

KOREA'S EV VISION & NEW CHALLENGES

Sep. 2021.





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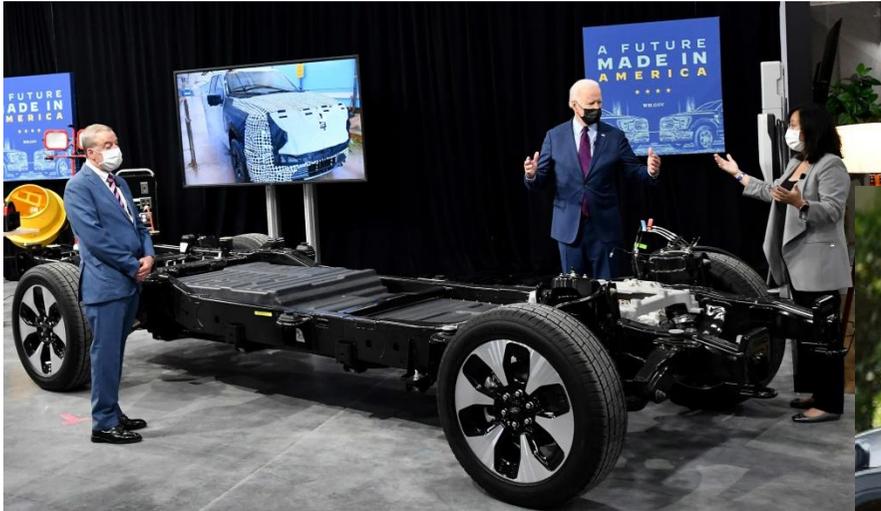
I Background

II Korea's EV Vision

III New Challenges

Q&A

“US to set EV sales goal of 50% by 2030”



- Eco Friendly Vehicle → ZEV(Zero Emission Vehicle)

-  Plans to exclusively offer EV by 2035
-  Plans to invest \$35.3 billion by 2025 to expand its EV models



-  Plans to increase investment in EV to \$30 billion by 2025
-  Plans to invest \$12 billion for EV and battery factories

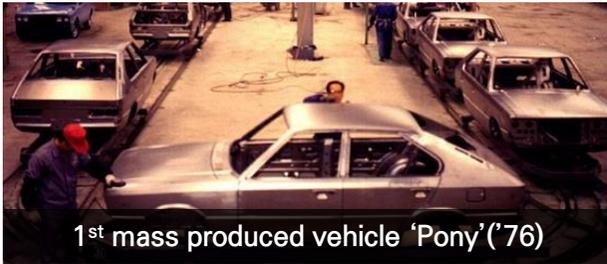
Source : electricdrives, 매일경제

Auto History in Korea

I . Background

1960s~1970s

Developing independent auto tech



1980s~1990s

Contributing to Korean Economy Miracle



2000s~2010s

Leading Global Auto Industry



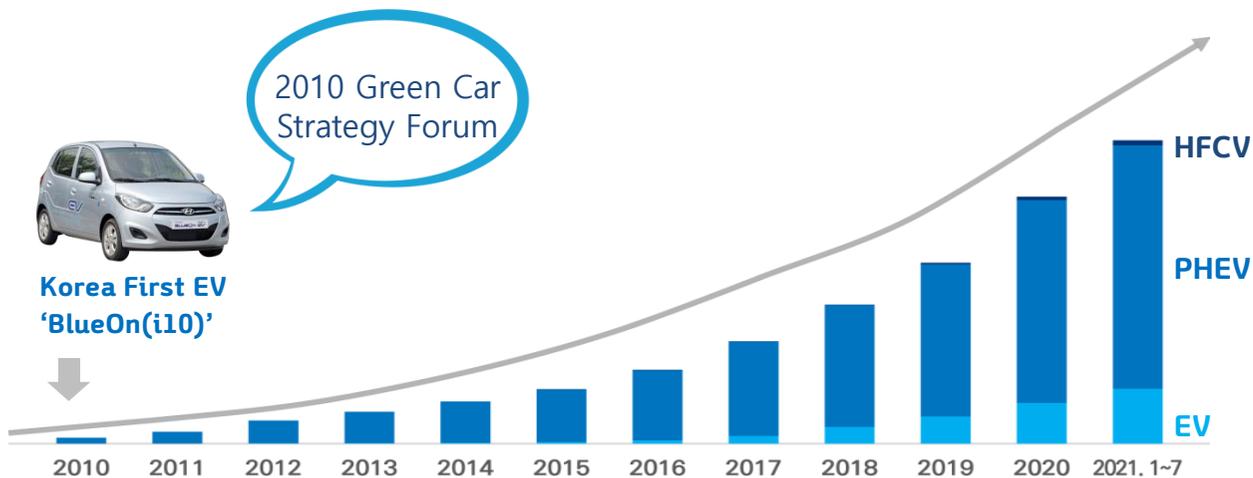
2020s ~

Preparing for the future



Source : DAUM 자동차, 연합뉴스, 광주일보, 현대모비스, 조선비즈

Korea's EV, late but ready



Source : Ministry of Land, Infrastructure and Transport

“Ready for the future”

- World 2nd EV only Platform -



E-GMP(2020.12)

Our Goal in 2030

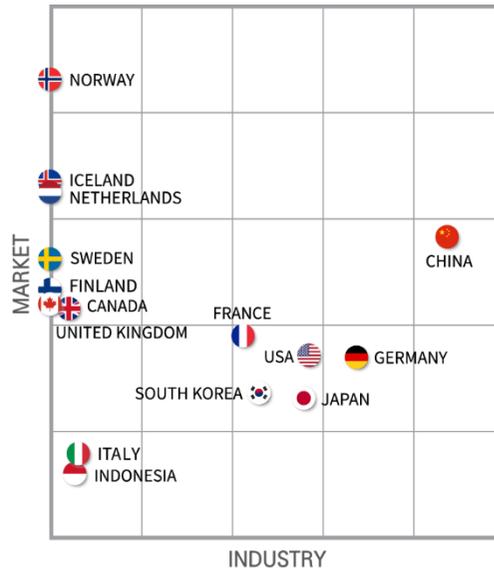
4th in Global EV sales

| Company | 2019 | 2020 | % |
|----------------------|------------------|------------------|-------------|
| 1 Tesla | 304,783 | 442,334 | 15% |
| 2 Volkswagen | 123,152 | 381,406 | 13% |
| 3 GM | 94,889 | 222,116 | 7.5% |
| 4 Hyundai-KIA | 124,114 | 198,487 | 6.7% |
| 5 Renault-Nissan | 143,884 | 194,158 | 6.6% |
| 6 BYD | 218,532 | 179,295 | 6.1% |
| 7 BMW | 127,618 | 173,202 | 5.9% |
| 8 Daimler | 45,054 | 168,858 | 5.7% |
| 9 GEELY | 125,896 | 157,125 | 5.3% |
| 10 PSA | 7230 | 109,987 | 3.7% |
| Total | 2,034,886 | 2,943,172 | 100% |

2nd in Global EV Battery market



Ranked 5th in Global EV Competitiveness



Future Vision

No.1 Future Car Competitiveness in 2030

Global Market share 10%

EV·HFCV Market Share 33%

World 1st Commercialization of Level 5 Driving Automation on major roads

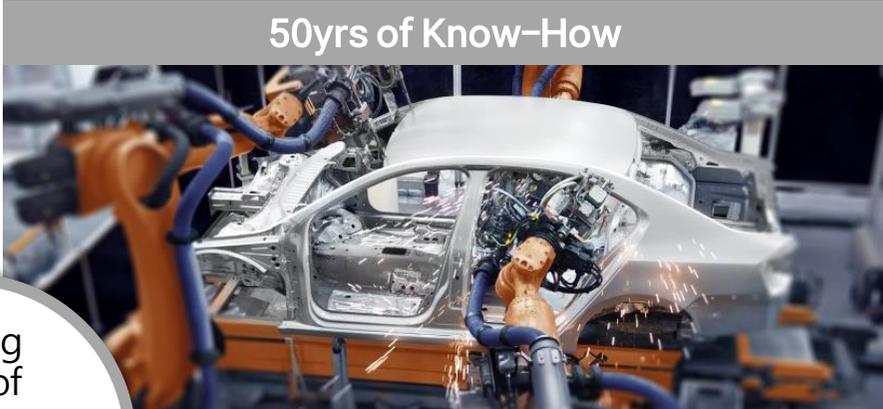
by 2027

Our Pride

II. Korea's EV vision

Global TOP Battery Production Capacity

| | | |
|----|------|---------------------|
| 1 | 15.1 | CATL(China) |
| 2 | 9.8 | LG Energy Solutions |
| 3 | 8.0 | Panasonic(Japan) |
| 4 | 3.2 | BYD(China) |
| 5 | 2.5 | Samsung SDI |
| 6 | 2.4 | SK Innovation |
| 7 | 1.3 | CALB(China) |
| 8 | 1.0 | AESC(China) |
| 9 | 0.9 | Guoxuan(China) |
| 10 | 0.6 | PEVE(Japan) |



Strong Will of
Government
&
Business

5G, High Innovation Tech



Excellent Up & Downstream Ecosystem



Source : Hyundai Mobis

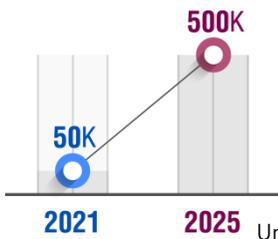
Our EV Ecosystem

II. Korea's EV vision

EV-Everywhere Charging Station

Living Base(Residence,Work)
50K(Now) → 500K(2025)

Moving Base(Highway)
8,900(Now) → 15K(2025)



Units : Chargers

Reasonable Price

Battery Lease | Increase sales(Economics of Scale) | Subsidy

1/2 of Original Price

Purchasing Price : Approximately 18 million won + Lease Fee



Sep. 2021. Battery Lease pilot program launch

Market Demand Expansion

(Public) 100% Obligation EC,HFCV | (Private) Eco-car Program

91 Agencies

| Agency | 산림통상자원부 | 국토교통부 | 환경부 | 중소벤처기업부 | 기획재정부 |
|--------|---------|-------|-----|---------|-------|
| Count | 40개 | 25개 | 11개 | 11개 | 4개 |

Agency

EV, HFCV
PHEV



Agency CEO

EV, HFCV

High-End EV

| Major Function | Now(2021) | Goal(2025) |
|--------------------------|------------|------------|
| Mileage | 400 km | 600 km |
| Electrical Efficiency | 5.6 km/kWh | 6.5 km/kWh |
| Energy Density (Battery) | 250 Wh/kg | 350 Wh/kg |

CO2 & Transportation



Transport Emission **16.2%**

Road **73.5%**, Aviation 11.7%, Shipping 10.5%



Transport Emission **14.2%**

Road **93.75%**, Shipping 3.06%, Aviation 1.67%

CBAM(Carbon Border Adjustment Mechanism)



- Purchasing a certificate as much as the amount of carbon in export products
- Fully functional from 2026
- Steel, aluminum, fertilizer, cement, electricity



- 'Polluter Import Fee' is under review



- ✓ By 2030, the share of ICE vehicles in urban areas cut in half and phase out by 2050



- ✓ Target to achieve 33.3% of sales of EV & HFCV by 2030



- ✓ Target to achieve 50%~70% of sales of EV & HFCV by 2030



- ✓ As of 2020, 56% of total car sales are EV
- ✓ Ban on sales of ICE by 2025

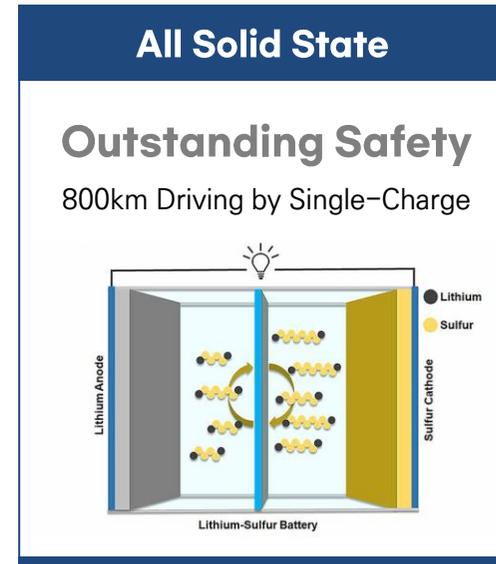
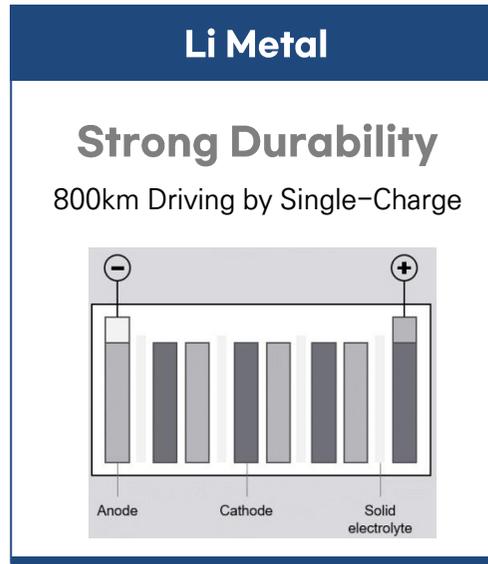
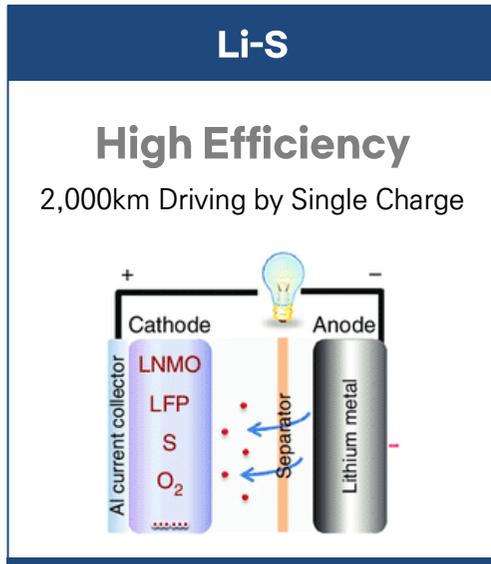


- ✓ Plans to go all electric by 2035, phase out gas and diesel engines



- ✓ Plans to go all electric by 2030
- ✓ End diesel truck sales by 2040

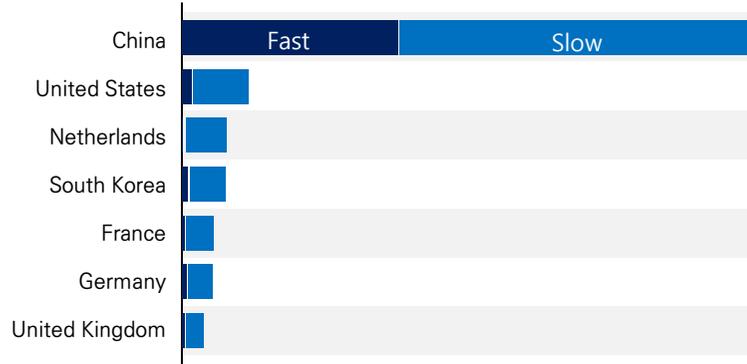
“Lower the Price & Longer Mileage” >>> “New Materials & New Circulatory System”



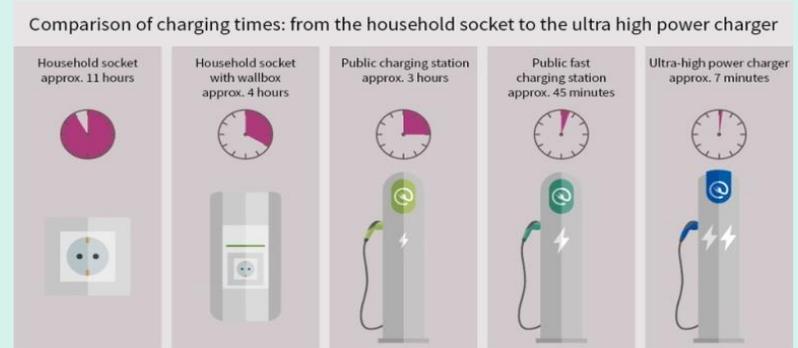
Source : Published in: Mara Johnson-Groh; Scilight 2019, 320004 (2019) DOI: 10.1063/1.5122197 Copyright © 2019 Author(s)

Upgrade Charging System

① Sufficient Charging Station



② Fast Charging Infrastructure



③ V2G(Vehicle-to-grid)



Source : Statista, Infineon, autofutures

④ Future Charging Technology

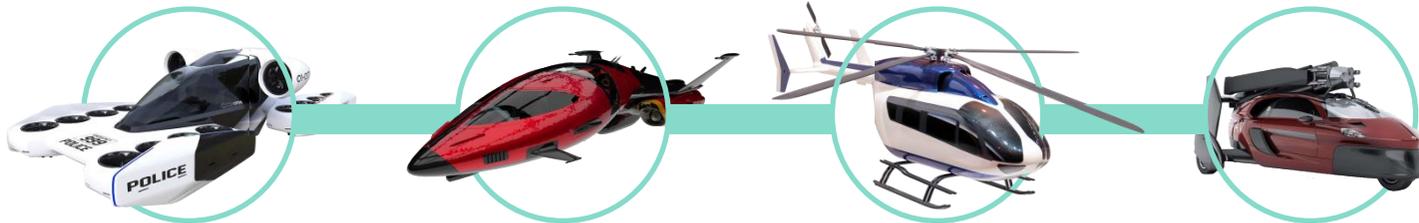




Personal mobility Vehicle



Urban air mobility

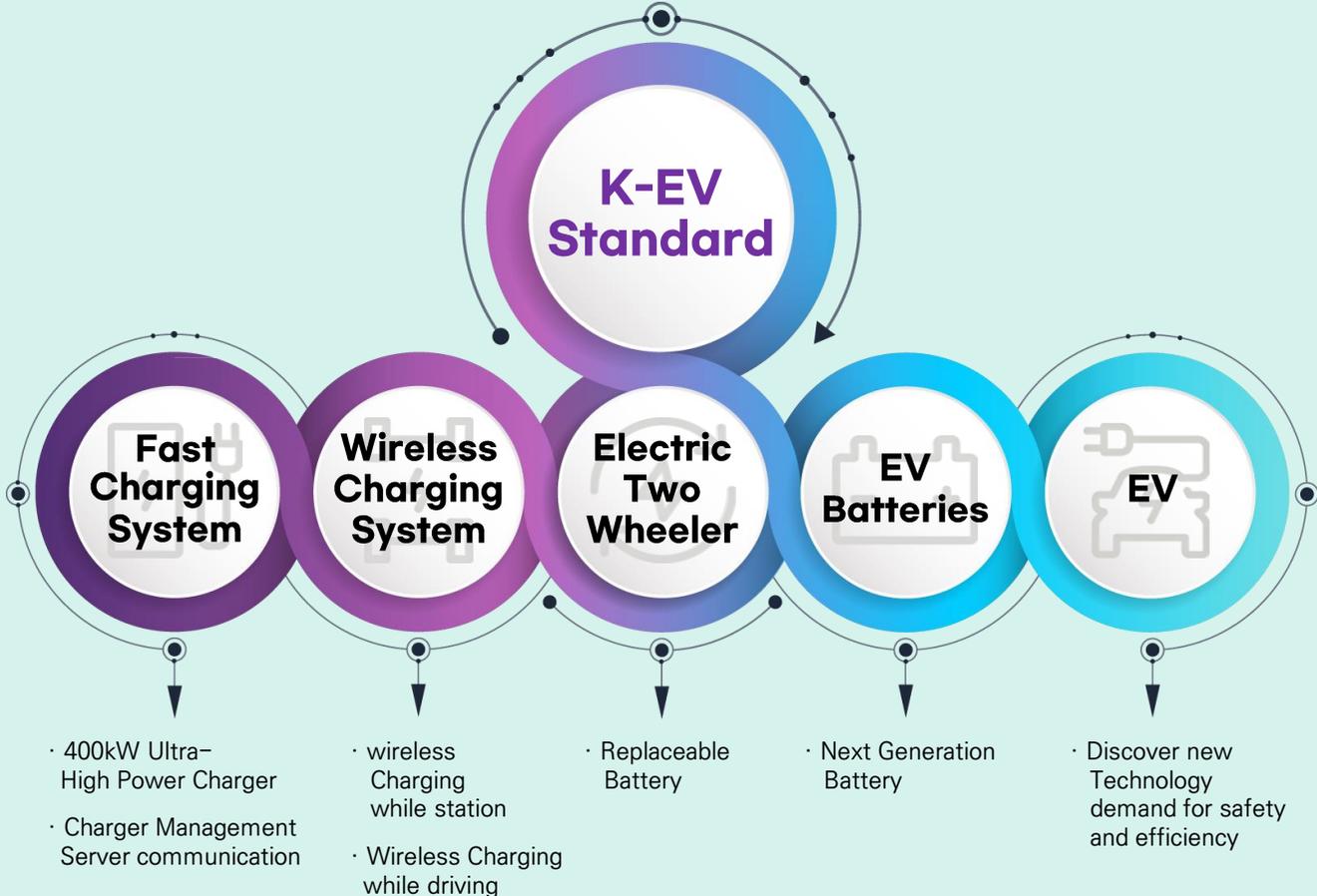


Source : RENAULT WISY COUPE, 킹송, 토모루, Hoversurf, pal-v

Purpose Built Vehicle & Hub



Setting the Right Standard



대한민국의 미래, 내가 바꾼다

포스트 코로나 시대, 국가발전 프로젝트를 공모합니다.
 민간 주도의 경제혁신·사회발전 아이디어를 들려주세요.
 색별 같은 아이디어에 1억원과 "(사업시행시) 초기지분"이!



6.7(월) ~ 9.24(금)

공모주제

- ① 국가적 의제 해결 프로젝트
- ② 민간이 주도하는 프로젝트

참가자격

참가단위 개인 또는 팀 (개인·팀은 통합 시상)
 부 문 기업 (기업 구성원 또는 팀)
 일반 (자영업자, 국민 등)
 대학 (국내외 대학(원) 교수·학생)

공모일정

6. 7 ~ 9. 24 접수
 10월중 1차 심사 (서류심사)
 10월말 ~ 11월중순 2차 심사 (기업인 멘토링)
 11월말 3차 심사 (국민 오디션 개최)

응모방법

공모전 홈페이지에 업로드 및 접수
[\(http://nationalproject.korcham.net/\)](http://nationalproject.korcham.net/)

시상내역

| 시상 | 인원 | 비고 |
|------|----|--------|
| 대상 | 1 | 1억원 |
| 최우수상 | 3 | 각 3천만원 |
| 우수상 | 3 | 각 1천만원 |
| 입선 | 3 | 각 3백만원 |

※ 프로젝트가 실제 시행될 경우, 포럼으로 초기 자본을 제공할 예정입니다.
 (회사 설립 규모와 자금 소요계획에 따라 심사 및 경영 과정에서 지분 부여 규모를 결정한다)

문의사항

운영사무국 T 02-6050-3492~6
 (평일 10시 ~ 18시)