

# Insight

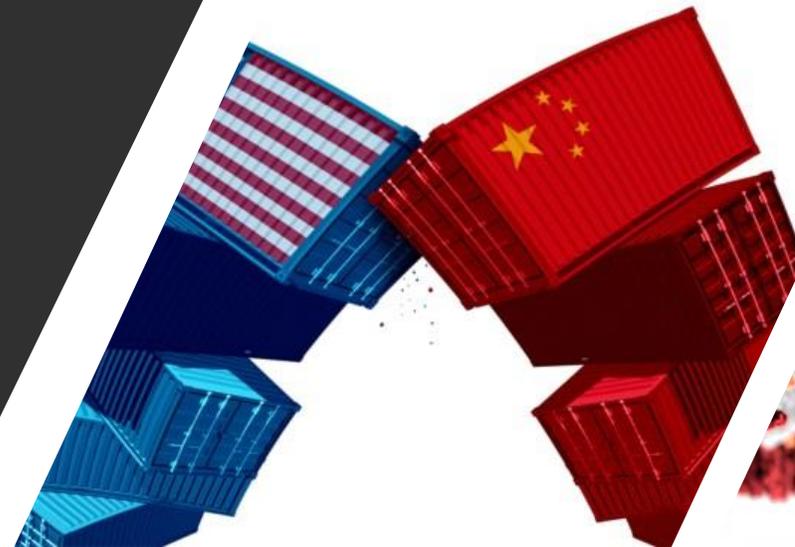
Strategy. Supply Chain. Sales & Marketing.



## Surviving to Thriving OESA 2020 China Market Outlook 18 June 2020

# Challenging Time

- Tariff War
- Tech War
- COVID-19
- USMCA
- **De-Couple?**



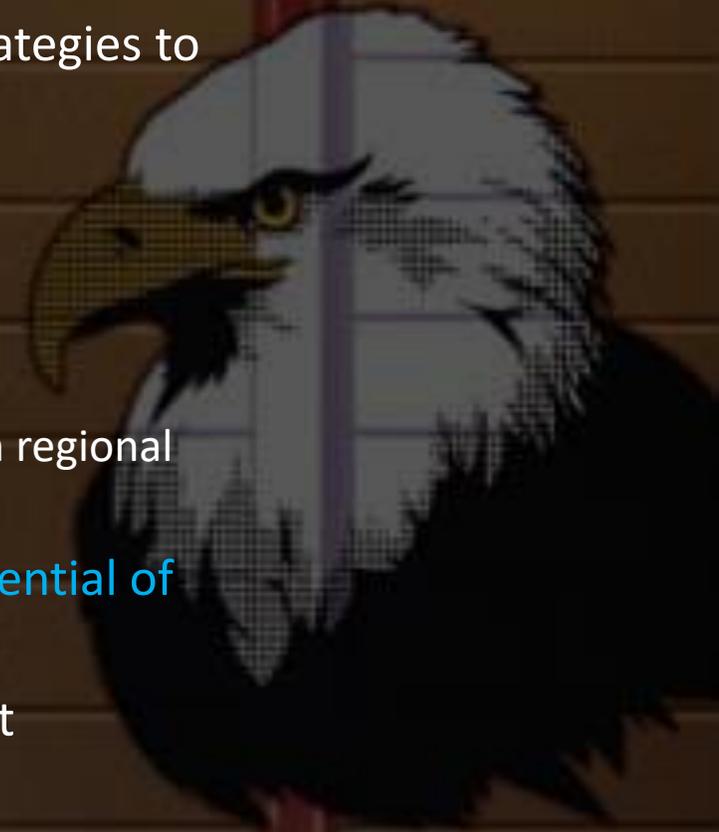
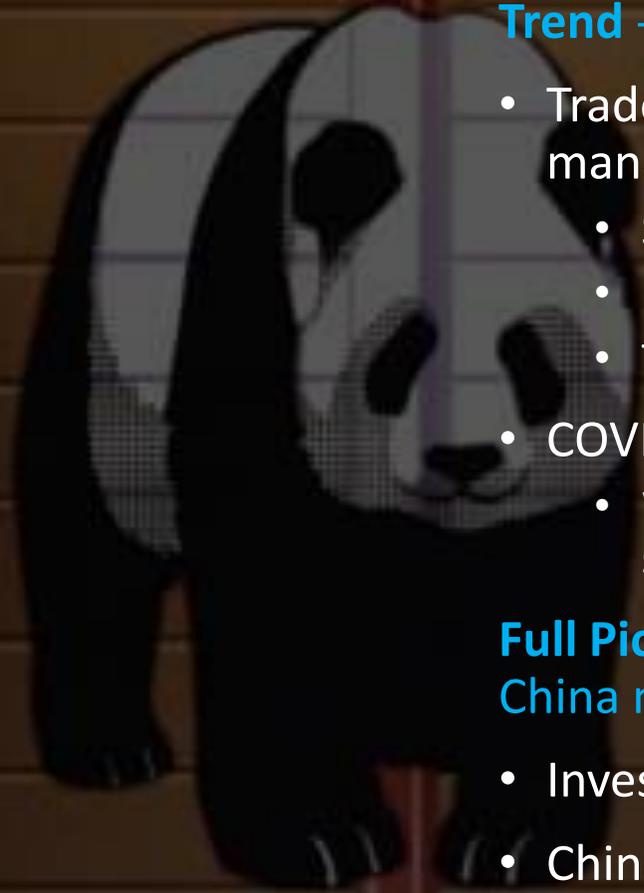
# Leaving China?

## **Trend** - reducing dependency on China

- Trade Dispute - Considering adjusting the supply chain strategies to manage the risks and uncertainties
  - Seeking alternative sources
  - Relocating production to other regions
  - Takes time and investment; not easy
- COVID-19 - Bringing new focus to Supply Security
  - Will accelerate supply chain reconfiguration – diversify with regional solutions

## **Full Picture** - hard to separate given the size and growth potential of China market

- Investing in China for China continues to remain important
- China will need global technologies to maintain growth
- Supply chain restructuring will be bi-directional



# US - China Interdependence



## US Automotive Trade with China is large

**Vehicles:** 192K Exported;  
68K Imported (Volvo and Buick)

**Parts:** \$2.5B Exported;  
\$15.6B Imported



## Over \$4B Chinese investment in the US automotive

Suppliers mfg. – wholly owned, JVs / M&A

R&D Centers

Advanced autonomous vehicle research



## China Government incentivizing exports

Exchange rates

Investments

VAT Refund

Stimulus for EVs

# China Reality



The biggest auto market, also the biggest NEV market



The most competitive manufacturing ecosystem



Many global companies rely on China for future revenue growth



Mega cities will create the leading smart mobility market



Chinese Gov incentivizing technologies for electric, connected and autonomous



Having strong local partners is critical for understanding the market, the customers, as well as business development

In China, if the policy leads in one direction, technology and money goes in that direction too.

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*Tesla Successful Story in China*

- *Financed by Chinese Government*
  - *Assembly plant built within a year*
  - *Projection 30% of Tesla global sales 2020 in China*
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# NEV a Top Priority

To become a technological leader in the automotive sector from a follower

To reduce the dependence on imported oil

To improve air quality

*Continued EV Incentives – 2021-2022*

## Develop Supply

R&D funding in Battery, Motor & Inverter  
Dual-credit system (a la California)

## Generate Demand

Buyer subsidies  
Tax exemptions  
License plate restrictions  
Traffic restrictions  
Government procurement

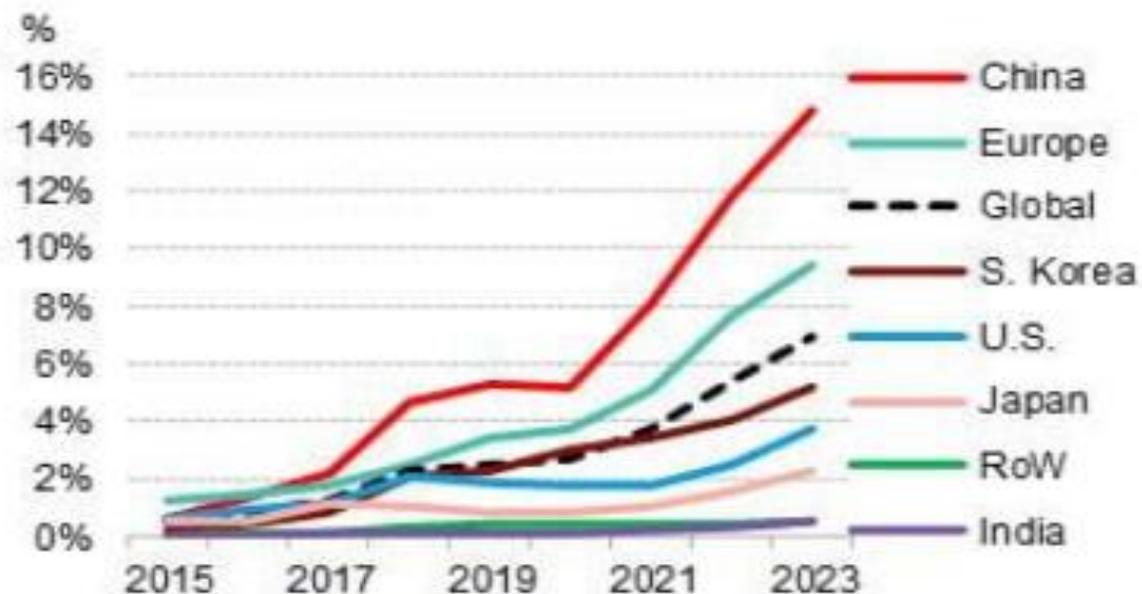
## Build Charging Infrastructure

The State Grid and the private enterprises involved  
Mandate charging facilities in new residential communities  
275k charging poles as of 07/2018  
4.5 million poles and 12K charging stations by 2020

# The Largest, Fastest Growing EV Hub

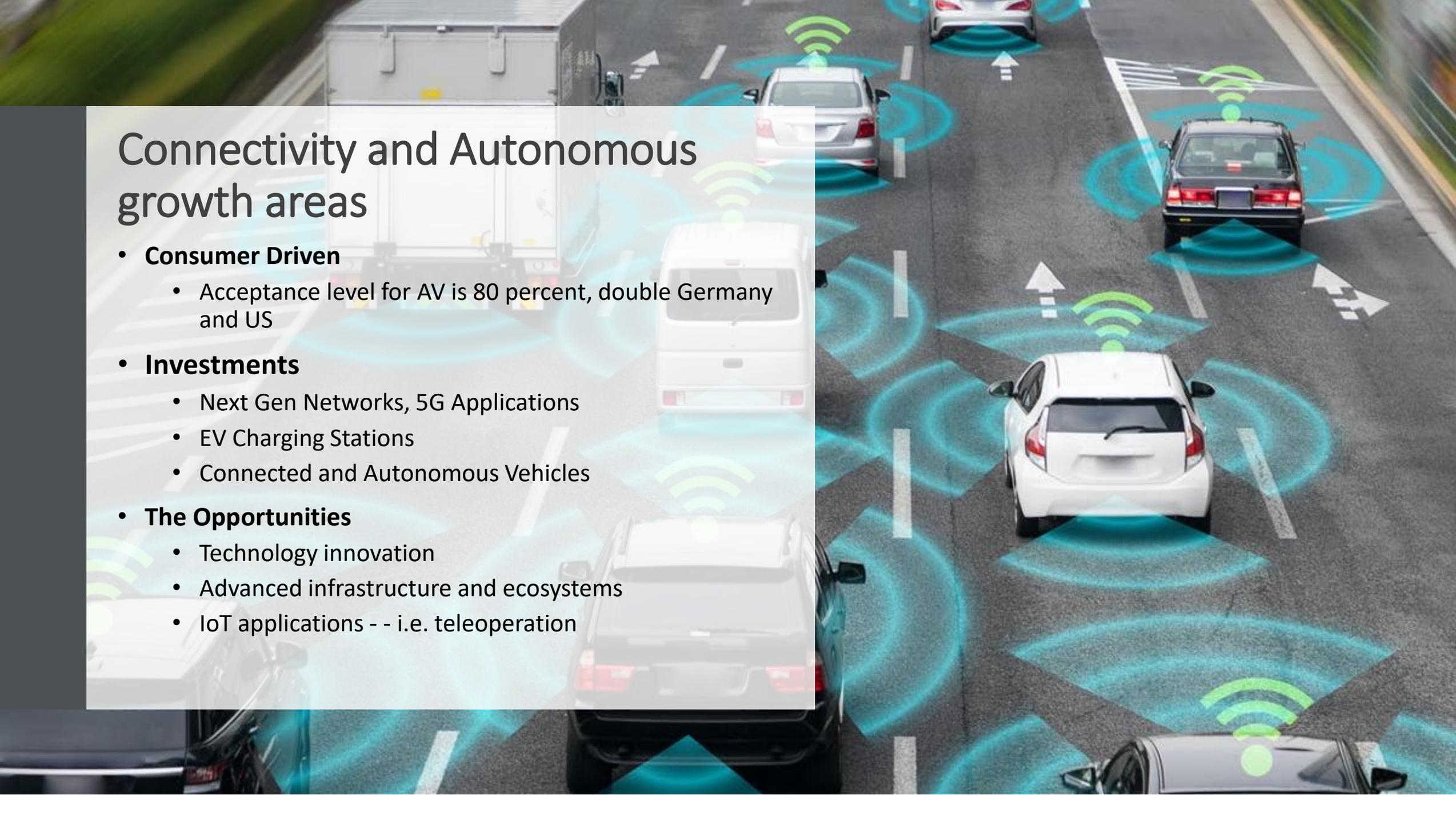
It can almost be envisioned China will be the EV export center 5-10 years from now

**Figure 1: Global short-term EV share of new passenger vehicle sales by region**



Source: BNEF. Note: Europe includes EU, U.K. and EFTA.

Automakers	China EV News
VW JVs with SAIC, FAW & JAC	<ul style="list-style-type: none"> <li>Invest \$2.34 billion in two EV companies: JAC and GuoXuan High Tech</li> <li>Two new EV plants with a combined capacity of 600,000 a year with FAW and SAIC</li> <li>15 models by 2025</li> <li>To sell 1.5 million EVs per year by 2025</li> </ul>
GM JVs with SAIC, Wuling	<ul style="list-style-type: none"> <li>Spending ~ \$3.0 B /year on global EVs</li> <li>To offer 20 new electric models by 2023</li> <li>Battery JV with LG CHEM</li> </ul>
Honda JVs	<ul style="list-style-type: none"> <li>To launch more than 20 EVs by 2025</li> </ul>
Geely & Daimler JV	<ul style="list-style-type: none"> <li>JV to invest \$0.8 B for Smart brand entries</li> <li>2020 Launch of POLSTAR Brand</li> </ul>
Toyota JVs with FAW and GAC	<ul style="list-style-type: none"> <li>\$1.2 B for new NEV factory in Tianjin, 200,000/year</li> <li>\$1.6 B with GAC to expand capacity</li> <li>Fuel Cell partnership with 5 Chinese companies</li> </ul>
Nissan & Dongfeng JV	<ul style="list-style-type: none"> <li>Investing \$9.5 B 2018-2023 focused on EVs</li> <li>20 electric models by 2023</li> </ul>
Ford & JVs	<ul style="list-style-type: none"> <li>To launch 30 new models by 2022; over 1/3 to be EVs</li> <li>70% of lineup to be electric by 2025</li> </ul>
Tesla	<ul style="list-style-type: none"> <li>\$2 billion Shanghai Gigafactory opened in 2019; Record sales in March</li> <li>Battery Assembly and model Y production added for late 2020</li> </ul>
BMW JVs	<ul style="list-style-type: none"> <li>New \$0.6 B factory to produce EVs and hybrids with Brilliance</li> <li>\$0.7 B Plant with Great Wall for Mini + Models; 140,000/year in 2022</li> </ul>
Hyundai JVs	<ul style="list-style-type: none"> <li>\$6.7 B through 2030</li> <li>Fuel Cell production with Sichuan Nanjun in 2023</li> <li>50,000 FC vehicles per year by 2030</li> </ul>



# Connectivity and Autonomous growth areas

- **Consumer Driven**

- Acceptance level for AV is 80 percent, double Germany and US

- **Investments**

- Next Gen Networks, 5G Applications
- EV Charging Stations
- Connected and Autonomous Vehicles

- **The Opportunities**

- Technology innovation
- Advanced infrastructure and ecosystems
- IoT applications - - i.e. teleoperation

# Technology & Innovation Opportunities

## EV Technologies

- China is making progress on hardware components and core battery technology

## Connectivity

- Big investments on next generation networks, 5G applications and smart charging

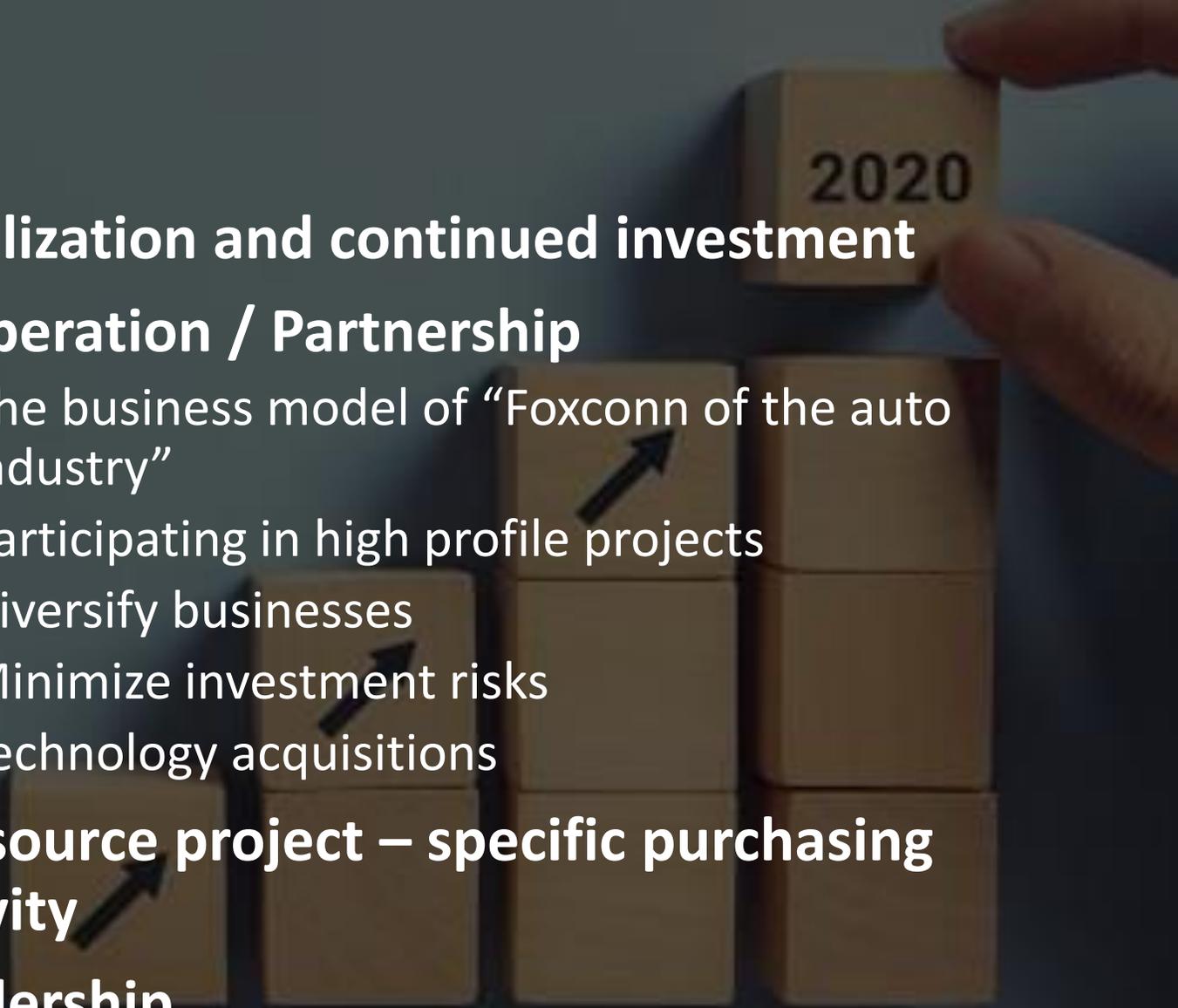
## Autonomous Driving

- Great desire for autonomous technologies, but dependent on technological support from foreign suppliers

## China's Challenges

- Software / ECUs; EE Architecture; Advanced Sensors  
System Design & Integration  
Functional Refinement

# The Path Ahead: evolving business models

- **Localization and continued investment**
  - **Cooperation / Partnership**
    - The business model of “Foxconn of the auto industry”
    - Participating in high profile projects
    - Diversify businesses
    - Minimize investment risks
    - Technology acquisitions
  - **Outsource project – specific purchasing activity**
  - **Leadership**
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# Parting Thoughts

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## Automotive Insight

*Skilled. Trusted. Proven*

Industry  
Thought  
Leaders

Business  
Growth

Global  
Perspective

- Supply chain reconfiguration
- Remain flexible
  - Recognize the benefits
  - Identify/Mitigate the risks
- Innovative and agile
- Creative business model

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