

Automotive Fiscal 2020 Second-half and Medium-term Initiatives

November 22, 2019

Yuki Kusumi, CEO

Automotive Company
Panasonic Corporation



Notes: 1. This is an English translation from the original presentation in Japanese.
2. In this presentation, "Fiscal 2020" or "FY20" refers to the year ending March 31, 2020.

1 . Fiscal 2020 First-Half Progress and Second-Half Initiatives

2 . Medium-term Initiatives



1. Fiscal 2020 First-Half Progress and Second-Half Initiatives

2. Medium-term Initiatives

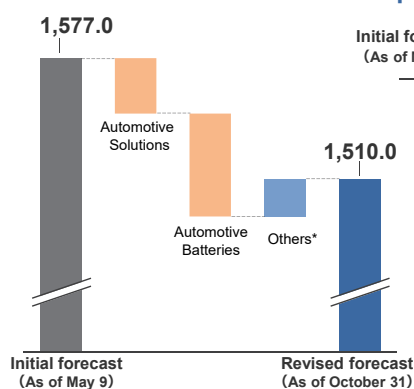


FY2020 Full-Year Forecast Revision

FY20 forecast

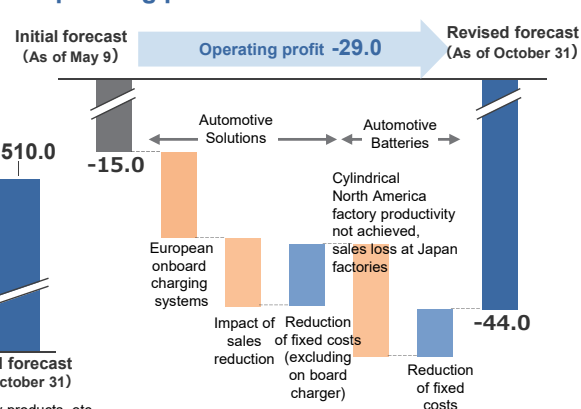
(yen: billions)	1H results	vs. FY19	2H forecast	vs. FY19	Full-year forecast (as of Oct.31)	vs. FY19	vs. initial forecast
Sales	747.2	+21.4	762.8	-34.6	1,510.0	-13.2	-67.0
Adjusted operating profit (Adjusted OPM)	-22.4 (-3.0%)	-13.6	-17.1 (-2.2%)	-14.1	-39.5 (-2.6%)	-27.7	-29.0
Other income/loss	-0.3	-0.5	-4.2	-3.7	-4.5	-4.2	-
Operating profit (OPM)	-22.7 (-3.0%)	-14.1	-21.3 (-2.8%)	-17.8	-44.0 (-2.9%)	-31.9	-29.0
Investment	57.3	+10.8	83.7	+21.4	141.0	+32.2	-19.0

Sales (yen: billions)



*Others : sales of other Divisional Company products, etc.

Operating profit (yen: billions)



Initiatives after FY20 2HF

Automotive Solutions	<ul style="list-style-type: none"> Efforts to strengthen the management structure Minimize the impact of worsening earnings on European subjects
Automotive Batteries	<ul style="list-style-type: none"> Stabilize productivity improvements by increasing support to North America factory Further improvement of productivity and profitability through labor saving (mid-long term)

1. Fiscal 2020 First-Half Progress and
Second-Half Initiatives

2. Medium-term Initiatives

Panasonic

Summary of Automotive Business Growth Strategy

Panasonic

- As a once every 100 years car revolution has arrived, expand the area in which the company can contribute to the automobile industry, Panasonic focuses on automotive business

Comfort

The car and network are connected

- Focus on the development of cockpit products (IVI, HUD) using digital AV technologies and software platform design capabilities



Safety

From driving assistance to autonomous driving

- Focus on ADAS using sensing devices / image processing technologies



Environment

Eco-conscious vehicles demand growth for environmental reasons

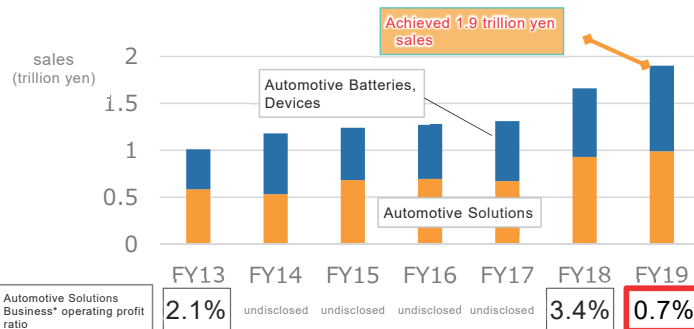
- Focus on expanding battery / electrification business by leveraging years of automotive batteries performance and power electronics technologies



Contribute to the evolution of cars by concentrating our group technologies in the automotive business

IVI : In Vehicle Infotainment HUD : Head-Up Display ADAS : Advanced Driving Assistance System

- Target of "automotive business sales 2 trillion yen" almost achieved in FY2019
- Although sales expansion was realized, issues became apparent with rapid expansion



◆ Achievement

- Expanded business scale in order to position ourselves to become one of the top 10 automotive solutions suppliers
- Grew into a leading player in the infotainment/automotive batteries field
- Created new businesses such as ADAS
- Established global development/production/sales system that faces customers

◆ What happened

<Automotive Solutions> → decline in profitability

- Exceeded the appropriate order volume related to our development capabilities due to rapid sales expansion
- In response to rapid expansion, the organization's ability to respond to changes have not been able to catch up and losses have occurred
- Huge increase of development in certain projects, resulting in significant delays

<Automotive Batteries>

[Prismatic cell] Due to the rapid increase in demand for electric vehicles, large-scale investment was concentrated in a short period

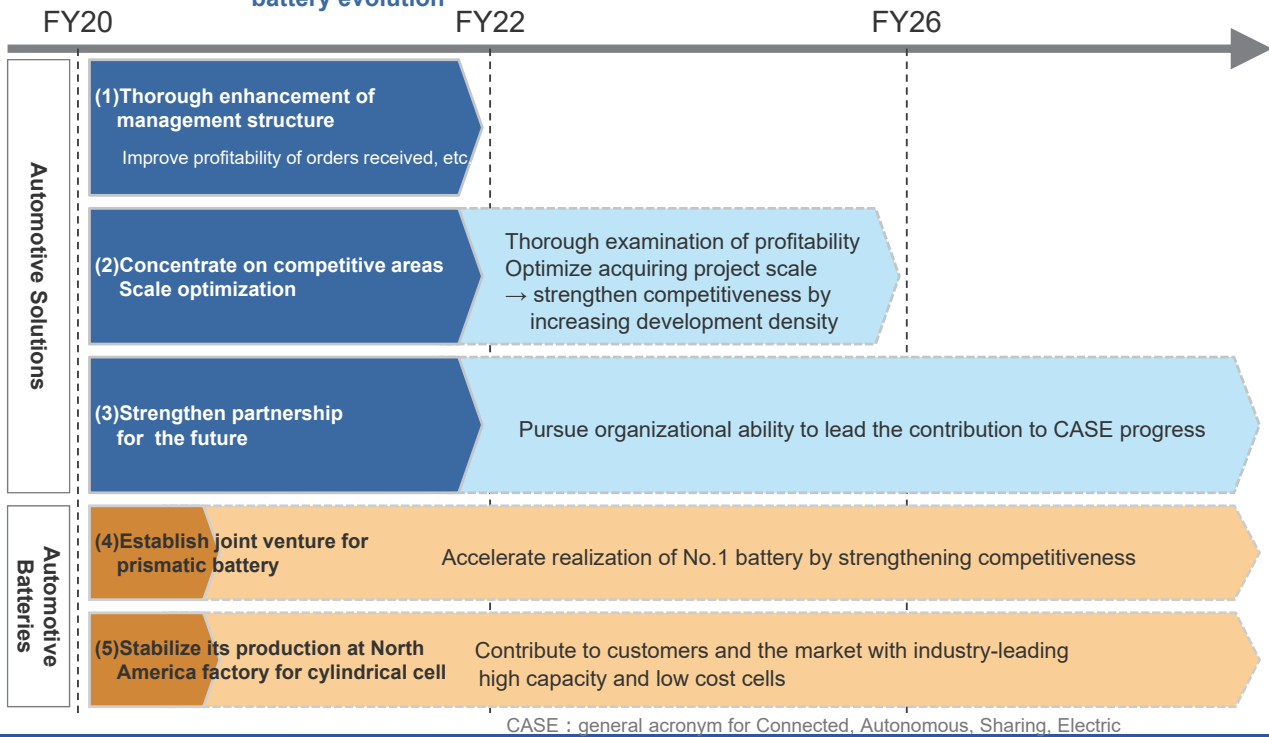
[Cylindrical cell] Struggled in conducting rapid start-up of world-largest factory due to lack of experience

◆ Issues needing clarification

- Insufficient management of received orders and projects
 - Individually optimized global supply chain
 - Poor development management and efficiency loss due to insufficient judgment of customer requests
- [Prismatic cell] Deficient resources for timely response to expanding demand
⇒ Acquire responsiveness through joint venture with Toyota Motor Corporation
- [Cylindrical cell] Delay in productivity improvement at North America factory

* Automotive batteries and cross cell are not included in Automotive Solutions.

[Automotive Solutions] By FY22, we will carry out management reforms and promote the preparation in areas where competitiveness can be utilized, enhance partnership as a foundation for future
 [Automotive Batteries] Move to recovery phase due to steady start-up, improved operation and battery evolution



CASE : general acronym for Connected, Autonomous, Sharing, Electric

Automotive Solutions Business

- Minimize effects of low profit projects in Europe, which affect Automotive Solutions business profit until sales has been discontinued
- Thoroughly strengthen structure by optimizing operations that exceed control limits

Issues

European projects (onboard charging systems)

Strengthen management structure
Improve profitability

Strengthen development management

Measures

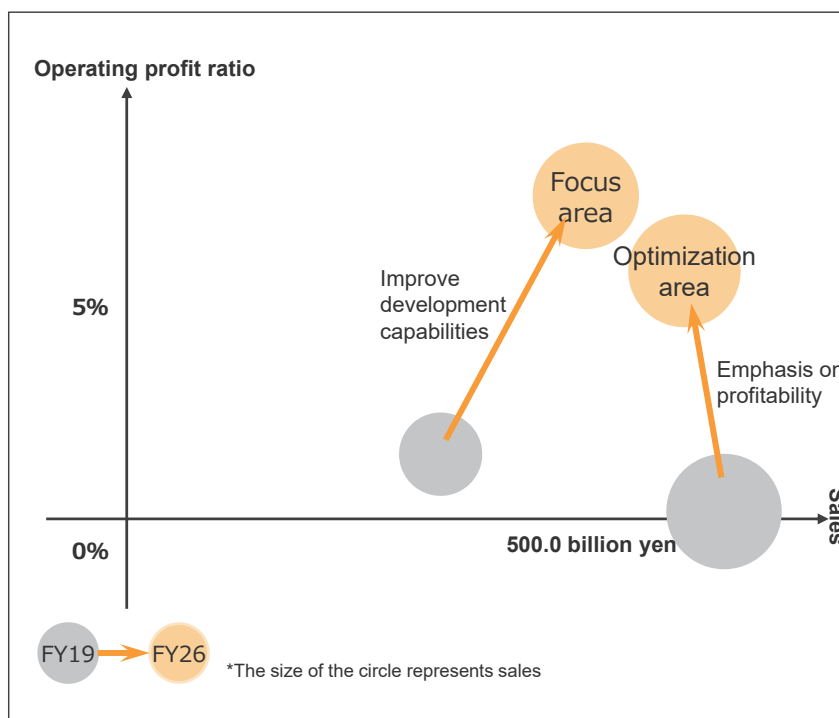
- Concentrate on minimizing loss, leverage development and project management led by AM company HQ

- Reduction of fixed costs: review indirect operations and strengthen checks on managing development subcontractors
- Strengthen cost power through in-house production of source processes and enhance cost power by strengthening design capabilities
- Strengthen change response capabilities through further automation and labor saving

- Improve development efficiency by setting up specialty architecture design teams
 - Thoroughly promote strengthening design capabilities and sharing design
 - Strengthen verification of validity including development
- Change to development that prioritizes architecture matching to improve software diversion rate

**Convert early to a management structure in order to challenge again
Aim for an operating profit margin of over 5% in FY22**

- Concentrate on competitive areas and thorough examination of profitability



Focus area

Concentrate on IVI, ADAS, HUD and cabin space

Optimization area

Display audio, etc.

IVI : In Vehicle Infotainment ADAS : Advanced Driving Assistance System HUD : Head-Up Display

- **IVI** : Correspond to the progress of connectivity, leverage our own knowledge, and contribute to the improved comfort of the driver
- **ADAS** : Focus on areas where we can make use of our strengths and aim for niche top in the low-speed ADAS field

IVI

■ Changes in the market

- With the progress of connectivity
 - Increased amount of information handled in the car
 - Software development volume is rapidly expanding

■ Our strengths and key technologies for contributing to car manufacturers

- Improve driver comfort through user experience knowledge of digital AV and home appliances
- Efficiently fulfilling car manufacturer requests by leveraging platform development results



IVI cockpit

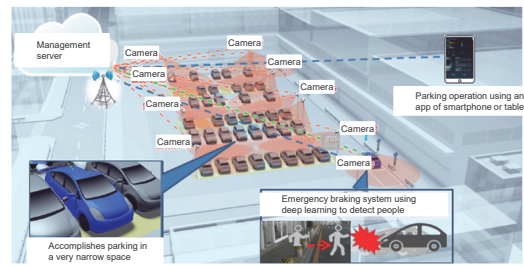
ADAS

■ Market environment

- Driver assist function is the mainstream until CY30
- Growth of high-speed driving and parking support systems (predicted growth of 4 times from CY18 to CY25)

■ Our strengths and key technologies for contributing to car manufacturers

- Concentrate on “vehicle surroundings” systems such as emergency braking and parking assistance
- Realize high detection accuracy by combining image processing and communication technology with high-performance devices (camera and sonar)
- Deep learning network scale reduction by image processing (low cost/power saving)



Automated valet parking

- **HUD** : Providing products that contribute to comfortable driving with our unique technologies
- **Cabin space solutions** : Creating new added value for mobile spaces in the age of autonomous driving

HUD

■ Market environment

- Advancement of large screen
- Market prediction – expand by 5 times (CY18→CY24)



comparison of display size

■ Our strengths and key technologies for contributing to car manufacturers

- Utilizing optical technology and precision mold technology to achieve a compact but large screen and improved design flexibility



HUD equipped in Nissan Motor Co., Ltd. Skyline



HUD display example

Cabin Space Solutions

■ Market environment

- In autonomous driving, the driver is relieved of driving
- The ways of staying in the cars evolve with driving support functions

Aiming to become an innovator of “cabin space” by further evolving devices through “design thinking” cultivated in the “home appliances / living” business



SPACe_L

- With the progress of CASE, further advanced and various technologies are required in automotive business
- Accelerate contribution to mobility evolution by strengthen partnerships with other companies

【Changes in the market】

Further requests for eradication of traffic accidents, comfort in moving spaces, and reduction of environmental burdens will come

Connected

- Increase in data processing volume due to networking



Autonomous

- From driving assistance to autonomous driving
- Cabin space changes • Changes in HMI



Electric

- The spread of eco conscious vehicles will accelerate for environmental reasons



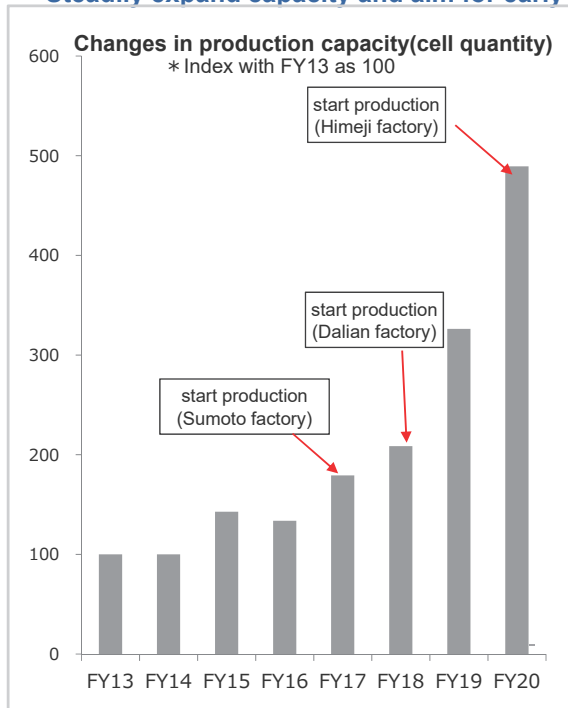
How the cars should be, how the cars are used, the mobility accelerate changes

Contributing to society through the continuous evolution of convenience, safety and comfort in mobile spaces by strengthening partnerships with other companies

CASE : Connected, Autonomous, Sharing, Electric

Automotive Batteries Business

- **A joint venture will be established to accelerate the development of the industry's No.1 batteries and put in place a stable supply system**
 - Obtained competition law approval. Preparation underway with the aim of starting business as a joint venture in the spring of 2020
- **Steadily expand capacity and aim for early profit contribution**



Dalian factory

Started mass production of cells at 2nd plant (November 2019)



Himeji factory

Started shipment of high capacity cells (November 2019)



Joint venture with Toyota Motor Corporation

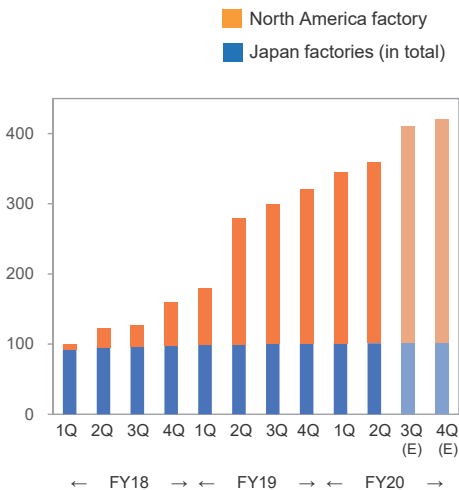
Preparation for establishment is progressing smoothly



- **North America factory improved its profitability by stabilizing productivity**
Aim to have sustainable profit, with additional fixed cost reduction and continuous development of our market-leading technologies

Production Capacity Ramp-up
(For EV use, each quarter annualized)

*Index with FY18/1Q as 100



North America factory

- Expect to be profitable on a single month basis by stabilizing productivity
- Expect to be in full operation by the end of FY20



⇒Steadily improve utilization rate aiming for profitability in 2-HF

Japan factories (Suminoe, Kaizuka)

- Profit dropped due to the sales decrease for non-North America customers



⇒Review the capacity utilization, and reduce fixed cost

Technology R&D

- Lead the batteries industry with its high energy density and safety



⇒Evolve further and maintain a lead with our outstanding high capacity and low cost cells



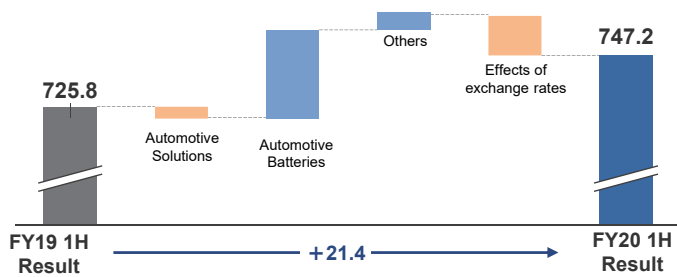
Disclaimer Regarding Forward-Looking Statements

This presentation includes forward-looking statements about Panasonic and its Group companies (the Panasonic Group). To the extent that statements in this presentation do not relate to historical or current facts, they constitute forward-looking statements. These forward-looking statements are based on the current assumptions and beliefs of the Panasonic Group in light of the information currently available to it, and involve known and unknown risks, uncertainties and other factors. Such risks, uncertainties and other factors may cause the Panasonic Group's actual results, performance, achievements or financial position to be materially different from any future results, performance, achievements or financial position expressed or implied by these forward-looking statements. Panasonic undertakes no obligation to publicly update any forward-looking statements after the date of this presentation. Investors are advised to consult any further disclosures by Panasonic in its subsequent filings under the Financial Instrument and Exchange Act of Japan (the FIEA) and other publicly disclosed documents.

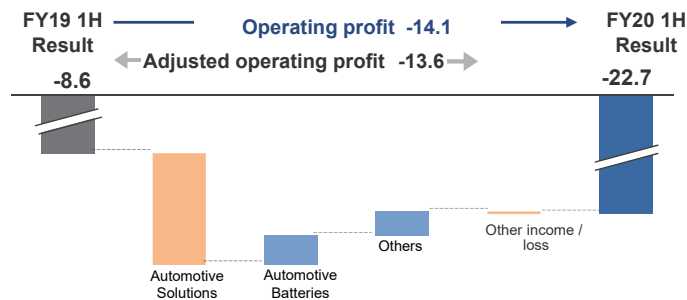
The risks, uncertainties and other factors referred to above include, but are not limited to, economic conditions, particularly consumer spending and corporate capital expenditures in the Americas, Europe, Japan, China and other Asian countries; volatility in demand for electronic equipment and components from business and industrial customers, as well as consumers in many product and geographical markets; the possibility that excessive currency rate fluctuations of the U.S. dollar, the euro, the Chinese yuan and other currencies against the yen may adversely affect costs and prices of Panasonic's products and services and certain other transactions that are denominated in these foreign currencies; the possibility of the Panasonic Group incurring additional costs of raising funds, because of changes in the fund raising environment; the possibility of the Panasonic Group not being able to respond to rapid technological changes and changing consumer preferences with timely and cost-effective introductions of new products in markets that are highly competitive in terms of both price and technology; the possibility of not achieving expected results or incurring unexpected losses in connection with the alliances or mergers and acquisitions; the possibility of not being able to achieve its business objectives through joint ventures and other collaborative agreements with other companies, including due to the pressure of price reduction exceeding that which can be achieved by its effort and decrease in demand for products from business partners which Panasonic highly depends on in BtoB business areas; the possibility of the Panasonic Group not being able to maintain competitive strength in many product and geographical areas; the possibility of incurring expenses resulting from any defects in products or services of the Panasonic Group; the possibility that the Panasonic Group may face intellectual property infringement claims by third parties; current and potential, direct and indirect restrictions imposed by other countries over trade, manufacturing, labor and operations; restrictions, costs or legal liability relating to laws and regulations or failures in internal controls; fluctuations in market prices of securities and other financial assets in which the Panasonic Group has holdings or changes in valuation of non-financial assets, including property, plant and equipment, goodwill and deferred tax assets; future changes or revisions to accounting policies or accounting rules; the possibility of incurring expenses resulting from a leakage of customers' or confidential information from Panasonic Group systems due to unauthorized access or a detection of vulnerability of network-connected products of the Panasonic Group; as well as natural disasters including earthquakes, prevalence of infectious diseases throughout the world, disruption of supply chain and other events that may negatively impact business activities of the Panasonic Group. The factors listed above are not all-inclusive and further information is contained in the most recent English translated version of Panasonic's securities reports under the FIEA and any other documents which are disclosed on its website.

(Reference) FY20 1HF Result

Sales (yen : billions)



Operating profit (yen : billions)



	Modification factors
Automotive Solutions	<p>Sales</p> <ul style="list-style-type: none"> Decreased : expansion of growth- products (e.g. IVI) could not offset the impact of lower sales from deteriorating Chinese market situation and product cycle trend IVI : In-Vehicle Infotainment <p>Operating profit</p> <ul style="list-style-type: none"> Decreased due to significantly increased development expenses for orders received in Europe Impact from lower sales due to product cycle trend
Automotive Batteries	<p>Sales</p> <ul style="list-style-type: none"> Prismatic : Increased with investment effect for production expansion at Dalian factory Cylindrical : Increased with investment effect for production expansion at North America factory <p>Operating profit</p> <ul style="list-style-type: none"> Prismatic : Improved with increased sales and decreased fixed costs Cylindrical : Improved with increased sales in North America factory, offsetting impact of lower sales in Japan factory

Note : Grouping of Business whose sales are disclosed [Automotive Solutions Business] Infotainment Systems, HMI Systems, Automotive Systems, Ficosa [Automotive Batteries business] Automotive Energy, Tesla Energy

(Reference) Details of Each Business Whose Sales Are Disclosed

Businesses whose sales are disclosed

Major products

Automotive Solutions



- Infotainment Systems Business Division
 - IVI, CDA, car navigation systems

IVI : In-Vehicle Infotainment
CDA : Connected Display Audio

- HMI Systems Business Division
 - Switches, sound systems, HUD

HMI : Human Machine Interface
HUD : Head-Up Display

- Automotive Systems Business Division
 - Vehicle camera modules, sensors, on-board charging systems, ADAS

ADAS : Advanced Driver Assistance System
ECU : Electronic Control Unit

- Ficosa International, S.A.
 - Mirrors, electronic mirrors, smart connectivity modules

Automotive Batteries



- Automotive Energy Business Division
 - Lithium-ion batteries for PHV/EV and HEV(Prismatic)
- Tesla Energy Business Division (US Company)
 - Lithium-ion batteries for EV(Cylindrical)