

Future of Mobility



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August 19, 2024

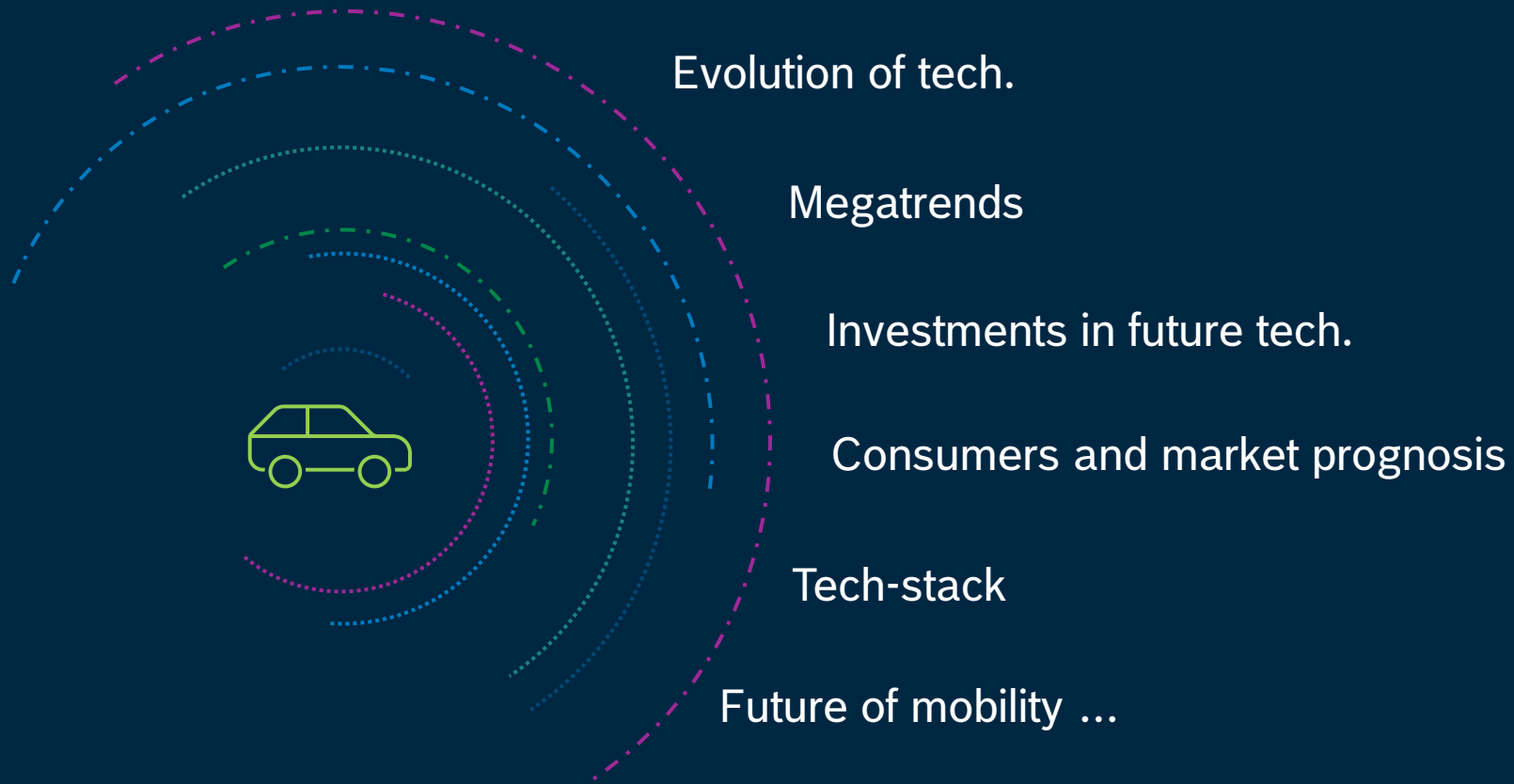


Motilal Oswal 20th Annual Global Investor Conference, 2024 – Future of Mobility

Safe Harbor Statement

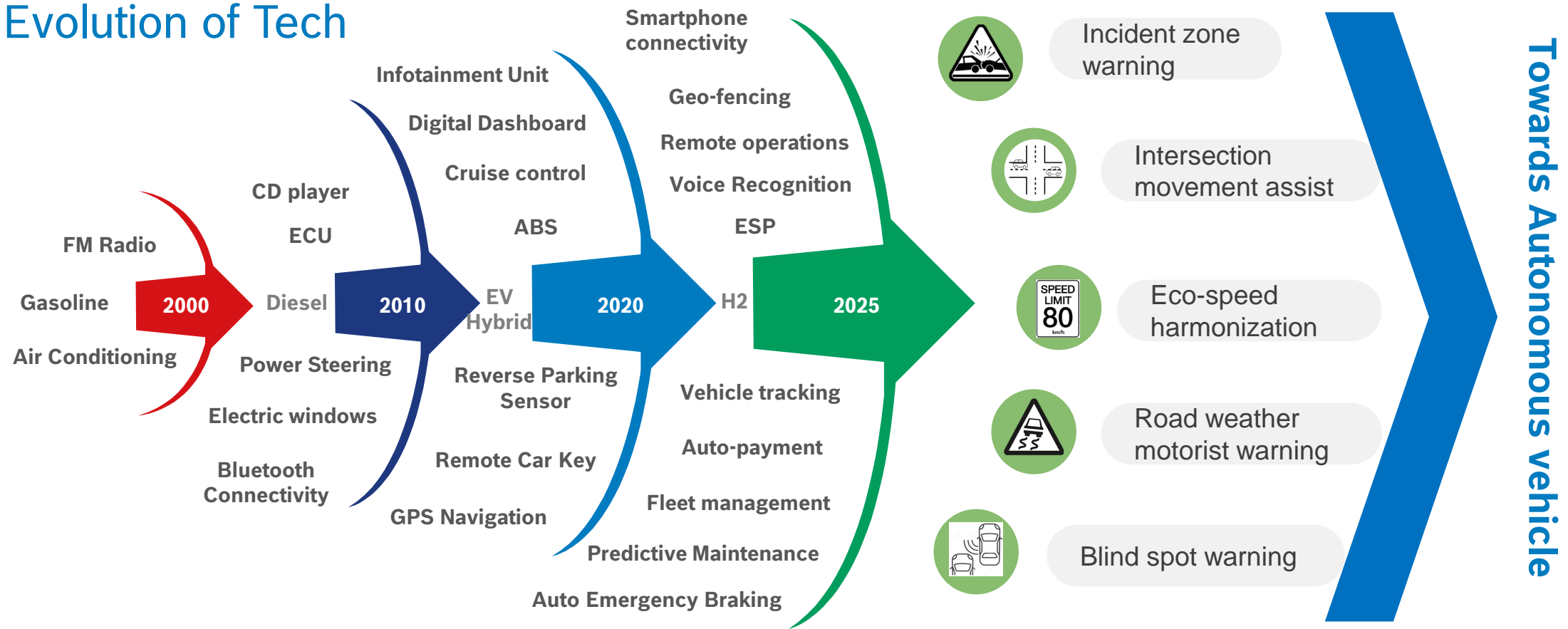
At the outset, we would like to reinforce our Safe Harbor statement. In today's interactions and presentation, there may be some predictive statements that reflect our current views about Bosch Limited's future performance, but these are subject to risks and uncertainties

Future of Mobility



Future of Mobility

Evolution of Tech



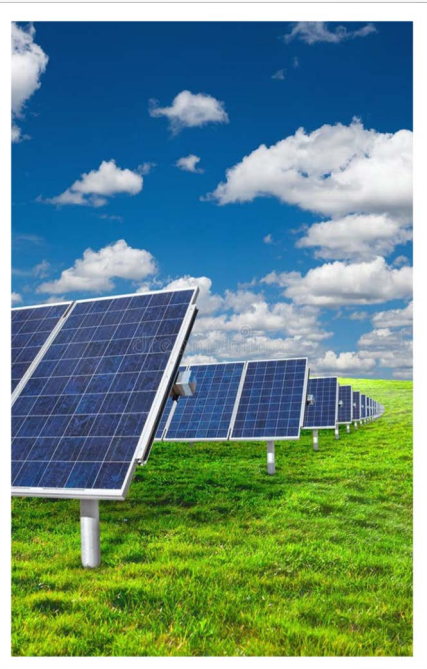
Moving towards cleaner and sustainable option

ECU : Electronic Control Unit ABS : Anti-Lock Braking System ESP : Electronic Stability Program EV : Electric Vehicle

Future of Mobility

Megatrends: “Disruptions & boundary conditions that are shaping the Indian Economy”

Renewables



~50% RE by 2030,
Policy support

Middle class



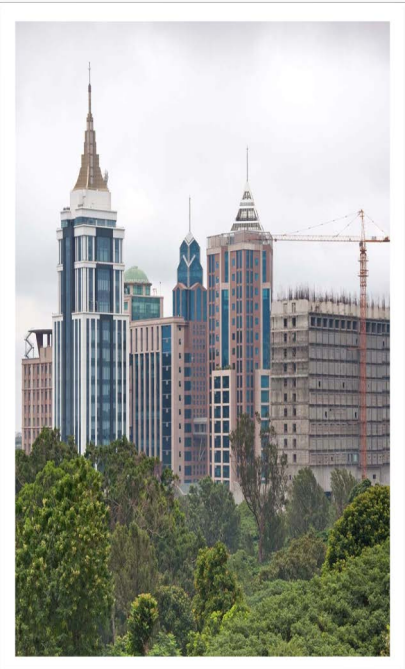
Doubling per capita
income by 2030

Demography



~50% GenZ &
Millennial's by 2030

Urbanization



2x rise in urban
population by 2030

Digitalization



Digital economy will
contribute to 20% by
2030

Future of Mobility

On ground technology changes: Major Investments across India focusing on new age technologies of strategic importance for the future

~USD 70 bn

Renewable Energy

• Reliance	9.0 Bn\$
• TATA Power	8.4 Bn\$
• Torrent Power	5.7 Bn\$
• ACME solar	4.3 Bn\$
• GSECL	2.4 Bn\$
• Jio bp	2.1 Bn\$
• JSW Energy	1.5 Bn\$

~USD 58 bn

Green Hydrogen

• NTPC	8.4 Bn\$
• Tata Power	8.5 Bn\$
• Renew Fuel Energy	8.0 Bn\$
• Welspun	4.8 Bn\$
• JSW Energy	3.0 Bn\$
• Welspun	3.6 Bn\$
• Inox Air Products	1.8 Bn\$
• Leap Green Energy	1.5 Bn\$
• L&T Energy	1.2 Bn\$

~USD 24 bn

Electrification

• Tata	5.1 Bn\$
• JSW & MG	4.8 Bn\$
• Hyundai	2.5 Bn\$
• Vin fast	2.0 Bn\$
• Gogoro	1.5 Bn\$
• Mahindra	1.4 Bn\$
• Suzuki	1.4 Bn\$
• Nexzu	1.0 Bn\$
• OLA	0.8 Bn\$
• Hyundai	0.7 Bn\$
• Stellantis	0.4 Bn\$

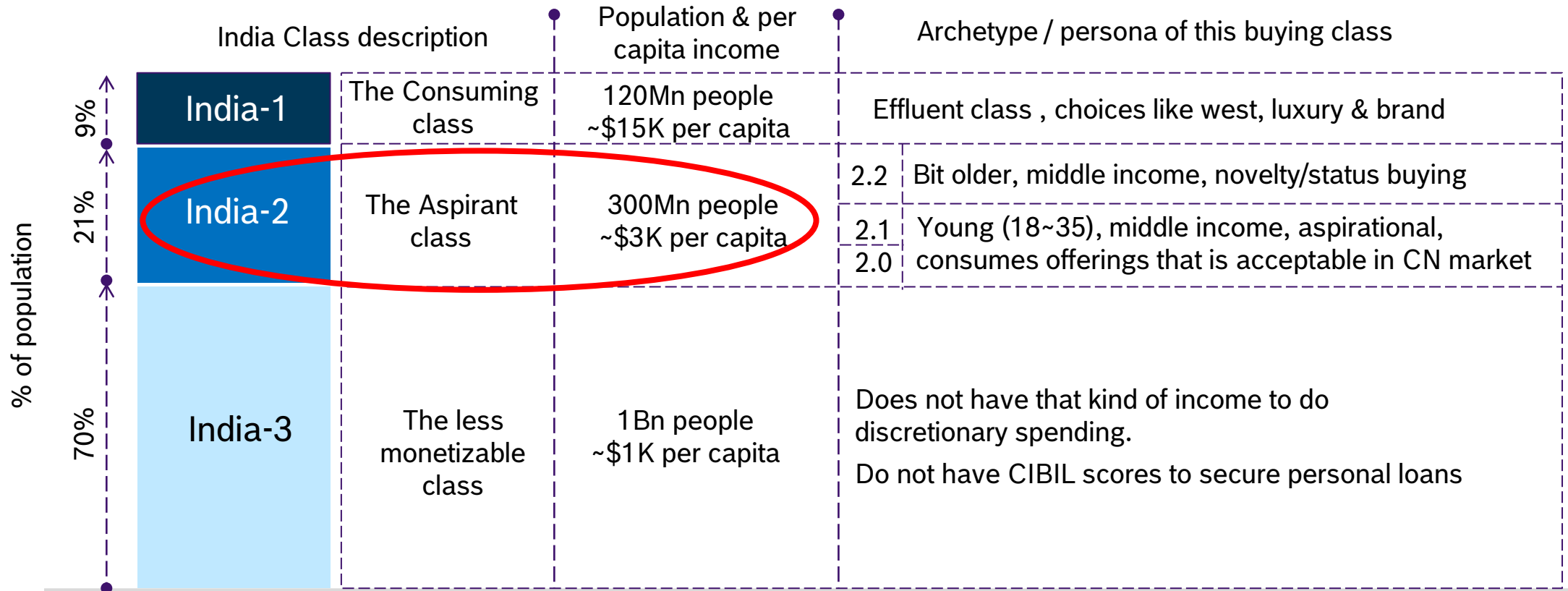
~USD 23 bn

Semi-Conductor

• Tata Electronics	11 Bn\$
• Vedanta	5 Bn\$
• Tata & TSAT	3.3 Bn\$
• CG Power Solutions	0.92 Bn\$
• Micron	0.83 Bn\$
• Foxconn & HCL	0.04 Bn\$

Future of Mobility

India's Consumer Stack – Buying capabilities (current view)

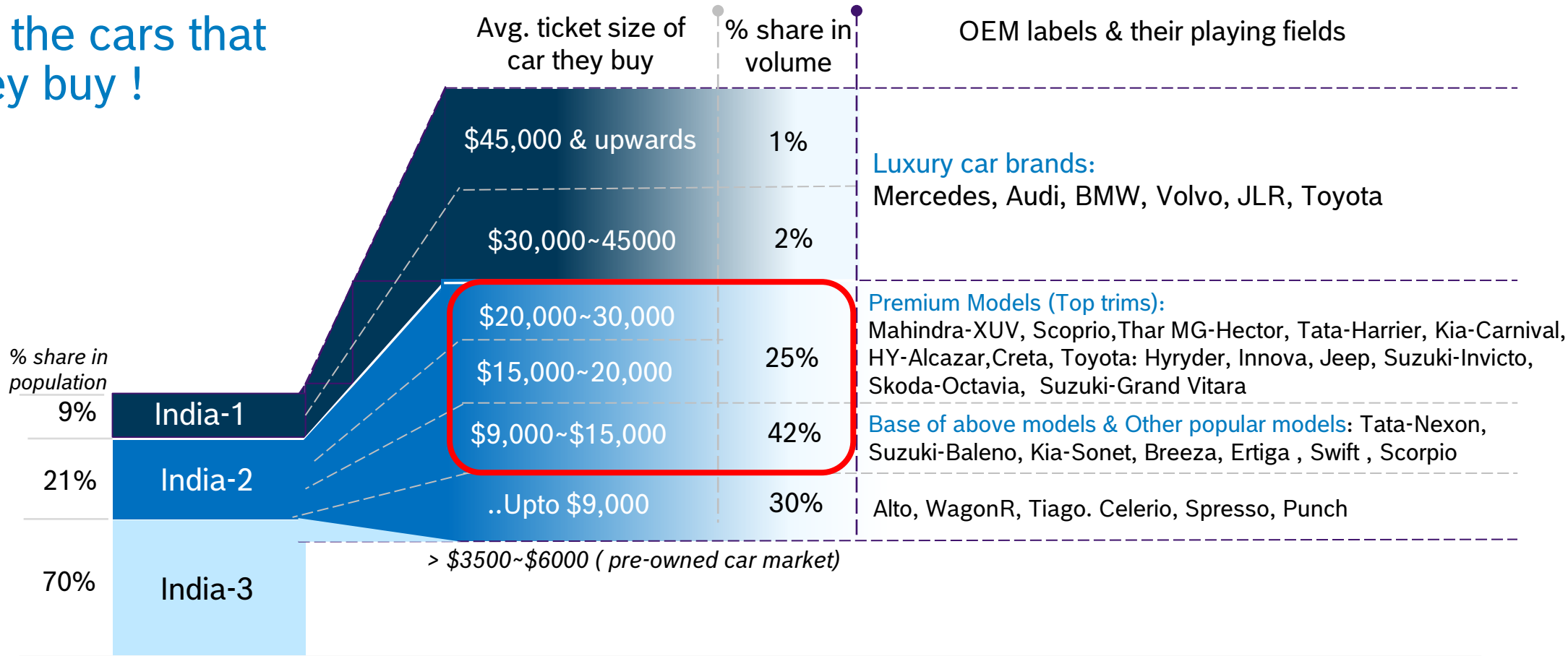


Concept of India Stack, Ref: Kishore Biyani's book, "It Happened in India"

Aspirant class represents majority of the target consumer

Future of Mobility

..& the cars that they buy !

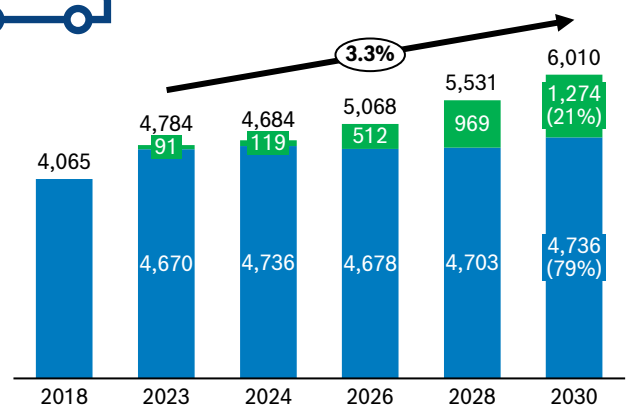


India 2 population is growing: Premiumization as a trend due to the consumer spread

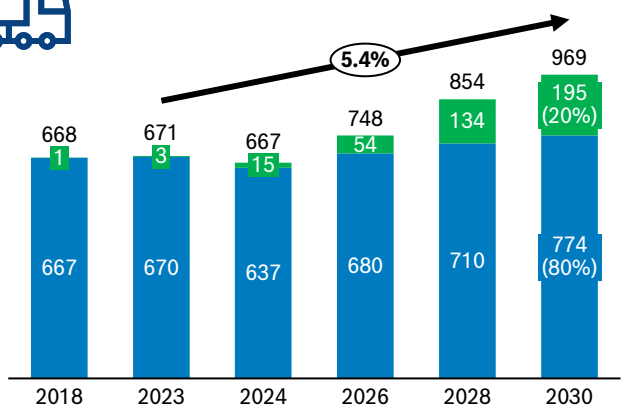
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Indian Automotive market prognosis | Overall market expected to grow annually at 3% - 4% in long term

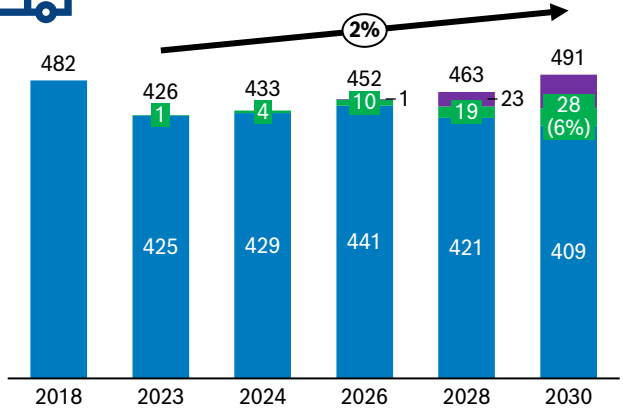
ICE Volumes in '000
EV Volumes in '000
H2 Volumes in '000
Source: (A)MP24



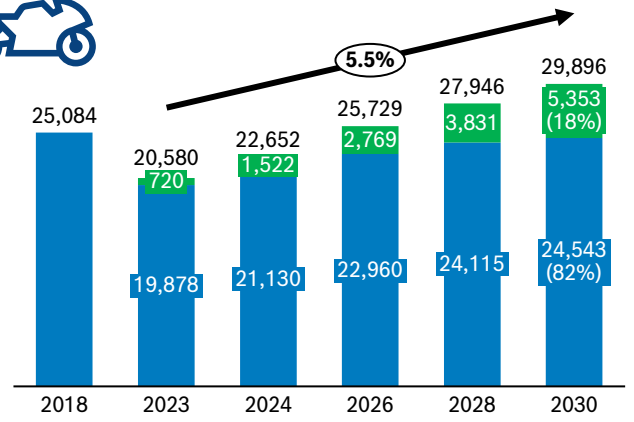
High % of BEV in 2030 driven by TCO & Infra development



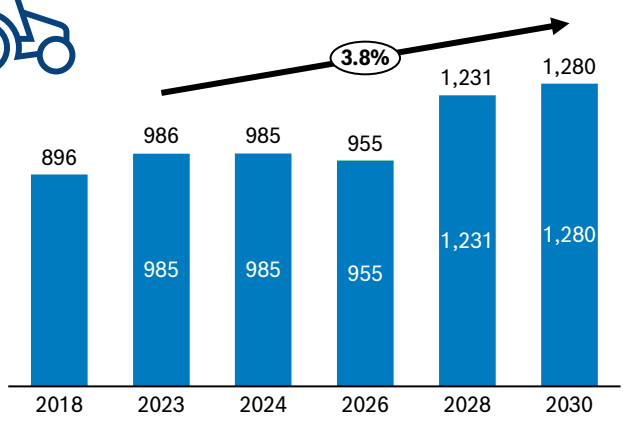
EV penetration mainly in < 2T LCVs | Last mile TCO benefit



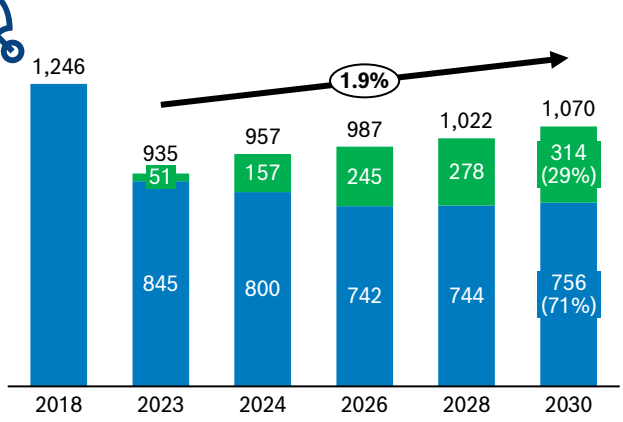
Long haul fleets will be part of the hydrogen ecosystem



EV Adoption driven by PMPs and reducing battery prices



Steady growth over long term | TREM V delay possible



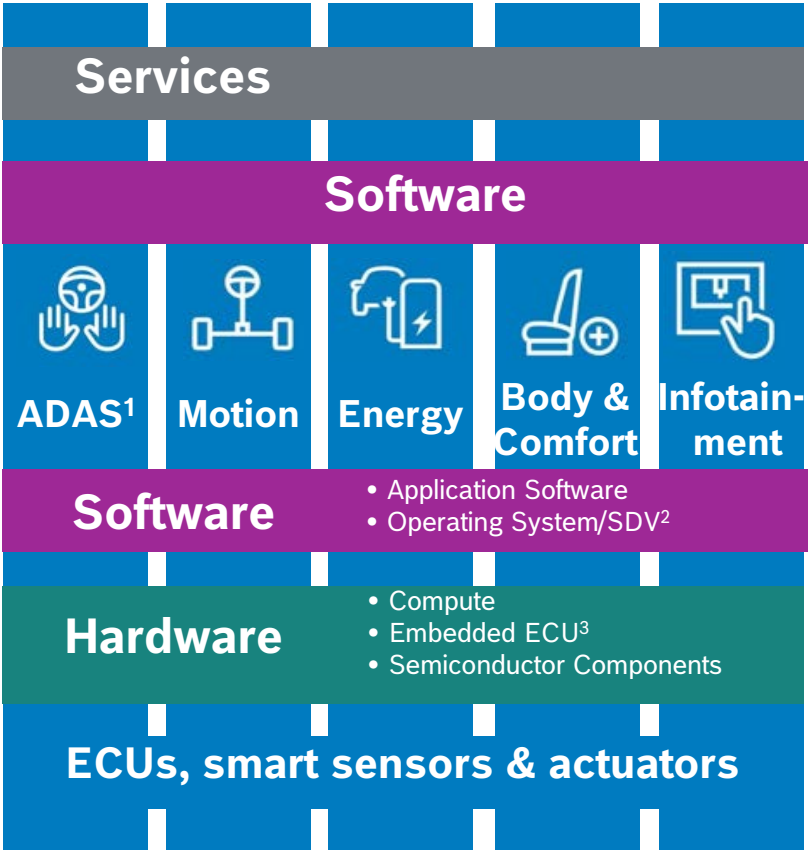
EV adoption led by TCO parity and new business models

Future of Mobility

The market of future calls for new approaches to business – “Tech-stack”



- From many Individual solutions
- From hardware embedding software ...
- From Pure offerings in the vehicle ...



- ... to five holistic integrated core areas
- ... to separate hardware and software applications
- ... to a stronger focus on hardware and software inside and outside the vehicle

ADAS : Advanced Driver Assistance System SDV : Software Defined Vehicle ECU : Electronic Control Unit

Future of Mobility

Emerging mobility trends in India – “No more just a owner based segment”

Changing Paradigm of urban mobility

Mobility as a Service (MaaS)

Electrification

Technology

People Mobility

OVER CROWDING TRAFFIC CONGESTIONS HIGHER VEHICLE COST

RISE IN AIR POLLUTION PARKING ISSUES INCREASED TRANSIT TIME

Urbanization in India **2030**
40%

Shared Mobility

Share use of vehicle on need basis

Ride Hailing⁽¹⁾

OLA Uber

rapido BLU SMART MOBILITY

mytaxiindia

Ride Sharing⁽²⁾

BLU SMART MOBILITY

OLASHARE UberPool

Subscription

Ownership of vehicle through rentals or subscriptions

Self Drive⁽³⁾

Zoomcar Never Stop Living WOW CARZ

revv quiklyz

OEM Subscription⁽⁴⁾

MARUTI SUZUKI SUBSCRIBE MG SUBSCRIBE

TOYOTA

OLA OKINAWA REVOLT TVS

ATHER BAJAJ

Mahindra electric

NIROX GRECA

ERISHA LOHIA ATUL

TATA MG

KIA HYUNDAI

ASHOK LEYLAND JBM TATA

SWITCH EICHER

ADAS

V2X

E/E Arch

Infotainment

SaaS

Goods Mobility

Change drivers

Energy Independence

Fleet Optimization

Asset utilization

Competitive Logistic cost

Logistic and Transportation Services

Logistics Aggregators

DELHIVERY PORTER truckola

BLACKBUCK HIPT RIVIGO

Freight with no hassle

Alternate Fuel

Electric

Last mile delivery

TATA PIAGGIO

ASHOK LEYLAND ERISHA

H2-ICE

TATA

ASHOK LEYLAND

* 1. Rider hires a vehicle and a driver for personal use | 2. Rider shares the vehicle with other riders travelling | 3. Rider hires a vehicle for personal use for 'self-driving' | 4. Subscription offered by OEMs in partnership with firms

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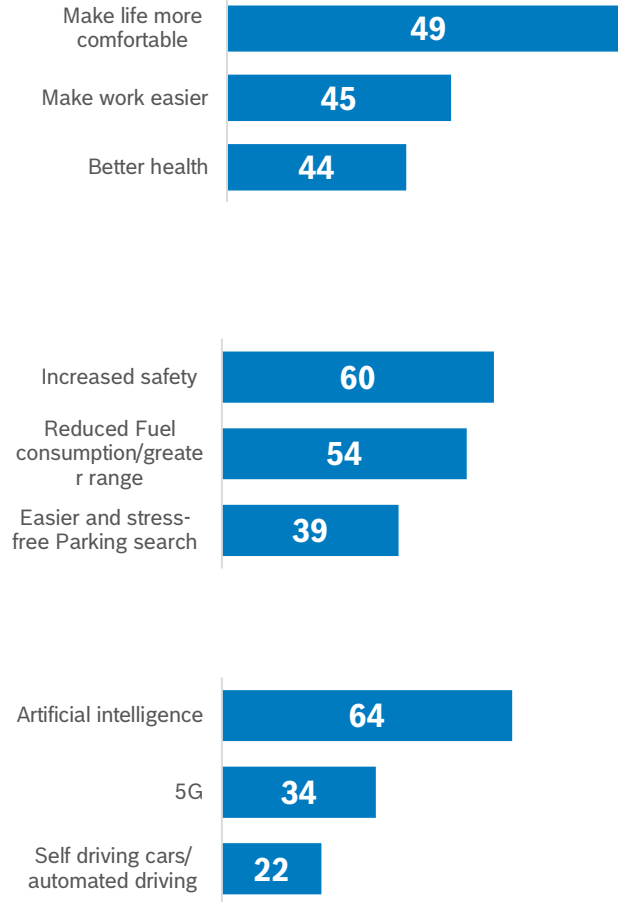
(BOSCH Tech Compass 2023-24)

BENEFITS OF AI

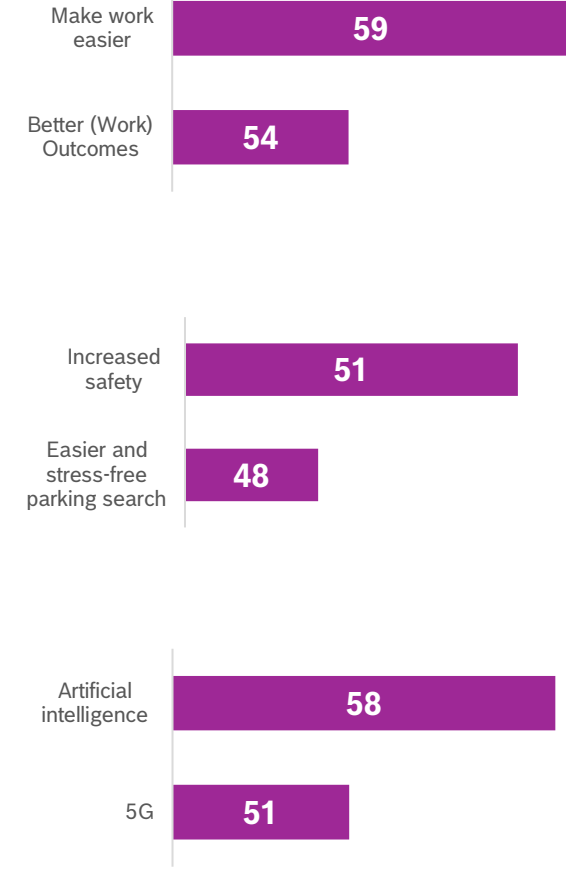
MOBILITY BENEFITS OF AI

TECH OF THE FUTURE

GLOBAL INDEX



REGIONAL



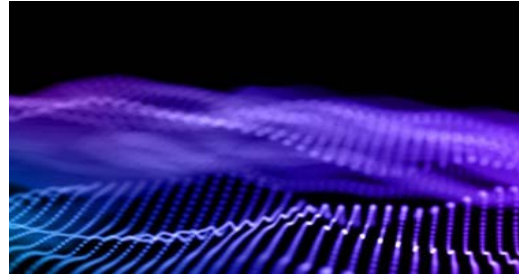
India is ranked higher towards adoption of new trends on the technology (AI) front

Future of Mobility Summary



Who will define the future?

- **Regulators**
- **Consumers**
- **Stakeholders**



What drives the next gen. tech?

- **E & E Architecture**
- **Compute**



Key factors

- **Simple and solid foundation tech**
- **Cheaper compute**
- **Gen AI**

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Thank you!

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