#### **EVOLVING LANDSCAPE**

# Adapting to a changing world

The global mobility ecosystem is undergoing a profound transformation. Driven by sustainability imperatives, digital convergence, and shifting customer expectations, the role of automotive and mobility technology companies is expanding rapidly.

At Sona Comstar, we are continually adapting while leading this change. Grounded in our EPIC philosophy, we are redefining the future of mobility across four interconnected dimensions:



#### **Electric**

Ultra-fast charging technology is transforming EVs, with some models charging in just 5 minutes. The sharp drop in battery prices, coupled with innovations in battery chemistry and economies of scale, is driving costs down further. As a result, EVs are expected to achieve price parity with internal combustion engine (ICE) vehicles by 2030 in all major markets. This, along with the push for zero-emission vehicles and growing policy support, is accelerating the transition to electric mobility.



#### **Personalised**

Modern consumers demand customised mobility experiences. From in-cabin sensors to digitally enhanced safety features, the shift toward tailored, user-centric systems is well underway.



#### Intelligent

Vehicles are evolving

into rolling computers. The number of lines of code in cars has grown exponentially over the past decade from around 10 million lines in 2010 to over 100 million today, with projections suggesting up to 300 - 500 million lines in next-generation autonomous and connected vehicles. This shift demands that mechanical components be embedded with software and intelligence.



#### Connected

Connectivity is creating new mobility experiences and business models. From vehicle-to-infrastructure (V2X) communication to cloud-integrated diagnostics, connected mobility is unlocking predictive, data-rich ecosystems.



## Electrification

Electrification continues to be the most transformative force in mobility. We were early believers in this shift, and today, it defines how we innovate, where we invest, and who we partner with. As the world accelerates toward cleaner transport, we are positioned not just as participants but as enablers of this change.



The global movement toward decarbonisation has reached an inflection point. With falling battery costs, supportive regulations, and rising environmental urgency, the shift to electric vehicles (EVs) is no longer linear; it's exponential. Battery prices have dropped significantly from around \$ 180-190 per kWh in the early 2010s to \$ 90–100 per kWh today and are expected to reach \$ 70-80 per kWh in the coming years. Governments are doubling down on zero-emission targets, and OEMs are rapidly expanding their EV portfolios across passenger, commercial, and off-highway segments.

At Sona Comstar, electrification acts as a roadmap, one that we have been following for nearly a decade. FY 2024-25 marked another step forward: 36% of our revenue now comes from battery electric vehicles, and 77% of our INR 242 billion order book is EV-focused. Our solutions now span the full electrified powertrain including traction motors, inverters, differential assemblies, and reduction gears serving leading EV platforms across global markets.

Beyond the road, our vision for clean mobility includes India's largest and most sustainable mode of transport: railways. With the acquisition of Escorts Kubota's Railway Equipment Division, we will be expanding our electrification expertise into new categories, offering system-critical solutions for mass transit systems that align with our sustainability-first strategy.

As powertrains evolve, our role evolves too, from a component maker to a comprehensive electrification partner. Whether it's enabling EVs, e-buses, e-planes, or electric rails, we are helping the world move cleaner, faster, and smarter.

**EV Customers** 

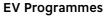
in orderbook

(%)







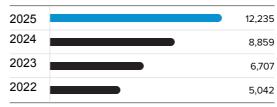






#### **BEV** segment revenue

#### 12,235



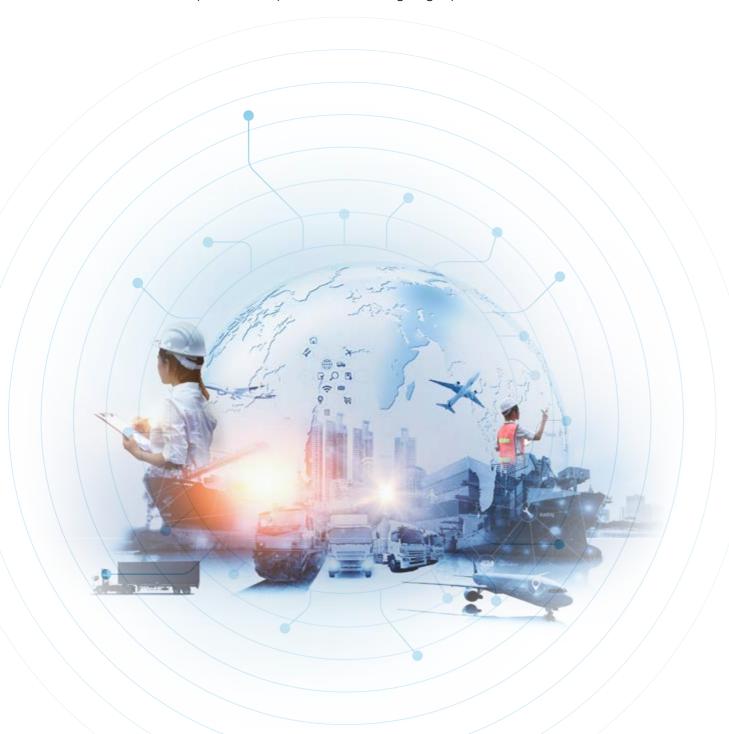


(INR mn)

47

## Increasing market share

Our market share story is rooted in trust built over decades through engineering excellence, global reach, and a deep understanding of customer needs. As the mobility ecosystem evolves, our commitment to innovation continues to earn us a stronger presence across products, platforms, and geographies.



With a presence across India, the USA, Mexico, Europe, and China we are strategically positioned to serve global OEMs at scale. Our integrated manufacturing and R&D capabilities have made us a preferred partner for new platforms as well as for long-term, repeat business across key product families.

We have maintained global leadership in differential gears and starter motors and expanded our presence in differential assemblies, reduction gears, and traction motors. Our market share continues to grow as

we deepen customer relationships and deliver differentiated, high-value solutions.

Our INR 242 billion order book reflects the growing trust of over 60 OEMs and Tier-1 suppliers worldwide across segments as diverse as PVs, 2W/3Ws, CVs, OHVs, and now, railways.

Whether it's through product leadership, localisation, or co-development capabilities, we are expanding our market share by entering into more programmes and becoming integral to our customers' innovation journey.

#### **Suppliers to major** global OEMs

INR 47 bn

Worth of new orders added in FY25

Programmes won in FY25

New customers added in FY25

Of the world's

top-10 PV OEMs

Of the world's top-10 tractor OEMs

Of the world's top-10 CV OEMs Of the world's top-10 EV OEMs

#### Our orderbook

77%

Share of EV in Net Order Book

INR 242 bn

Of the India's

top-10 EV

OEMs

two-wheeler

Net Order Book

Global market share of differential gears



Global market share of starter motors

(%)



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## Diversification

Diversification has been our way of building resilience and discovering new growth. By expanding across products, platforms, and geographies, we are reducing concentration risks while creating new opportunities in emerging mobility ecosystems.



Our diversification strategy balances immediate stability with long-term growth opportunities. While our foundation is built on driveline components and starter motors, our current focus has expanded to encompass electric powertrains, embedded systems, and now, non-automotive mobility.

The acquisition of the Railway Equipment Division marks our entry into a new sector that aligns with our vision for clean mobility. Railways, recognised as the most environmentally sustainable mode of mass transport, offer a significant, high-barrier opportunity and represent a bold step towards our goal of serving 'everything that moves'.

We have strategically diversified our global presence. While North America and Europe remain essential markets, we are deepening our footprint in the Eastern world, including India, China, and other Asian markets, to effectively serve global OEMs with regional agility. Our transition from single components to multi-product systems - such as integrated motor controllers and radar-enabled sensors - reflects this shift in capability and revenue.

Our reliance on traditional internal combustion engine (ICE) vehicles has steadily decreased, dropping from 18% in FY22 to 9% in FY25. As our dependence on ICE vehicles continues to decline, we remain committed to building a balanced, future-ready portfolio that thrives across different cycles, categories, and continents.

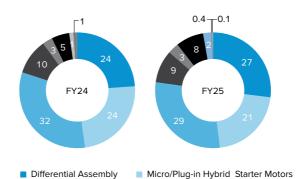
#### Our optimised portfolio

#### **Product Revenue mix** by Powertrain



■ Battery EV ■ Micro-hybrid/Hybrid ■ Powersource neutral
■ ICE dependant

#### Revenue mix by product



■ Conventional Starter Motors

Differential Gears

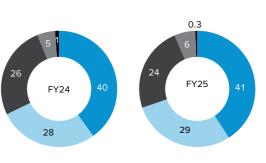
Others Drivetrain Parts ■ Sensors and Software
■ Suspension Motor

Others

■ Traction Motors & Controllers

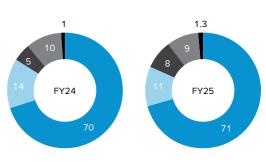
#### Revenue mix by Geography





■ North America ■ India ■ Europe ■ Asia ■ Rest of the World

#### Revenue mix by Market Segment



■ PV ■ CV ■ E2W/E3W ■ Non-automotive

■ Semiconductors & Embedded SW

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#### **GROUP CTO MESSAGE**

# From products to possibilities



Praveen Chakrapani Rao Group Chief Technology Officer

#### Dear Shareholders,

During FY 2024-25, we marked a significant milestone by making a grand entry into CES – the Consumer Electronics Show in Las Vegas, the world's largest and most influential technology event. This global stage vividly demonstrated the rapid evolution of mobility technology and the opportunities that lie ahead.

While consumer electronics remained a key highlight, what truly captured attention was the revolution in mobility: electrification across virtually every mode of transport, the accelerating promise of autonomous vehicles, and the rise of humanoid robots. These humanoids, once confined to science fiction, are now being heralded as the next big leap—poised to transform automation across consumer, industrial, and even household and eldercare services.

In alignment with our vision – to be the most respected and valuable mobility technology company, we have begun to look beyond the traditional boundaries of the automotive sector. This is not just about expanding into adjacent products and markets; it's about stepping boldly into transformative spaces that will redefine how the world moves.

As we venture deeper into these domains, it has become clear how much time and effort it takes to bring new products to life. There is a need to streamline and strengthen our innovation process. This led us to take a closer look at our approach to technology forecasting, technology scouting and specifically the process of technology development and infusion. A common thread emerged; the need for a unified and structured system to evaluate and monitor progress across product lines. After extensive research and careful evaluation, we adopted the Technology Readiness Level (TRL) framework, which is a well-established methodology for representing technology's progress through three phases - Research (TRL 1-3), Development (TRL 4-6), and Deployment (TRL 7-9). This has brought about uniformity in representation across diverse product lines as well as within individual product lines.

TRL	Definition	Hardware	Software	Exit criteria		
Research						
1	Basic principles observed and reported.	Scientific knowledge generated underpinning hardware technology concepts/applications.	Scientific knowledge generated underpinning basic properties of software architecture and mathematical formulations.	Peer reviewed publication of research underlying the proposed concept/application		
2	Technology concept and/or application formulated.	Invention begins, practical application is identified but is speculative, no experimental proof or detailed analysis is available to support the conjecture.	Practical application is identified but is speculative, no experimental proof or detailed analysis is available to support the conjecture. Basic properties of algorithms, representations and concepts defined. Basic principles coded. Experiments performed with synthetic data.	Documented description of the application/concept that addresses feasibility and benefit.		
3	Analytical and experimental critical function and/or characteristic proof of concept.	Analytical studies place the technology in an appropriate context and laboratory demonstrations, modelling and simulation validate analytical prediction.	Development of limited functionality to validate critical properties and predictions using non-integrated software components.	Documented analytical/ experimental results validating predictions of key parameters.		
Development						
4	Component and/ or breadboard validation in laboratory environment.	A low fidelity system/ component breadboard is built and operated to demonstrate basic functionality and critical test environments, and associated performance predictions are defined relative to the final operating environment.	Key, functionally critical software components are integrated, and functionally validated, to establish interoperability and begin architecture development. Relevant environments defined and performance in this environment predicted.	Documented test performance demonstrating agreement with analytical predictions. Documented definition of relevant environment.		
5	Component and/ or breadboard validation in relevant environment.	A medium fidelity system/ component brassboard is built and operated to demonstrate overall performance in a simulated operational environment with realistic support elements that demonstrates overall performance in critical areas. Performance predictions are made for subsequent development phases.	End-to-end software elements implemented and interfaced with existing systems/simulations confirming to target environment. End-to-end software system, tested in relevant environment, meeting predicted performance. Operational environment performance predicted. Prototype implementations developed.	Documented test performance demonstrating agreement with analytical predictions. Documented definition of scaling requirements.		
6	System/sub-system model or prototype demonstration in an operational environment.	A high fidelity system/ component prototype that adequately addresses all critical scaling issues is built and operated in a relevant environment to demonstrate operations under critical environmental conditions.	Prototype implementations of the software demonstrated on full-scale realistic problems. Partially integrate with existing hardware/software systems. Limited documentation available. Engineering feasibility fully demonstrated.	Documented test performance demonstrating agreement with analytical predictions.		
Deplo	yment					
7	System prototype demonstration in an operational environment.	A high fidelity engineering unit that adequately addresses all critical scaling issues is built and operated in a relevant environment to demonstrate performance in the actual operational environment and platform.	Prototype software exists having all key functionality available for demonstration and test. Well integrated with operational hardware/software systems demonstrating operational feasibility. Most software bugs removed. Limited documentation available.	Documented test performance demonstrating agreement with analytical predictions.		

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#### **GROUP CTO MESSAGE**

TRL	Definition	Hardware	Software	Exit criteria
8	Actual system completed and 'flight qualified' through test and demonstration.	The final product in its final configuration is successfully demonstrated through test and analysis for its intended operational environment and platform.	All software has been thoroughly debugged and fully integrated with all the operational hardware and software systems. All user documentation, training documentation, and maintenance documentation completed. All functionality successfully demonstrated in simulated scenarios. Verification and Validation (V&V) completed.	Documented test performance verifying analytical predictions.
9	Actual system flight proven through successful mission operations.	The final product is successfully operated in an actual mission.	All software has been thoroughly debugged and fully integrated with all operational hardware/software systems. All documentation has been completed. Sustaining software support is in place. System has been successfully operated in the operational environment.	Documented mission operational results.

With that clarity in place, our next step was to de-clutter the roadmap and communicate our long-term goal of becoming a leader in EPIC mobility - an acronym that encapsulates mobility that is Electric, Personal, Intelligent, and Connected. We also recognised a need to communicate our

growing capability, from just products sub systems to complete systems, making us a capable partner for delivering everything from components to complete solutions. This evolution not only enhances our value proposition but deepens our engagement with customers.

All of these efforts are driving us toward our core goal: to be a dominant player wherever and whenever the movement of people or goods is involved.

Today, the global landscape is rife with disruptions (we have all been VUCA-ed again!). The need for entire industries and companies to remain agile has never been more urgent. At Sona Comstar, we are fortunate to have a management and team that stays focused on what matters most: our customers and our business. Agility is one of our core values, and it is empowering us to respond quickly and effectively to evolving market conditions.

Technology is, and will be at the centre of our growth and sustenance. It's embedded in every conversation - from new product development and day-to-day operations to ESG and customer engagements. To stay ahead, we are actively integrating AI and machine learning across our business. These technologies are helping us not only in operational improvements, but also in strategic innovation through the use of Al agents, digital twins, and advanced scenario planning. These tools are enabling us to operate leaner, adapt faster, and unlock new opportunities for sustainable growth.

But none of this would be possible without the energy, drive and aspirations of our talented people. It is their passion and vitality that are powering our journey, shaping the future and helping position Sona Comstar as a global leader in EPIC mobility.

While we cannot predict the future with certainty, we can fully invest our minds and hearts in what we believe - helping our customers succeed, adding value every day, and continuing to innovate for a better world.

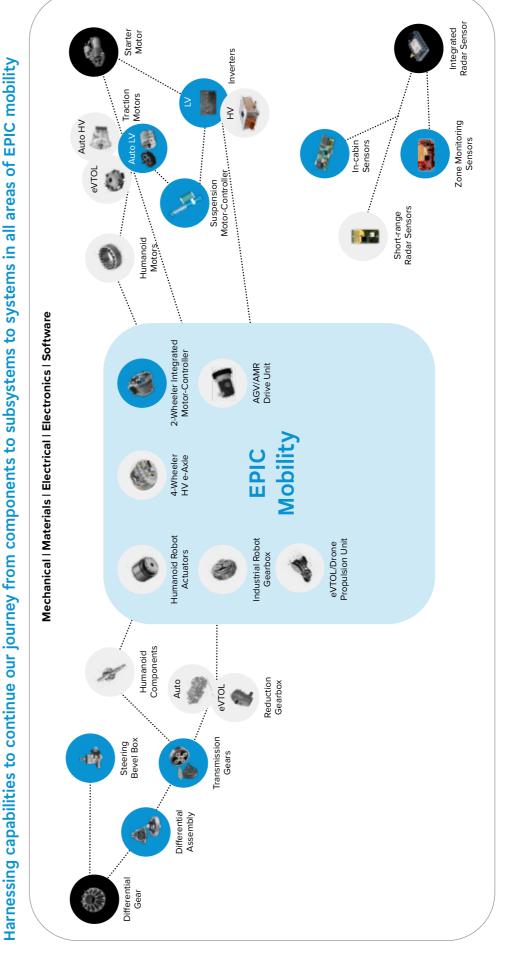
As I walk in the footsteps of my predecessor, Mr. Deshmukh, I am continually inspired by his vision, simplicity and focus. These qualities will be my guiding light as we step into a future filled with opportunities.

Warm regards,

#### Praveen Chakrapani Rao

**Group Chief Technology Officer** 

# Harnessing capabilities to continue our journey from components to subsystems to systems in all Our technology roadmap for E.P.I.C. mobility



Note: The product images shown are for illustration purposes only and may not be an exact representation of the products

**Future Products** 

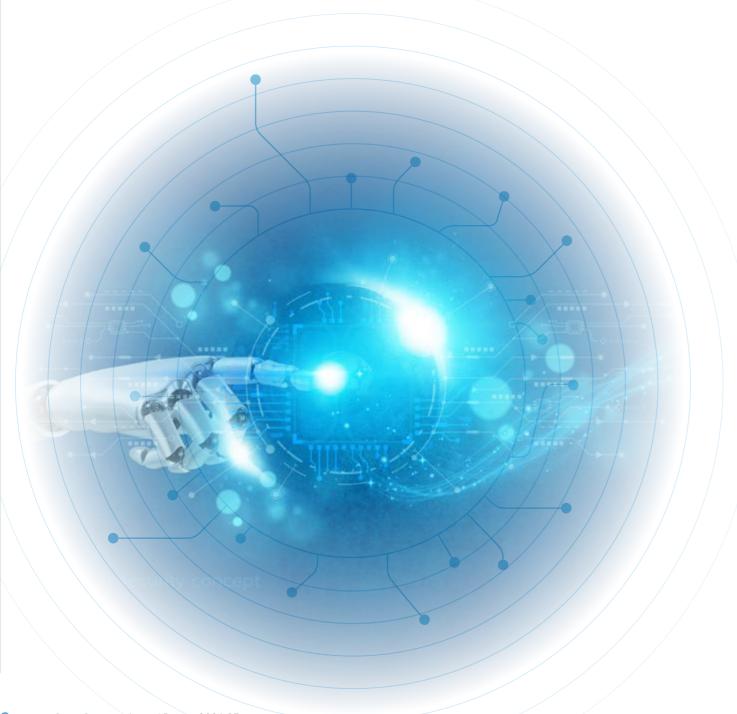
**Current Products** 

Legacy Products

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## Technological prowess

FY 2024-25 marked a pivotal moment in Sona Comstar's technology journey. Building on our core strengths, we accelerated the evolution from traditional component engineering to advanced subsystems and fully integrated platforms. Our strategic emphasis on intelligent, software-driven, and electrified systems is placing Sona Comstar at the cutting edge of next-generation mobility solutions.



#### From R&D to commercial innovation

In FY 2024-25, we made great strides in transforming deep research and development into commercialised innovations. Our expanded portfolio also aligns with our focus on the E.P.I.C. mobility landscape. During the year, we commercialised three new products. Two of them – In-cabin Sensors for child presence detection and Zone Monitoring Sensors for industrialised environments – were based on our mmWave Radar technology, and the third one – Steering Bevel Box for commercial vehicles – was based on our precision forging technology.

#### 1. In-cabin sensor

The In-cabin sensor is a critical safety feature designed to detect the presence of a child in the vehicle, preventing tragic accidents and ensuring peace of mind for car owners. Utilising advanced radar technology, this system offers precise and reliable detection even under challenging conditions such as when a child is asleep, covered by a blanket or is in the seat well. This product aligns with our vision of integrating advanced safety features into modern electric vehicles.

#### 2. Zone monitoring sensor

It is truly a revolutionary product that gets us firmly into the industrial segment. These sensors whose purpose is to alert and protect people operating in potentially unsafe or hazardous work environments. This could also be used in factory floors where people work in proximity with robots and AGVs. This product opens opportunities in the industrial domain where several use cases exist today. The use of this product will enhance existing safety measures like barriers or, in some cases, even replace them.

#### ASPICE Level-2 certified

Demonstrates our commitment to quality and reliability in software-driven mobility solutions



#### 3. Steering bevel box

Commercialisation of this product is due to our strengths in forging and precision machining to develop the solution for a new application outside our traditional area of Driveline. This product has applications in commercial vehicle steering systems.

These breakthroughs reflect our evolution from designing standalone components to architecting smart, integrated systems.

#### **Innovation highlights**

Our technology portfolio spans a broad spectrum, from traditional bevel gears and starter motors to EV-focused differential assemblies and traction motors to intelligent products such as radar sensors and suspension motors and a large pipeline of innovative products for newer forms of mobility, reflecting bold, forward-thinking shifts.

- Portfolio of total 105 patents (39 granted, 66 applied)
- Strengthening our intellectual property to reinforce our technology-first position
- Each innovation advancing our EPIC vision of Electric, Intelligent, and Sustainable mobility

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FULL-STACK AI AND AI-BASED SIMULATION FOR

**CES 2025** 

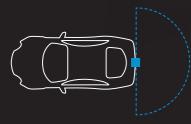
# Demonstrating mobility technology prowess

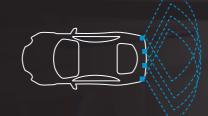
We participated in the world's most preeminent technology event, the Consumer Electronics Show (CES) for the first time to showcase our sensor technologies, EV components and driveline innovations. With a focus on efficiency, safety and customer needs, the technologies presented at CES 2025 align with our commitment to building a sustainable and technologically advanced mobility ecosystem.

We showcased our breakthrough short-range radar sensor, which replaces four ultrasonic sensors and provides a 180-degree field of view to improve safety by offering more efficient parking assistance and collision warning. It also reduces the system cost for OEMs, making it useful for affordable passenger vehicles and even two-wheelers.

> 180-degree view **Radar Sensor**

Ultrasonic













We showcased our breakthrough short-range radar sensor, which replaces four ultrasonic sensors and provides a 180-degree field of view to improve safety by offering more efficient parking assistance and collision warning. It also reduces the system cost for OEMs, making it useful for affordable passenger vehicles and even two-wheelers.

We also displayed our High-Voltage Motor Inverter, designed for light electric vehicles, which improves energy efficiency and performance. Our Electronic Locking Differential Assembly for SUVs is engineered to provide improved traction and vehicle control in challenging conditions.

