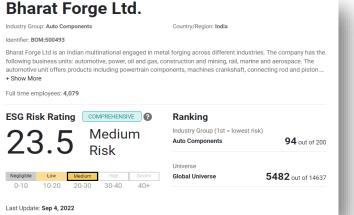
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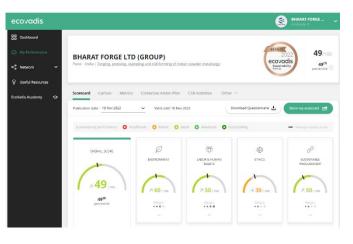
#### **Bharat Forge Ltd.** Industry Group: Auto Components Country/Region: India Identifier: BOM:500493 Bharat Forge Ltd is an Indian multinational engaged in metal forging across different industries. The company has the following business units: automotive, power, oil and gas, construction & mining, rail, marine and aerospace. The automotive unit offers products including powertrain components, machines crankshaft, connecting rod and piston. + Show More Full time employees: 4,892 ESG Risk Rating COMPREHENSIVE Ranking Industry Group (1st = lowest risk) 29.4 Medium Auto Components 168 out of 211 Risk Universe 8697 out of 15114 Negligible Low Medium High Global Universe Last Update: Dec 8, 2021

			۷	BHARAT FORGE Arularasu K
BHARAT FORGE L	TD (GROUP) stamping and roll-forming of mer	al: powder metallurgy		<b>37</b> /10 22 <sup>nd</sup> percentile
Scorecard Carbon Met	rics Corrective Action Plan	CSR Activities Other		
Publication date: 25 May 2021	Valid until: 0 25 M	Aay 2022 Do	wnlead Questionnaire 🛓	Share my scorecard 🖻
Sustainability performance	Insufficient O Partial O G	ood O Advanced O Outs	tanding	Average industry score
OVERALL SCORE	ø	<del>(</del> )	aţa	P
	EWIRONMENT	LABOR & HUMAN RESHTS	ETHICS	SUSTAINABLE PROCUREMENT
× 37/100	→ 50/100	→ 40/100	→ 30 / 100	2 20
22nd percentile	Weight	Weight	Weight	Weight



2022







- Wa Clin

### BHARAT FORGE





Response	<u>Year</u> ∨	<u>Status</u>	Score
Climate Change 2021	2021	No Response	F
Water Security 2021	2021	No Response	F
Climate Change 2020	2020	No Response	F
Water Security 2020	2020	No Response	F

### **Results Awaited**

## BFL ESG & Sustainability - Goals & Priorities – 2022-2023 KALYANI

Environment

- Energy (Electrical) reduction by 2% YoY vs 2019 Baseline (260GWh) -5.2 GWh Reduction
- Renewable Energy 50% in 2023 (PPA in place)
- Water (freshwater) 15% against 2019 BL (7.7 Lakh KL) 1.15 Lakh KL
- Specific Waste 15% reduction vs 2019 BL (0.43) 0.37 / MT Prod.
- ISO 50001 Energy Management System Certification Mar 2023



- Carbon Footprint Mapping & 3<sup>rd</sup> Party Va
- PCF & LCA for Key Products (Green For
- Validation of Climate strategy by SBTi
- Focus on Sustainable packaging

### Social

- Supplier Ethics & Sustainability Assessment 161 Critical suppliers
- Accident & Occupational Illness Zero
- Mandatory Trainings completion For all employees
- Critical target group upskilling 35%
- Employee Satisfaction survey Completion for 2022-23
- Tree Plantation 1 Lakh Trees

### Governance

- 'Introduction to ESG' For all Key Stakeholders
- BFL Sustainability Initiatives promotion Among all stakeholders
- Data compliance management system effectiveness Assessment
- Memberships UNGC, SBTi, ASI, FMC



- Integration of ESG into CSR Projects
- Enhancement of Safety culture among v
- ESG in Product Design & Supplier / Cor
- Policies–Sustainability, Energy, Bio-Dive
- Remain active in Social Media #BFLES



- Improve BFL ESG Scores in DJSI / MSCI / CDP / Sustainalytics
- ESG Led Marketing
- · Carbon credits trading
- Strengthen Risk Management process
- · Regular communication to all stakeholders including customers

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ersity, Deforestation, D&I	
G #Sustainability	,

# BHARAT FORGE



# **COMPONENTS BUSINESS**

Analyst Meet: 9<sup>th</sup> Dec, 2022

73





50+ years

Manufacturing Experience

# **30+ years**

Exporting Experience

of Revenue shipped as Finish Machined

# **Materials**

Highly Engineered Steel, Aluminum, Titanium







**Trusted** 







#### BHARAT FORGE

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









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

✓ Drive 2.7 Mln+ new PVs annually

Orive 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**

All CV OEMS' (except China)



## **Passenger Vehicles**

All leading PV OEMS' including some **E-Vehicles** 



#### BHARAT FORGE



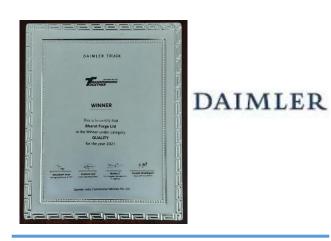
# **Industrial Segments**

## Major OEMS' across indicated segments





Global Supplier of the Year



Quality for the Year



Supplier of the Year

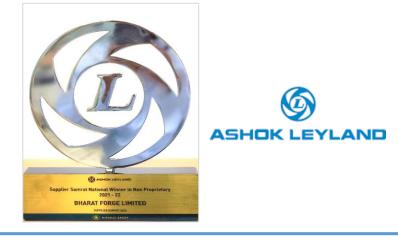


Sustainability Initiatives Lead



JOHN DEERE

Partner level performance



#### BHARAT FORGE





### **Performance Leader**

### Business alignment – Gold





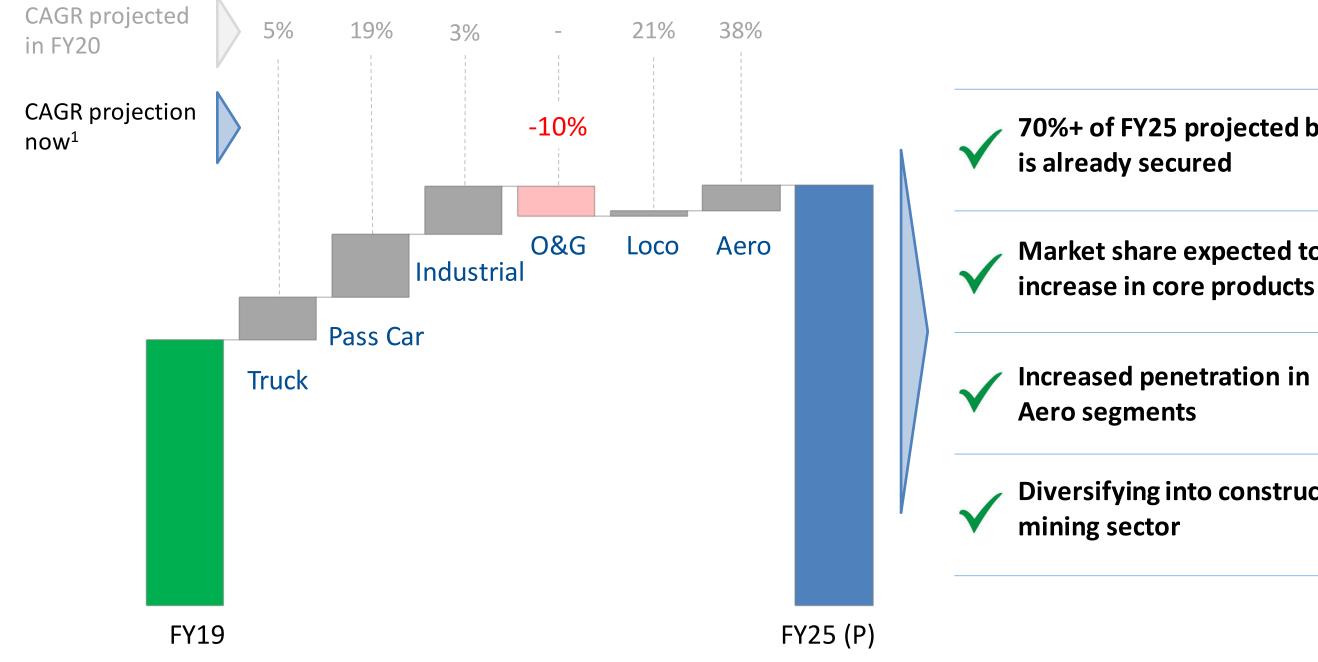
# **STRONG FOCUS ON EXECUTION, DESPITE ADVERSITY**

**BFL 2.0 WILL BE THE KEY ENABLER** 









1. Basis current TIV projections for FY25

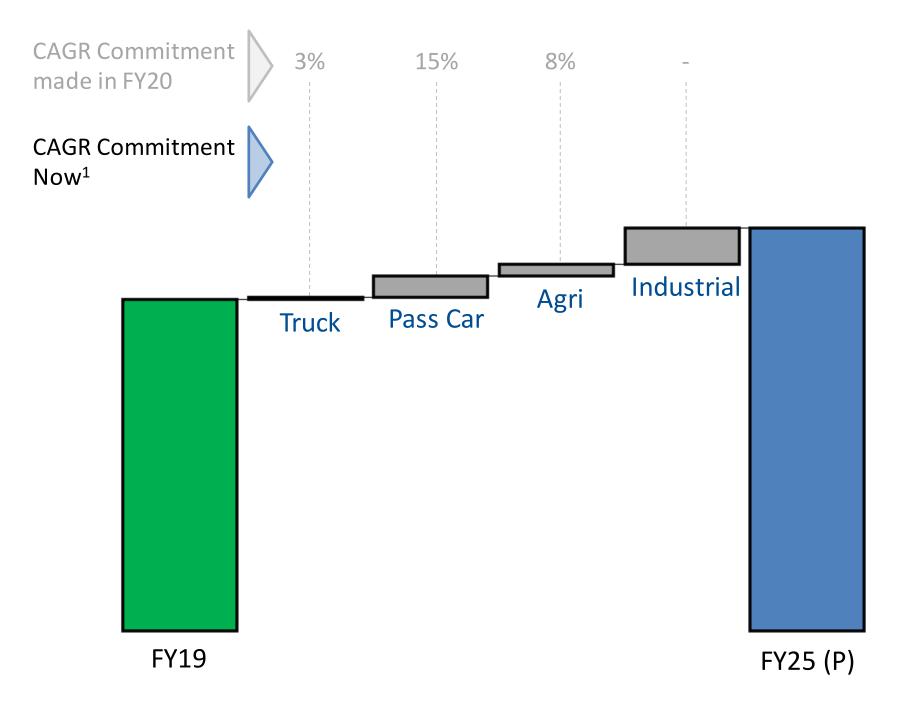
# 70%+ of FY25 projected business

# Market share expected to further

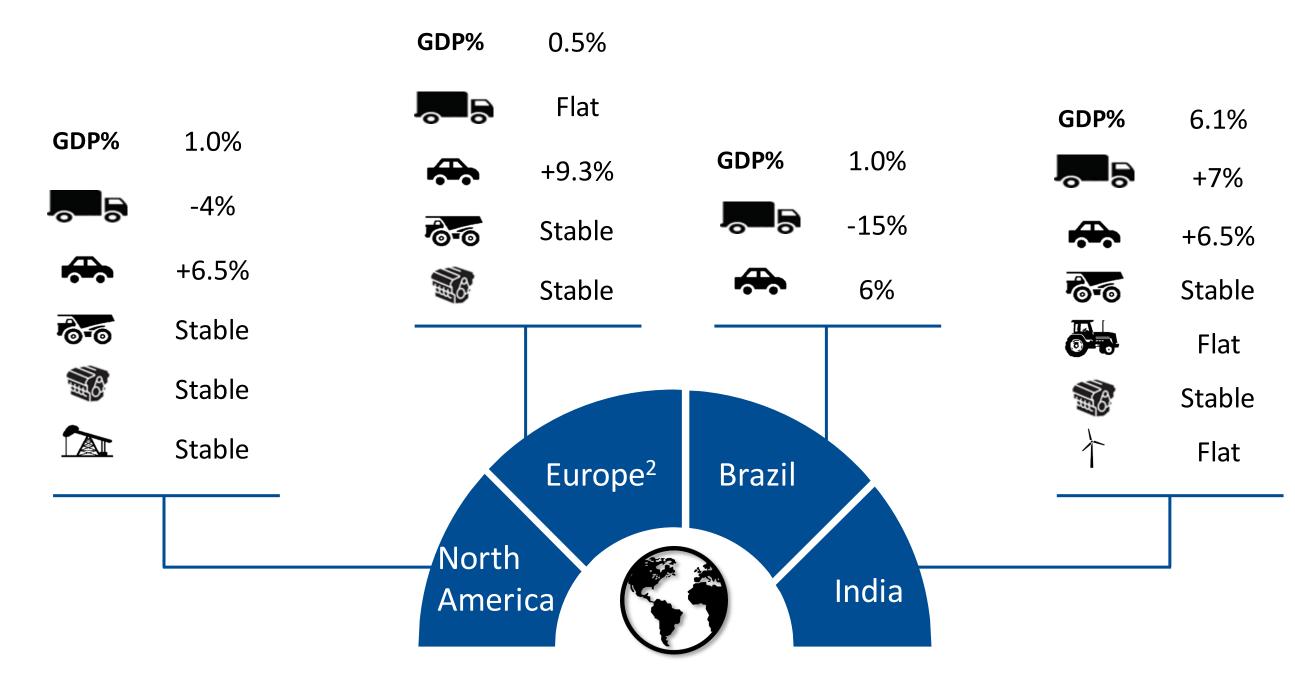
# Increased penetration in PV and

# **Diversifying into construction &**









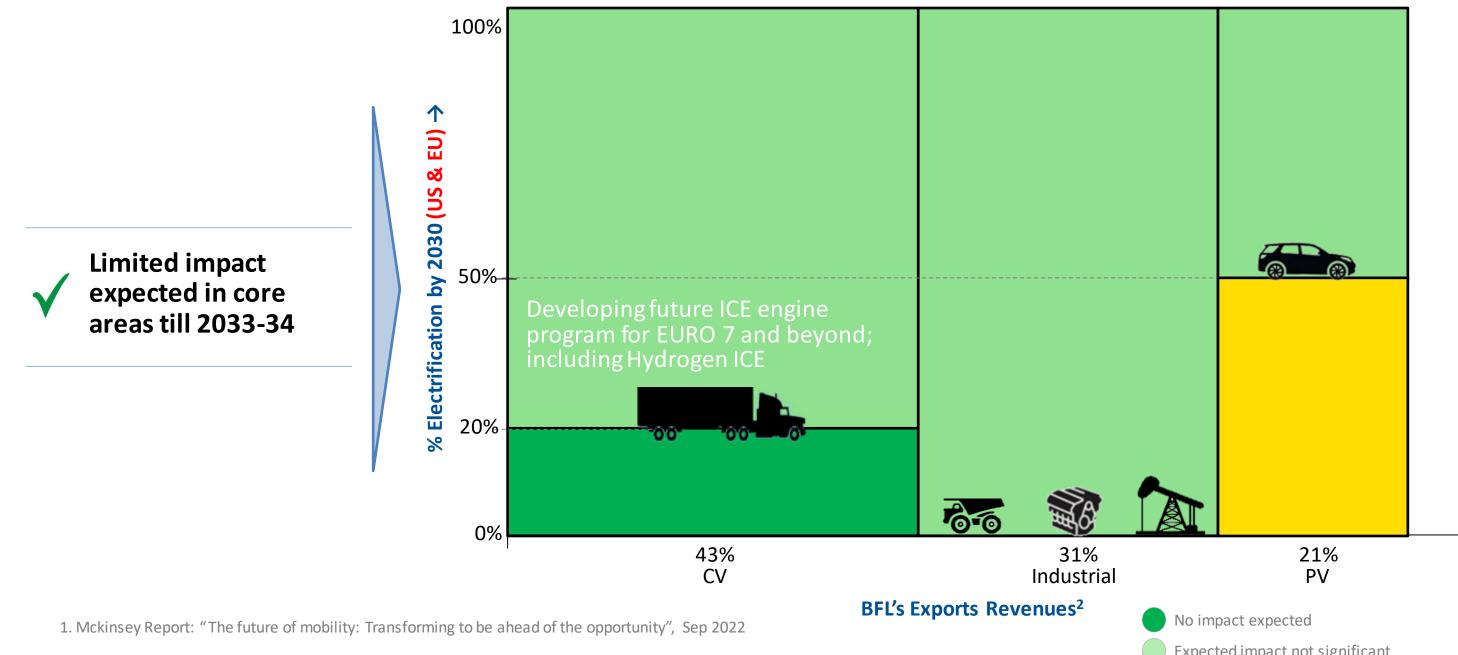
1. Sources: Reports by IMF ACT, AFS, ACEA, SIAM and internal projections basis discussions with customers

2. Europe numbers are expected to have significant uncertainty

#### BHARAT FORGE

FY23 Vs FY22 for India CY23 Vs CY22 for Rest of world

## **Our Playground – Exports: Technology Transition** KALYANI

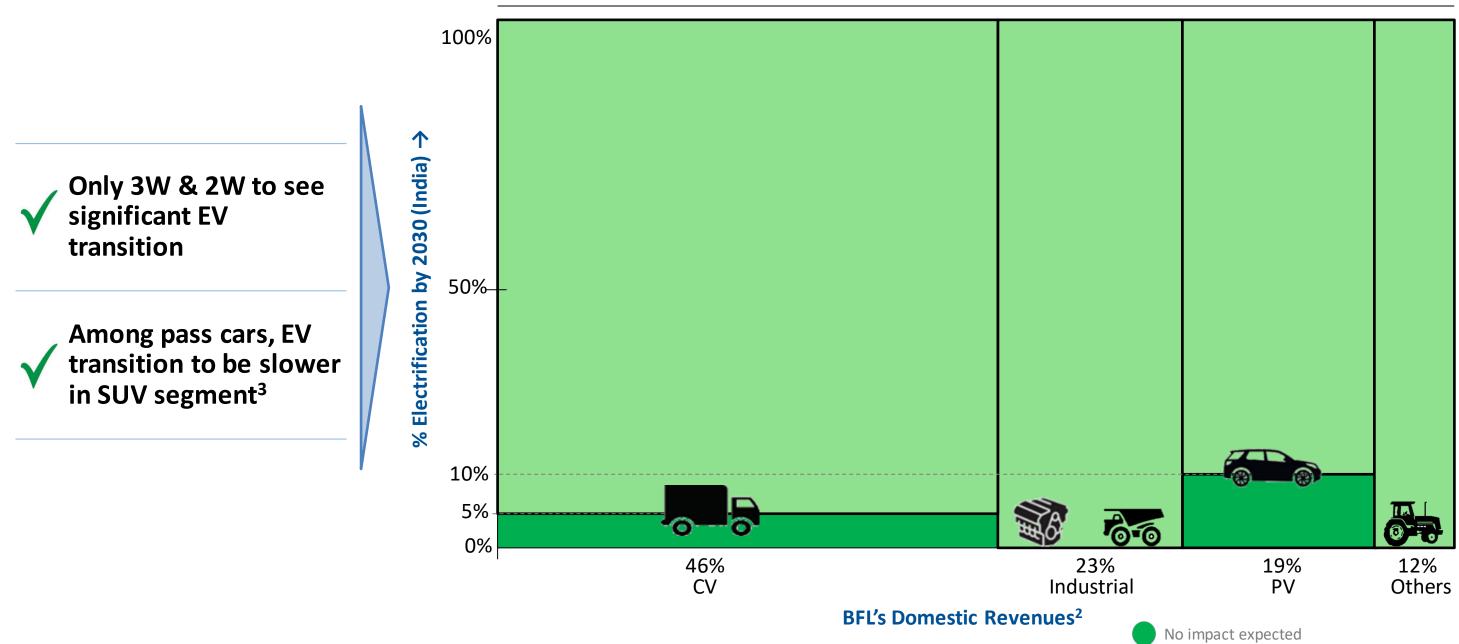


### **2030** View: Expected penetration of Electrification<sup>1</sup>

2. Basis FY23 H1 revenue mix (Components BU); others contribute 5% to revenue 3. BFL assessment, basis Platform-level discussions with customers

- Expected impact not significant
- Expected impact significant

## **Our Playground – Domestic: Technology Transition** KALYANI



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

1. Mckinsey Report: "The future of mobility: Transforming to be ahead of the opportunity", Sep 2022

a second de sis Districtions de sel alla

- Expected impact not significant
- Expected impact significant



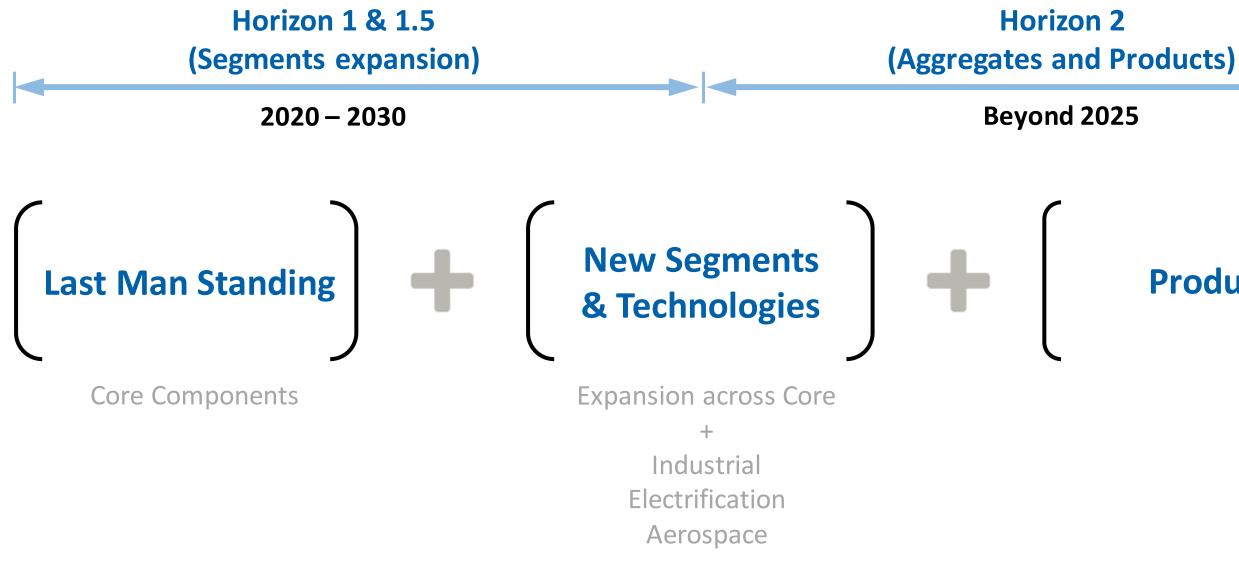
20X growth expected in Indian Auto Components Industry, including CV Auto industry expected to be \$2 Trillion, with 30% Exports **6X growth expected in PV volumes** 

Significant industrial growth expected, driven by infra growth in India and **China+1 localization** 

BFL will aim to maximize the growth

1. Basis presentations made during DPIIT (Ministry of Commerce and Industry) event on "Paradigm Shift in Manufacturing in India @100", Mar 2022



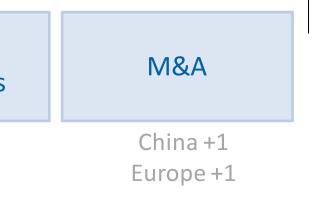




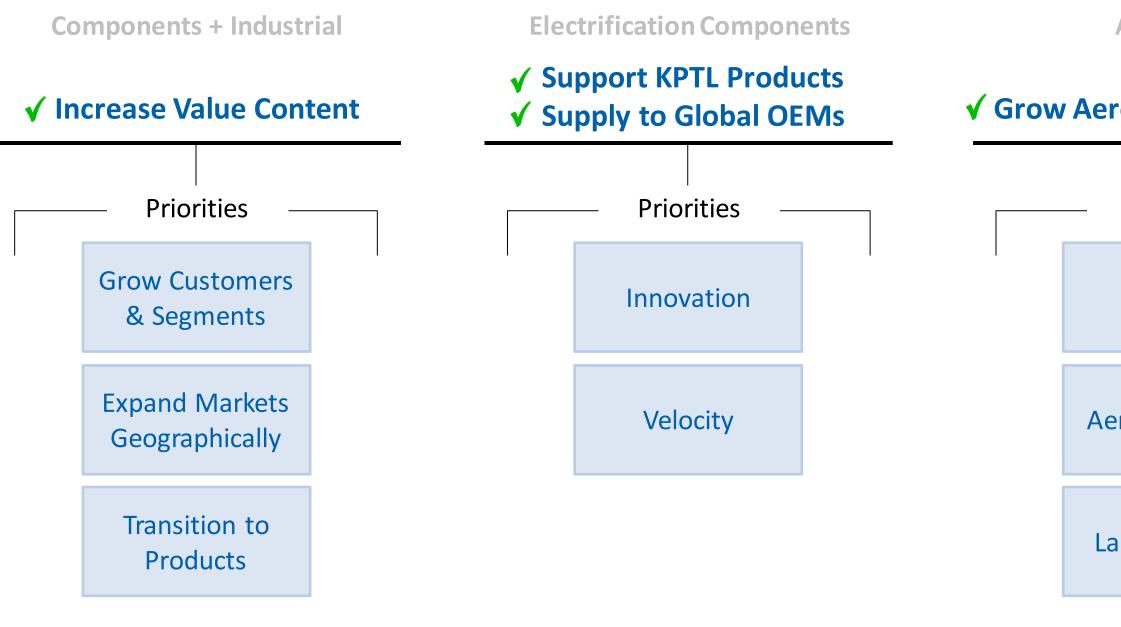
# **Products**



<ul> <li>Maximize Asset Utilization</li> <li>Quantum Increase in Productivity</li> <li>Operate at Leanest Cost</li> <li>High Focus on Market Share</li> <li>Consolidation via M&amp;A</li> </ul>				
LTAs till 2035	Alignment with Customer Strategy	Future Programs awarded in CV, PV	Global Expansion	Customer Partnerships
		Future ICE Hydrogen ICE	USMCA	





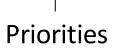


## **BFL 2.0 WILL BE THE KEY ENABLER**

#### BHARAT FORGE

## Aerospace

## **√** Grow Aerospace Components



Engines

**Aero Structures** 

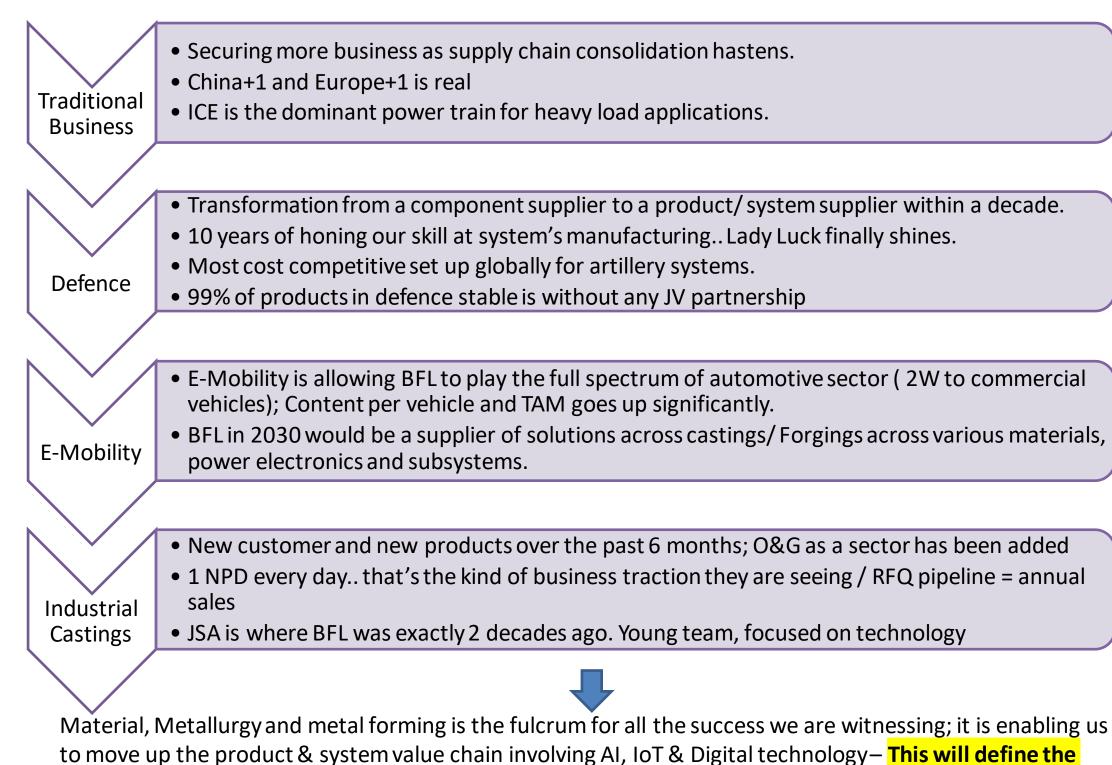
Landing Gears



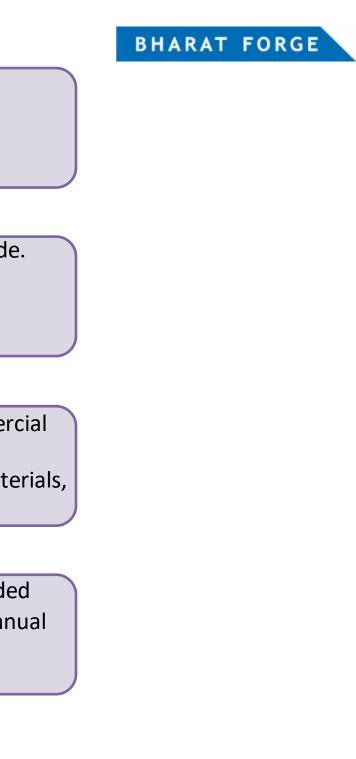
# Vision 2030: Capability Driven Strategy



# Salient features of BFL 2.0



future of manufacturing





# Salient features of BFL 2.0





Vision 2030: Capability Driven Strategy

