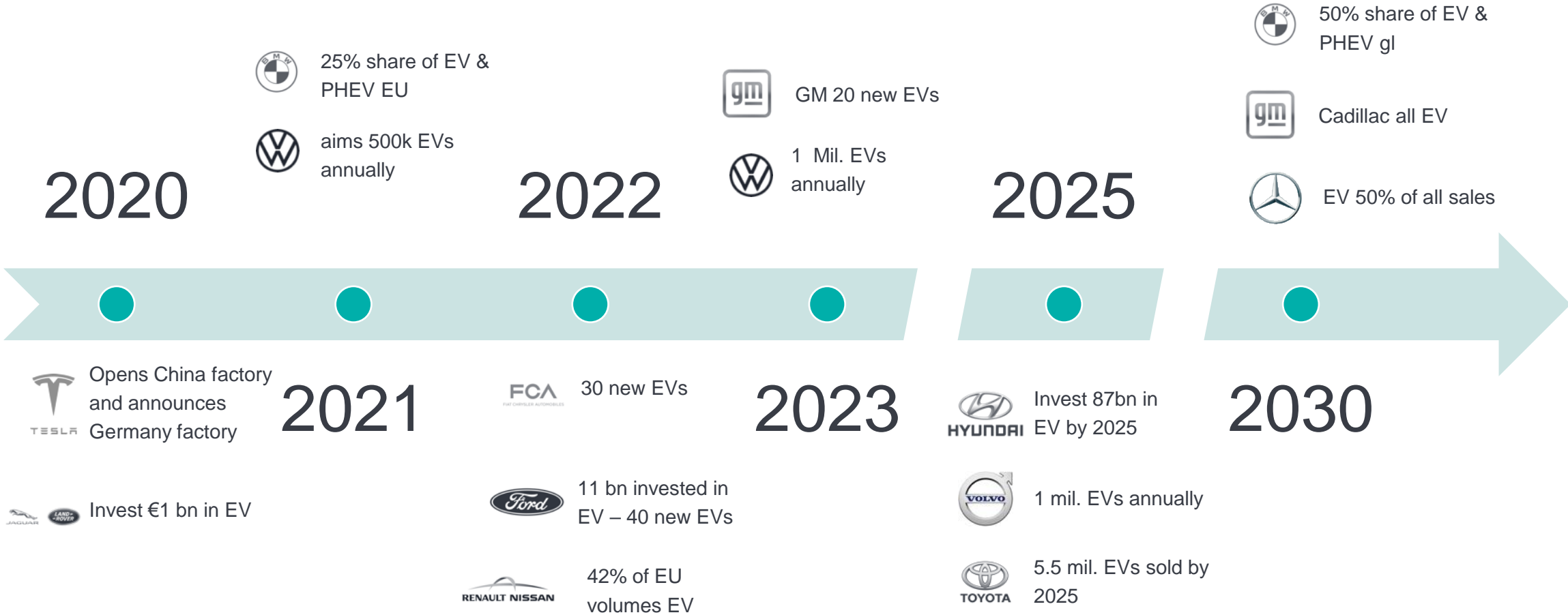# Location: Powering the Adoption of EVs across the world

Andrei Iordache

Director Industry Solutions

OEMs Commit to More Models and Investment

All major OEMs are adjusting their product plans to include more EVs in their line-up

2020

- BMW — 25% share of EV & PHEV EU
- VW — aims 500k EVs annually

2022

- GM 20 new EVs
- VW — 1 Mil. EVs annually

2025

- BMW — 50% share of EV & PHEV gl
- GM — Cadillac all EV
- Mercedes — EV 50% of all sales

2021

- TESLA — Opens China factory and announces Germany factory
- JAGUAR LAND ROVER — Invest €1 bn in EV

2023

- FCA FIAT CHRYSLER AUTOMOBILES — 30 new EVs
- Ford — 11 bn invested in EV – 40 new EVs
- RENAULT NISSAN — 42% of EU volumes EV

2030

- HYUNDAI — Invest 87bn in EV by 2025
- VOLVO — 1 mil. EVs annually
- TOYOTA — 5.5 mil. EVs sold by 2025

here

Indian manufacturers are also accelerating their EV offensive

CAGR of **47%**

between 2022 and 2027

Omega Seiki

Ola

e-xuv300   e-xuv700   e-xuv900
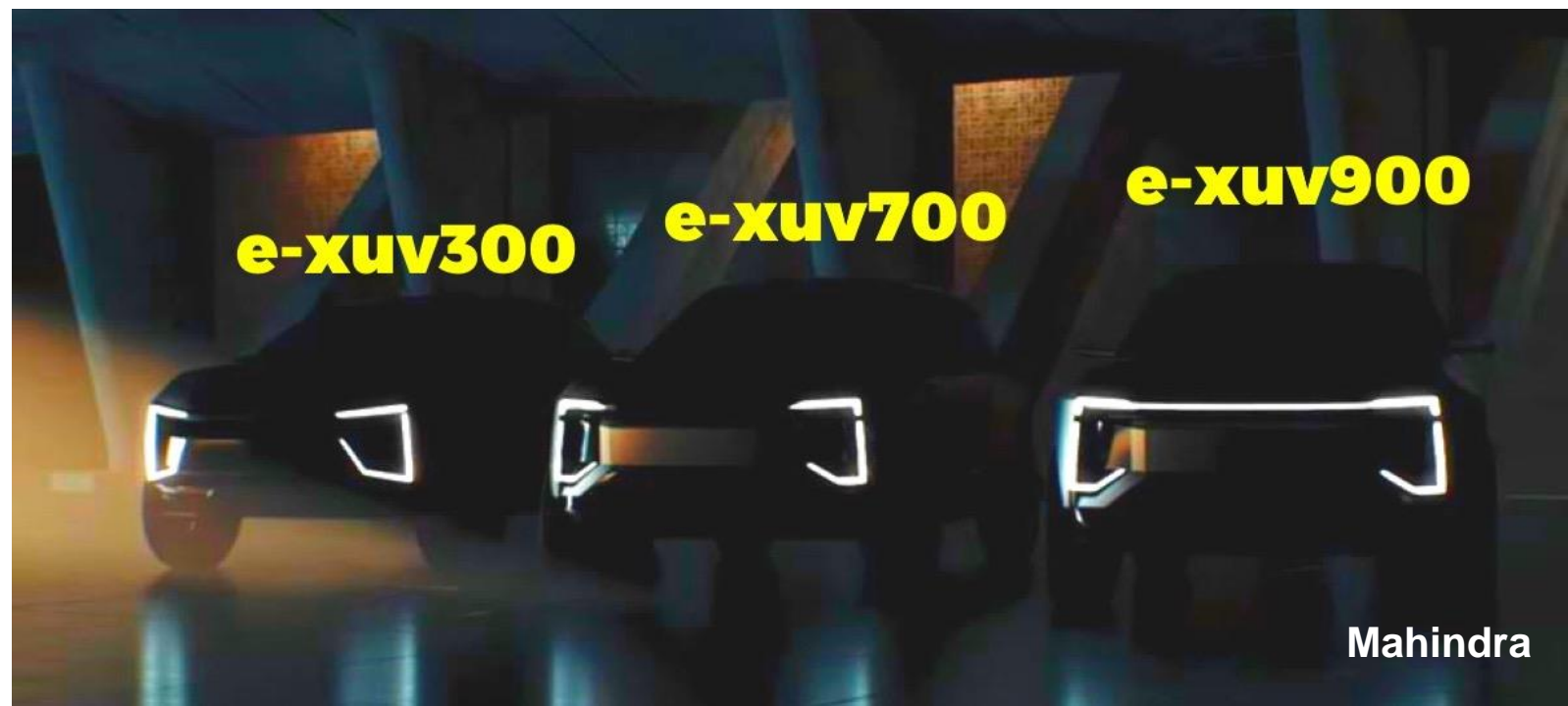
Mahindra

EV challenges

EV Challenges

From driver perspective

Reduced real world range vs combustion engines	Limited availability of charging stations	Range highly depends on driving style, car type, battery age, weather and route conditions (elevation, curvature, wind)	Different charging standard and connectors	Even the fastest charging times are 5x slower than fueling
250-350 km	**India** 1 charger / 135 EVs			3-4 mins full tank
500-600 km	**Netherlands** 1 charger / 6 EVs			22 mins @350 kW for 5-80%

here

Vehicle Manufacturers

Simplified usage of EV

EV Challenges	How location helps
Multiple charging providers needed to cover a region	Aggregation of location data from multiple sources that include charging points and stations, EV service centers, and more to allow drivers to find **their preferred or their closest station**
Enhancing the user experience and create a differentiated offering	Integrate **complementary location** services (POI, parking, charging points, real-time availability, payment, search, EV-routing, indoor maps etc.)
Inaccurate range estimation and range anxiety	Enhance estimation of **range on route** leveraging consumption on route, route profile, driving style

here

Fleet operators

EV for Mobility and Transportation

EV Challenges	How location helps
Long shifts need to consider charging breaks due to limited range	Enhance tour planning by integrating also charging stop overs in **multi-stop routing**
Limited availability of fast charging stations in city centers	Better understanding and planning of the potential stops
Job allocation depends on battery status	Provide **range map** visibility of how far a vehicle could go to assign it for the specific job
Different charging stations power and compatibility standards	Avoid stops at charging stations that don't provide adequate power for battery capacity

here

Infrastructure Providers

Optimized infrastructure to support EV role out and usage

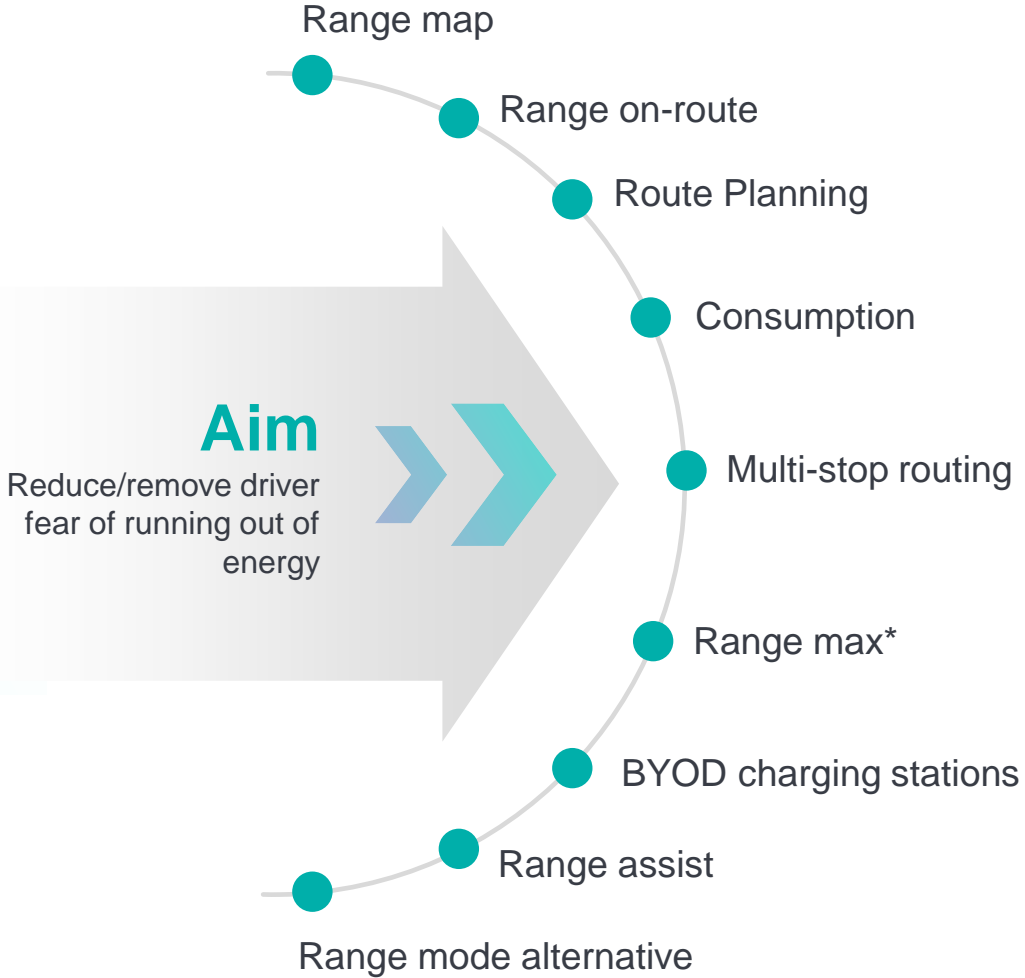| EV Challenges	How location helps
⊙ **Where should charging stations/points be located?**	Identify optimal charging stations locations based on traffic patterns and proximity to other relevant POIs Location insights on where people are located and how they move in cities help optimize asset deployment and the placement of chargers.
⧍ **Broken user experience, requiring multiple applications and accounts for services that users interact with**	Providers can **BYOD** and combine it other data sets and conflate with of global map data elements (map, parking, EV, indoor, traffic) plus the integration of location services, enable end-to-end EV user experiences:

here

Tailored Services for Electric Vehicles and EV Fleets

HERE EV Charge Points

HERE Navigation

HERE Routing API (with EV Routing)

HERE Location Platform

Aim

Reduce/remove driver fear of running out of energy

- Range map
- Range on-route
- Route Planning
- Consumption
- Multi-stop routing
- Range max*
- BYOD charging stations
- Range assist
- Range mode alternative

* Service currently under consideration

Thank you

here