

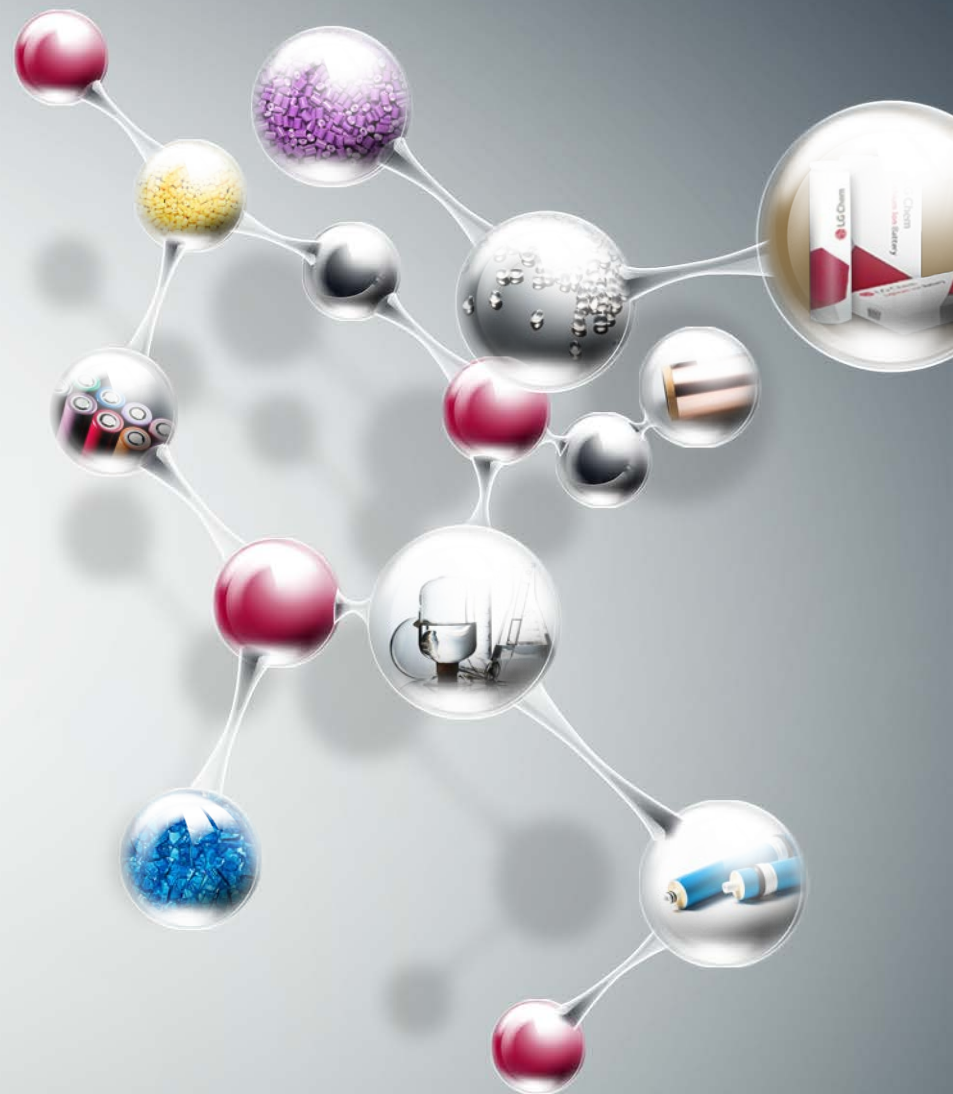
Future Mobility Charged with LG Chem

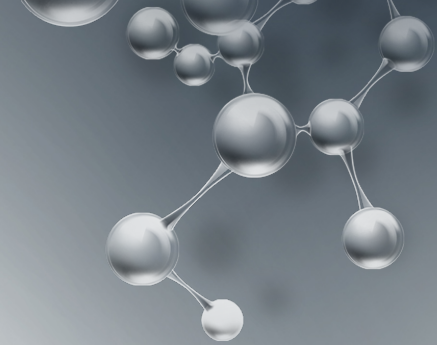
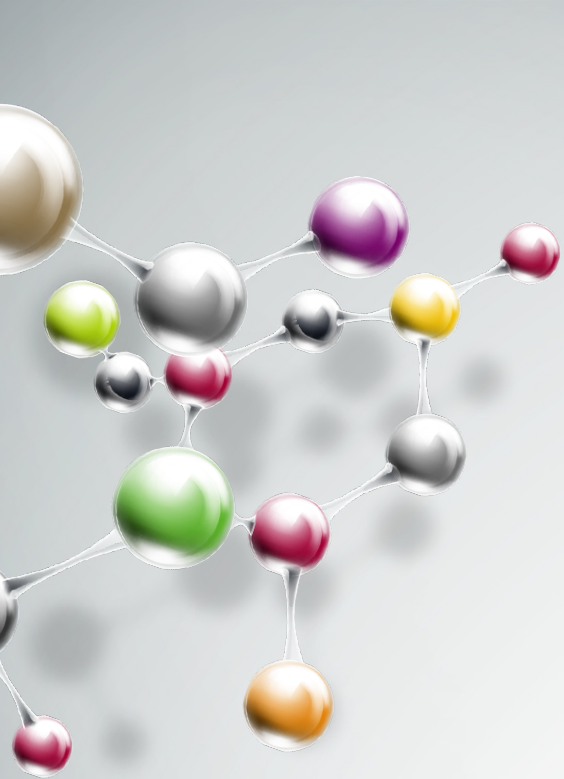
Denise Gray

President

LG Chem Michigan Inc., Tech Center
Energy Solution Company

July 22, 2019





Contents



Current Market Status



LG Chem Automotive Battery



Future Mobility

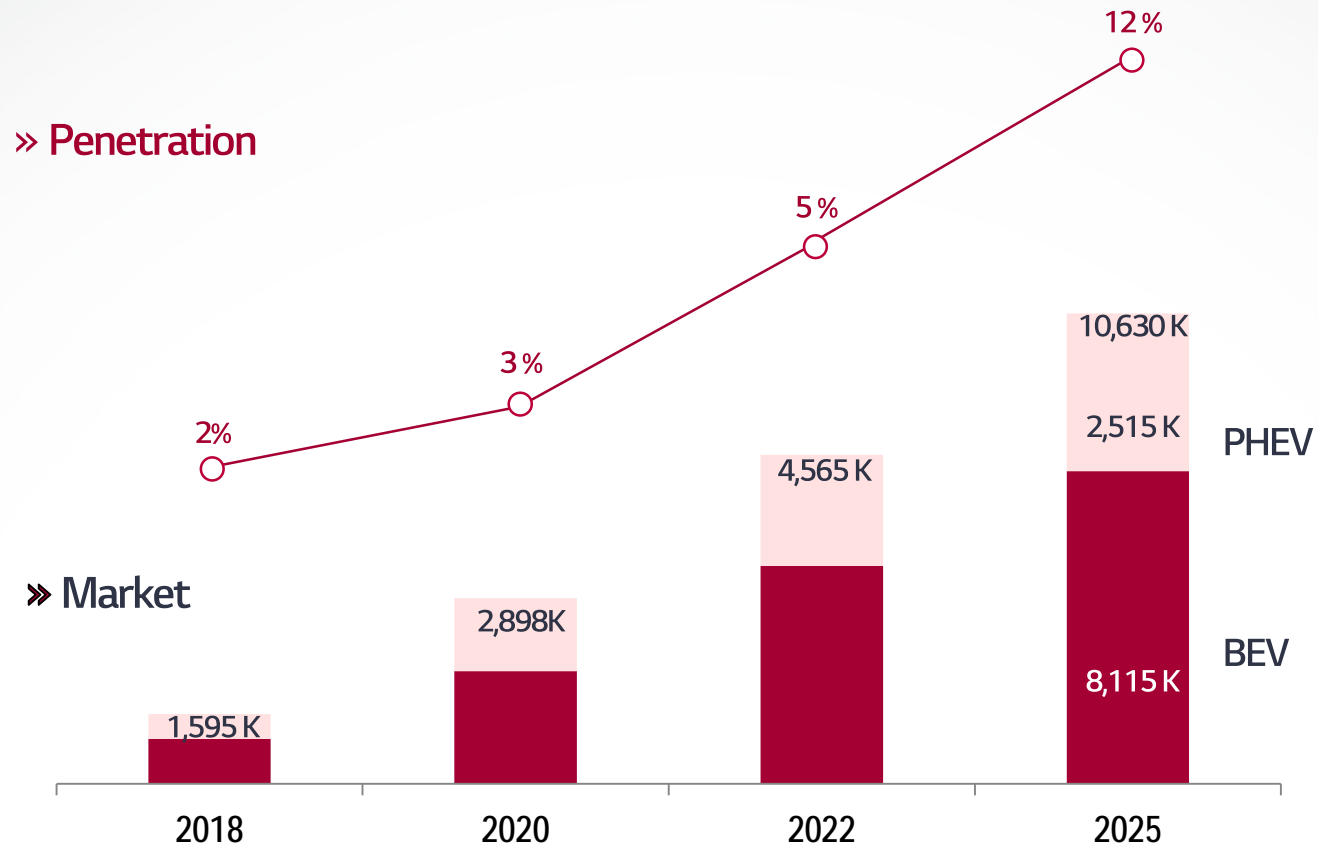
Chapter I

Current Market Status



Global xEV Market Forecast

xEV market penetration to reach 12% by 2025



2050: Increased Volume a function of Technology Leadership (Company and/or Country)

EV Platform trend

With introduction of **Dedicated EV Platform**, BEV battery has transformed in accordance...

2020

Phase 3

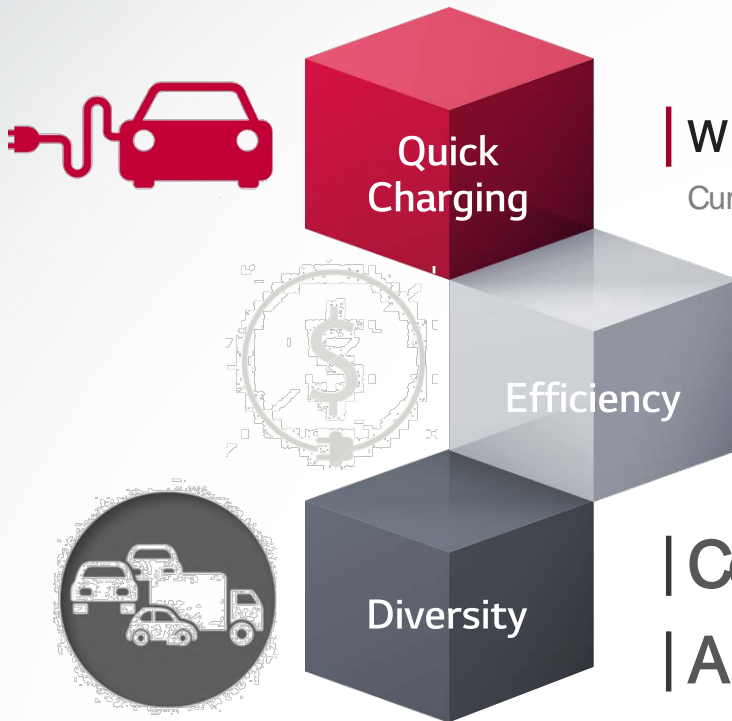
BEV Dedicated Platform

- **Simple pack** with high energy density
- **Low profile** pack for sedan
- **High profile** pack for SUV / CUV



Paradigm Shift in EV Proliferation

Quick Charging, Energy Efficiency and Model Diversity for the next decades to come



| With **20 min.** charging, additional **400 km** Range secured
Current quick charging about 40 min.

| **Light weight** in Pack level, **20% ↓**
Current battery pack weight in vehicle : 20-30%

| **Commercial Vehicles** such as Van, Taxi with Longer Cycle
| **Autonomous Driving** with xEV

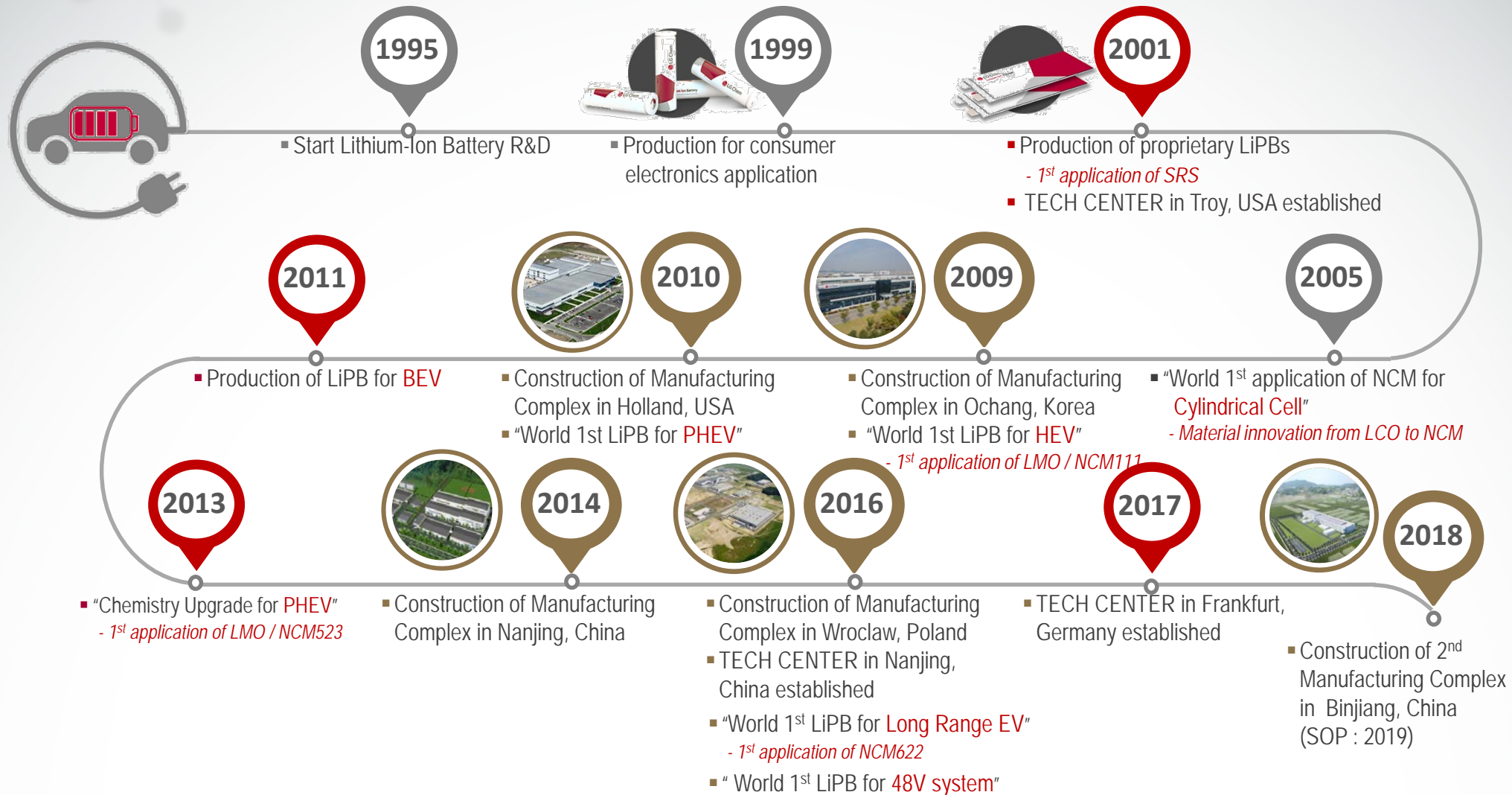
Chapter II

LG Chem Automotive Battery



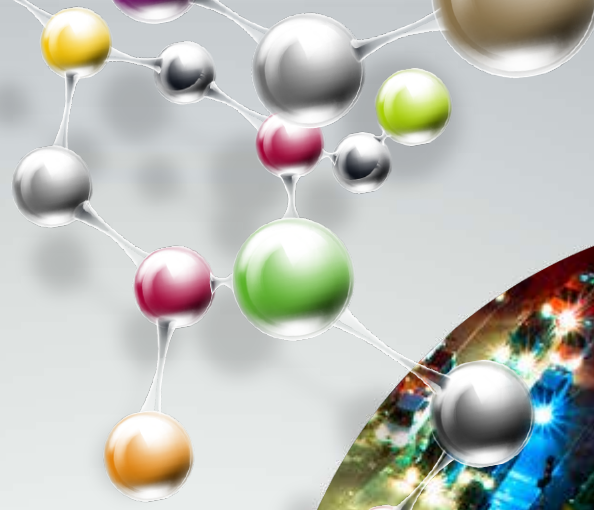
Innovative Development and Capital Investment Required

With innovative product from Low to High Voltage more than 10 years of mass production has occurred...



Chapter III

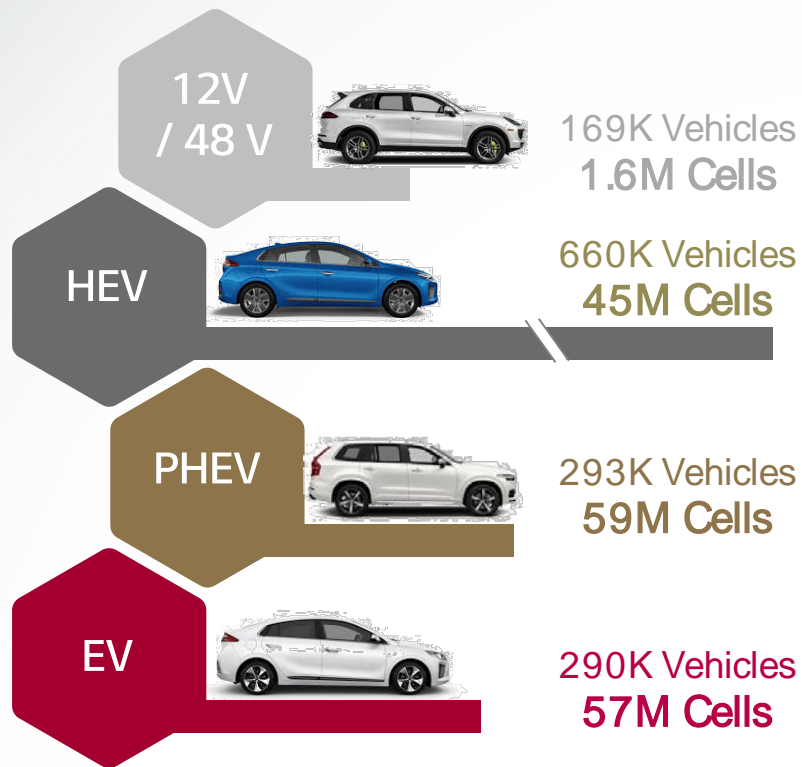
Future Mobility



Proven Quality

1,412k Vehicles in the Field with no Performance or Safety Issue since 2009
(163M Cells¹⁾)

Automotive Experience



Production Experience

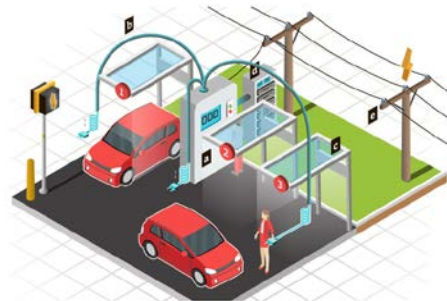


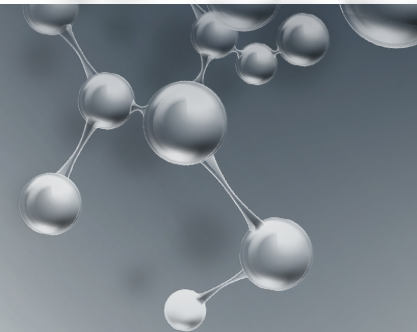
- Value Chain Commitment
- Leveraging Applications
 - Consumer
 - Automotive
 - Stationary batteries

1) 2009-2017 Accumulated sales

Summary

- The future of battery technology development and application will be a function of technologist and/or countries that strive for leadership.
- Generational Maturity of Requirements and Learning Phases allow optimized designs, costs, and functionality to achieve customer satisfaction.
- Increase volumes require large capital investment and resources by Vehicle Companies, Battery Companies, and Value Chain Suppliers.
- Commitment to production volume is extremely important to establish stabilization in the supply chain and investment base.





Thank You



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