



Effect on Business for COVID19 and Future strategy in EV market



























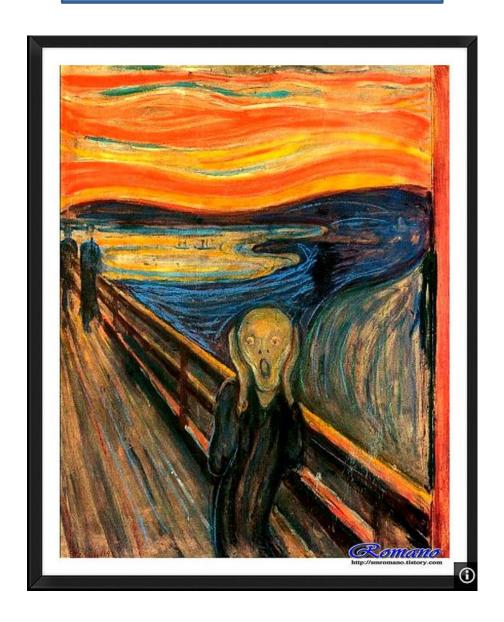




### **Before Pandemic**

- Regular Training Session in month
- Several EV maker training Discussion
- Korea Post Office Training
- High School after class
- University Special Training
- PPE (Personal Protective Equipment)
- New Service Potential
- Exhibition Speakers
- Tech Seminar Speakers
- Charging Infra Consulting
- Etc..

### **Under Pandemic**







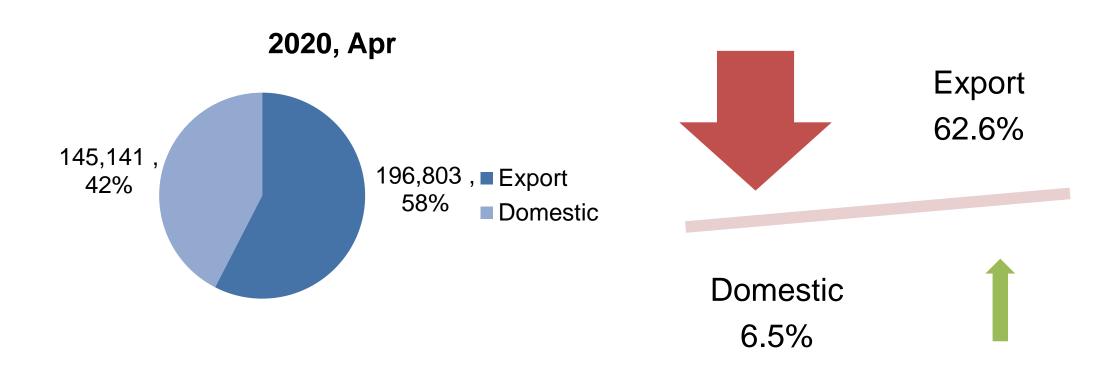




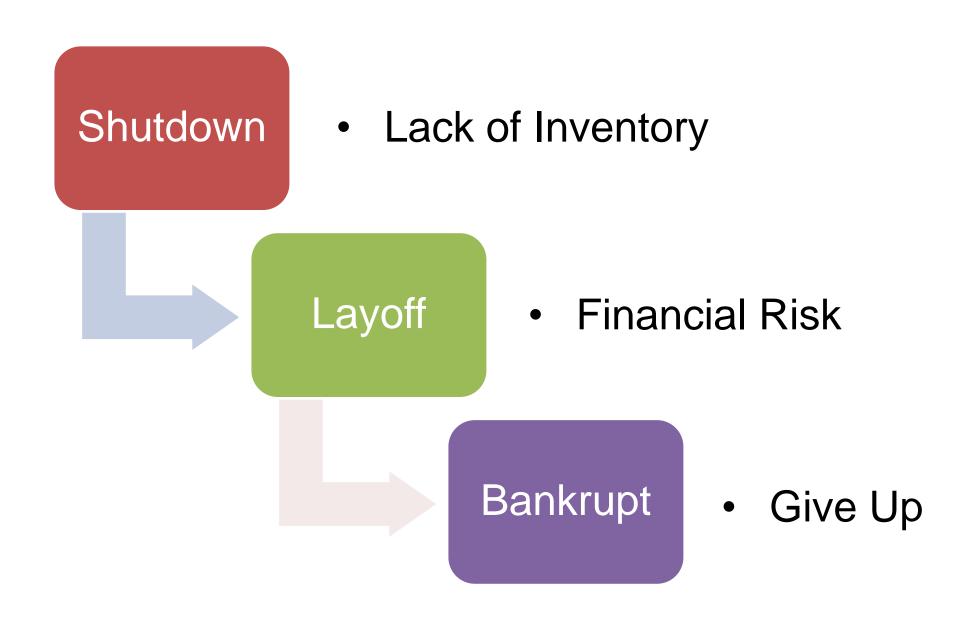
May 7, Domestic Major 5 companies total sales on Apr are 341,944 which consist of 196,803 export and 145,141 domestic.

It was 48.4% minus when compare to YoY.

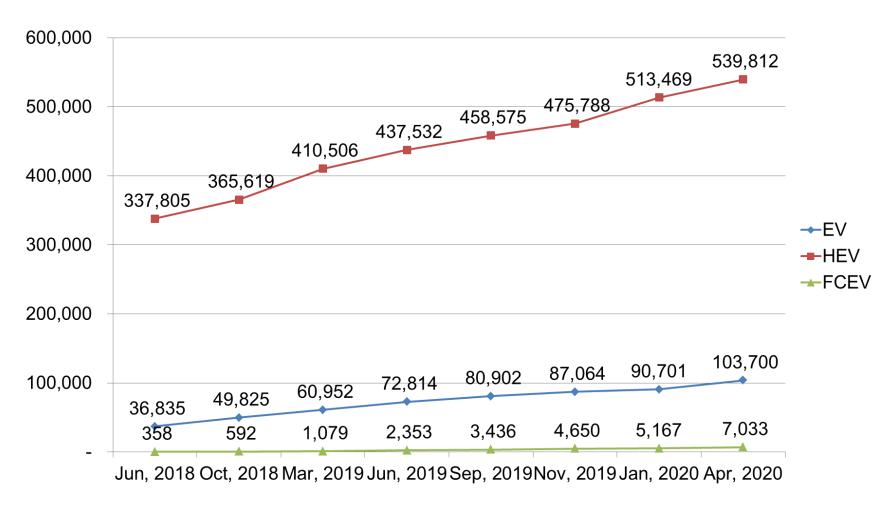
The main reason was export with 62.6% minus but domestic sales increase with 6.5%.











2018~2020 Registered Vehicles

# Electric Vehicle market getting increase even in Pandemic Situation!!





1 LG화학 2.5 5.5 2 파나소닉 5.5 5.2 3 CATL 5.6 3.6 4 삼성SDI 0.9 1.2 5 AESC 1.1 1.1 6 BYD 3.6 1.0 7 SK이노베이션 0.4 0.9 8 PEVE 0.5 0.5 9 Guoxuan 0.5 0.3	117.1% -3.8% -36.1% 34.0% 8.3%		17.4 6.0
3 CATL 5.6 3.6 4 삼성SDI 0.9 1.2 5 AESC 1.1 1.1 6 BYD 3.6 1.0 7 SK이노베이션 0.4 0.9	-36.1% 34.0%	23,4% 3,8%	6.0
4     삼성SDI     0.9     1.2       5     AESC     1.1     1.1       6     BYD     3.6     1.0       7     SK이노베이션     0.4     0.9	34.0%	3.8%	
5 AESC 1.1 1.1 6 BYD 3.6 1.0 7 SK이노베이션 0.4 0.9			
6 BYD 3.6 1.0 7 SK이노베이션 0.4 0.9	8.3%	4,4%	5.6
6 BYD 3.6 1.0 7 SK이노베이션 0.4 0.9			
7 SK이노베이션 0.4 0.9	-72.0%	15.1%	4.9
8 PEVE 0.5 0.5 9 Guoxuan 0.5 0.3	108.5%	1,8%	4.5
9 Guoxuan 0.5 0.3	-8.5%	2.2%	2.4
	-48.5%	2.1%	1.2
10 LEJ 0.2 0.2	-12.1%	0.9%	1.0
기타 3.0 0.9	-70.8%	12.6%	4.3
함계 23.8 20.4	-14.2%	100.0%	100.0

- LG Chemical No.1 Battery Provider on Apr
- Korean 3 Battery Companies MS over 40%



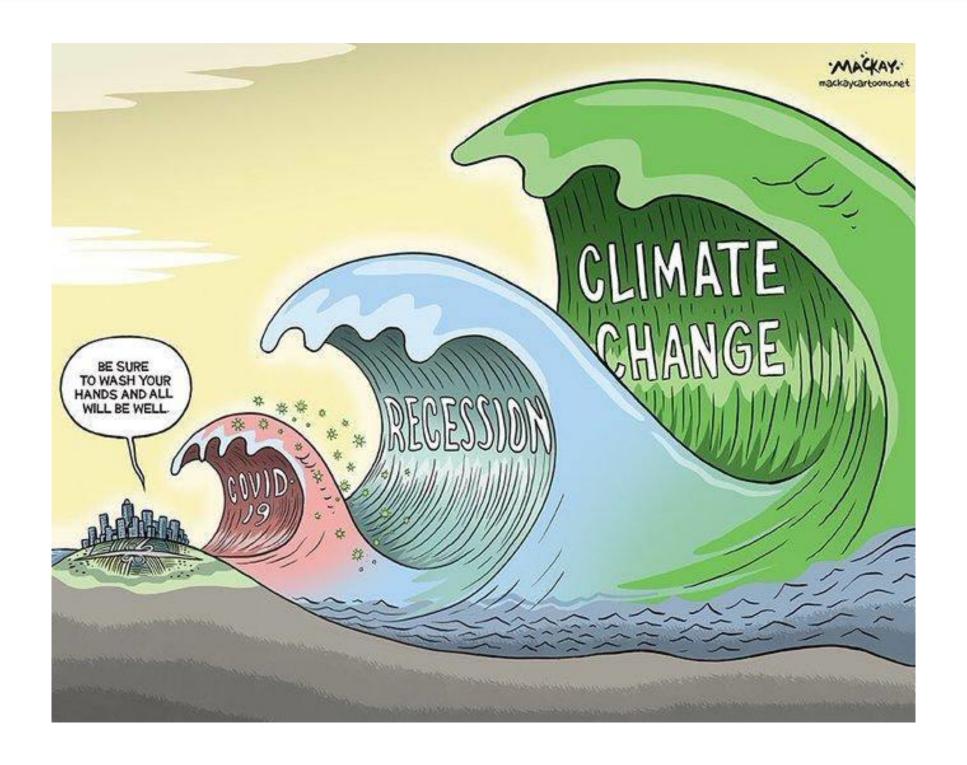
# Hyundai / KIA

- 44 Eco-Friendly Vehicle by 2025 (23 vehicles are BEV)
- World EV Market Share 4<sup>th</sup>
- Hyundai will launch E-GMP ev platform from Jan, 2021
- Genesis brand will add EV model and expand from 2024
- Investment to RIMAC
- Investment to IONITY
- Potential to work with Samsung for Solid State Battery
- Hyundai started UAM potential











# THE GLOBAL GREEN NEW DEAL

글로벌 그린 뉴딜

2028년 화석연료 문명의 종말,

그리고 지구 생명체를 구하기 위한

대담한 경제 계획

제러미 리프킨

안진환 옮김

민음사









Over 60 local companies with TBOI Seoul

How to work increase internal synergy

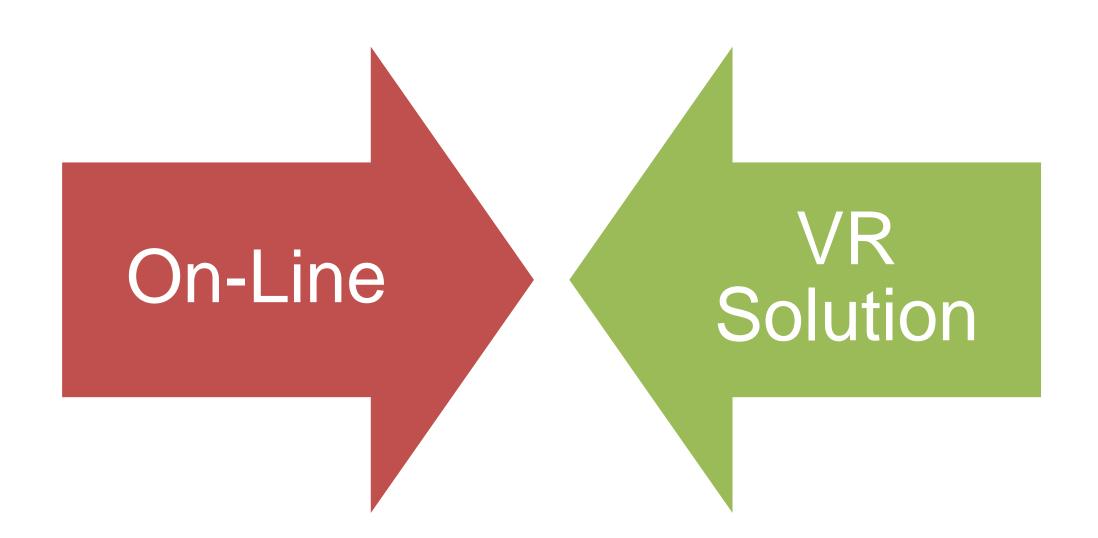
How to support local government e-mobility project

How to work together with global partners











### VIRTUAL & AUGMENTED REALITY IN PRE-SCHOOL EDUCATION

Early education is all about learning through experience. Find out how your youngest students can benefit from immersive 360 environments, used to enhance and complement the real-world exploration and play that builds a solid foundation in the preschool years.

Virtual Reality in Pre-School Education >



## VIRTUAL & AUGMENTED REALITY IN ELEMENTARY SCHOOLS

There's so much potential for bringing the curriculum to life using virtual and augmented reality experiences, from visiting far-flung corners of the world to holding the human heart in your hands. Find out more about how VR and AR can have a remarkable impact in all areas of learning.

Virtual Reality in Elementary Schools >



### VIRTUAL & AUGMENTED REALITY IN SECONDARY SCHOOLS

Ensuring students are engaged, motivated and challenged throughout their school career is a key priority for teachers. See how virtual and augmented reality can unlock potential, giving students new ways to experience learning and even create their own modia.

How Secondary Schools use Virtual Reality >



### VIRTUAL & AUGMENTED REALITY USED FOR VOCATIONAL TRAINING

Vocational training will really begin to feel the impact of virtual and augmented reality over the next year or so. The ability to experience training in 360 is invaluable – and imagine budding mechanics viewing a working engine from all angles without leaving the classroom. All this is possible right now with ClassVR.

How Secondary Schools use Virtual Reality >



### **VR & AR FOR FURTHER EDUCATION**

Universities and colleges have always been at the cutting edge of new technologies, driving development and creating the next generation of scientists, developers and entrepreneurs. Virtual and augmented reality technologies are at the frontier of development right now; the market is forecast to reach \$13.9 billion in 2017 (IDC), and change is happening at a frenetic pace.

Virtual Reality in University & Higher Education >



https://www.classvr.com/virtual-reality-in-education/





Fire-Fighter



Service Technician



Engineers





360 VR Contents



CAD to VR

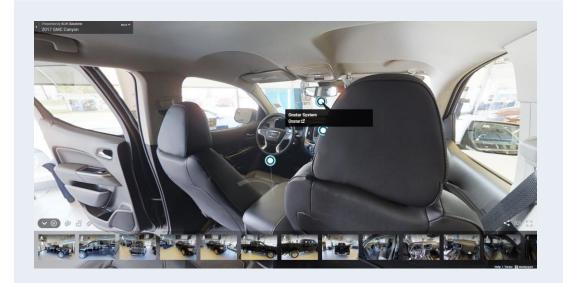


VR meeting



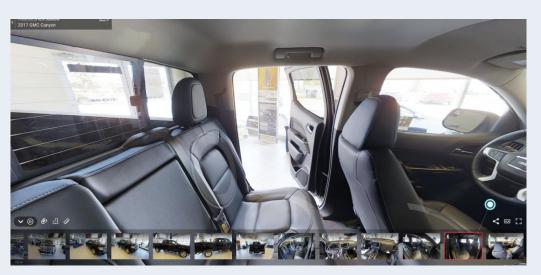
# 2017 GMC Canyon

• Link: <a href="https://my.matterport.com/show/?m=1M3xw6CqvML&h|=1&ts=1&play=1">https://my.matterport.com/show/?m=1M3xw6CqvML&h|=1&ts=1&play=1</a>

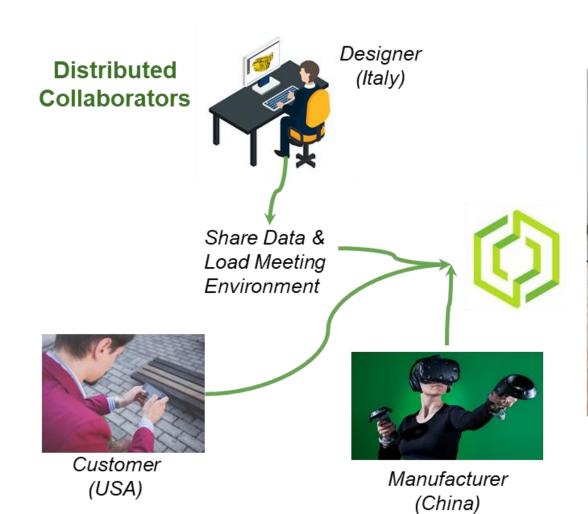














Exxar simplifies immersive communication & collaboration. Users select & meet in a virtual environment, share 3D content & communicate with intuitive interfaces for visualization & interactions.







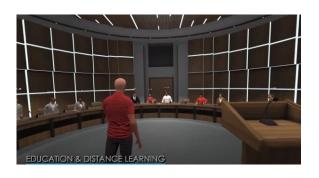












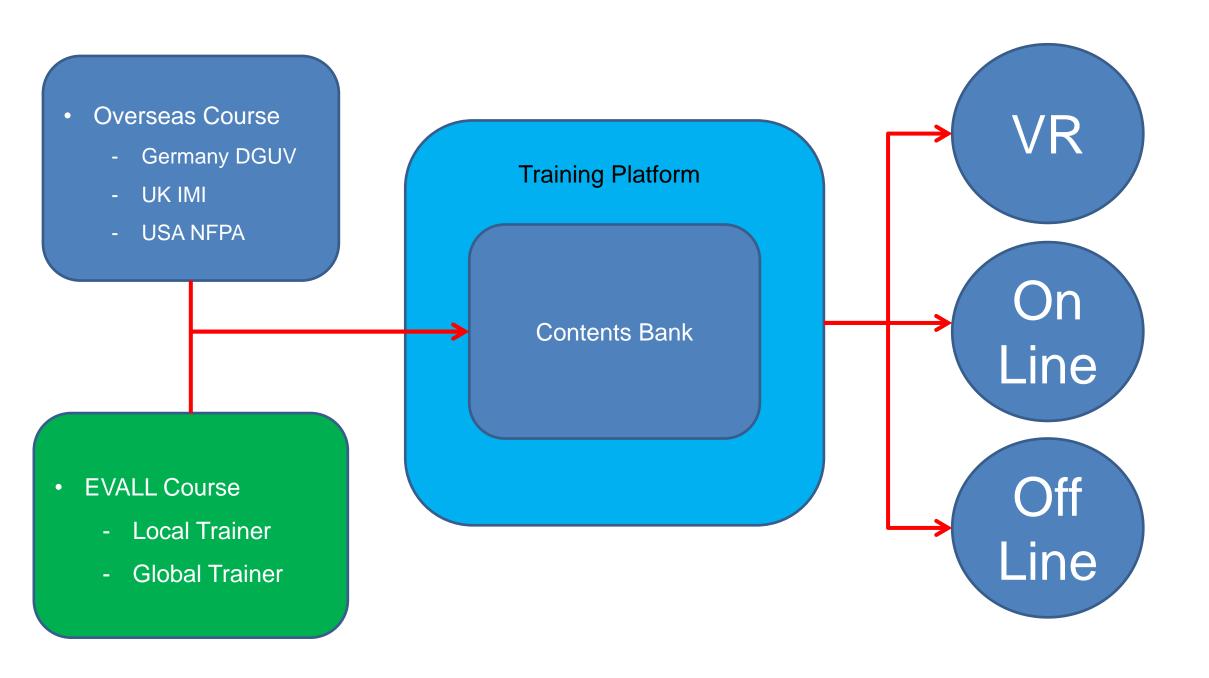




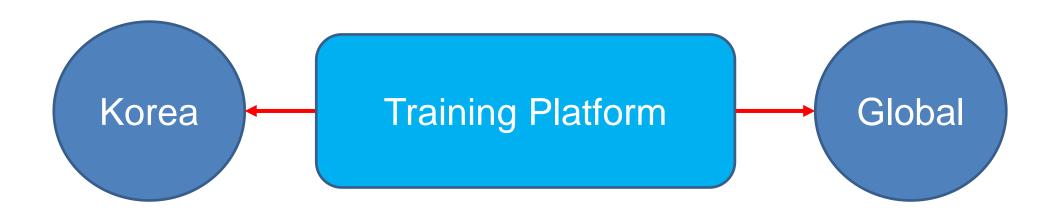












- Korean-Global Bridge based on Training Platform
- Co Development Open Project
- Korean e-Mobility Technology
- Reduce Cost
- Technical Transfer
- Production Globalization



### The EXXAR Kit is one-stop-solution for all your VR needs

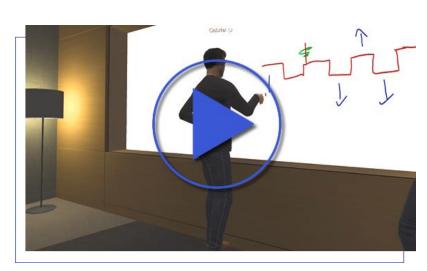


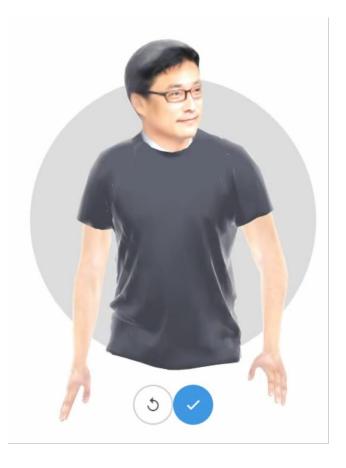


### LIGHTWEIGHT ELECTRIC VEHICLES













# THANK YOU

감사합니다.