

Hitachi Investor Day 2021

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# Automotive Systems Business

June 8, 2021

**Brice Koch**

President & CEO  
Hitachi Astemo, Ltd.

## Astemo

Hitachi Astemo is a global leading technology company committed to delivering on a triple bottom line:

1

### Social contribution

- Improve safety, comfort and QoL with AD/ADAS systems and advanced chassis

2

### Environmental contribution

- Contribute to a greener world through efficient electrification technologies and products that improve emission reductions

3

### Economic contribution

- Achieving approx. 2 TJPY in Revenues and approx. 15% EBITDA in FY2025

# Automotive Systems Business

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1. Business overview
2. Market trends
3. Growth strategy
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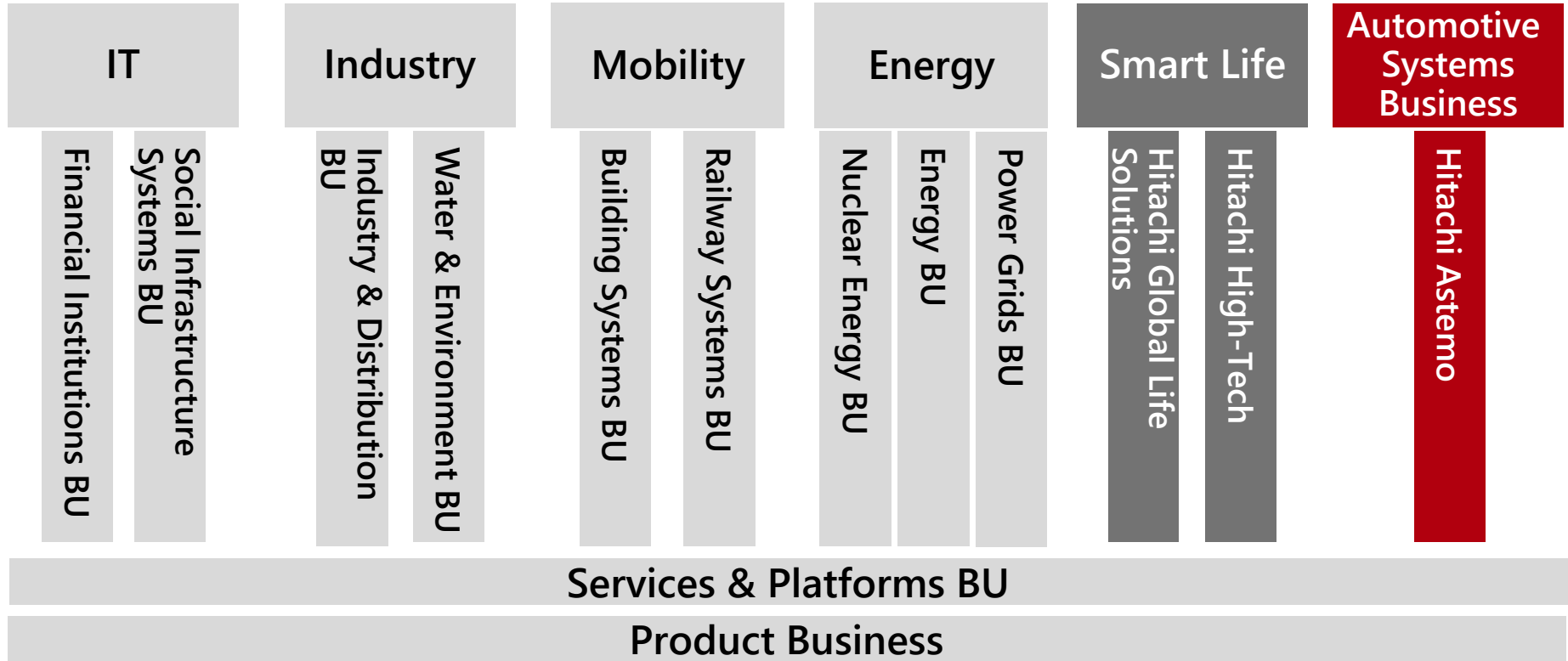
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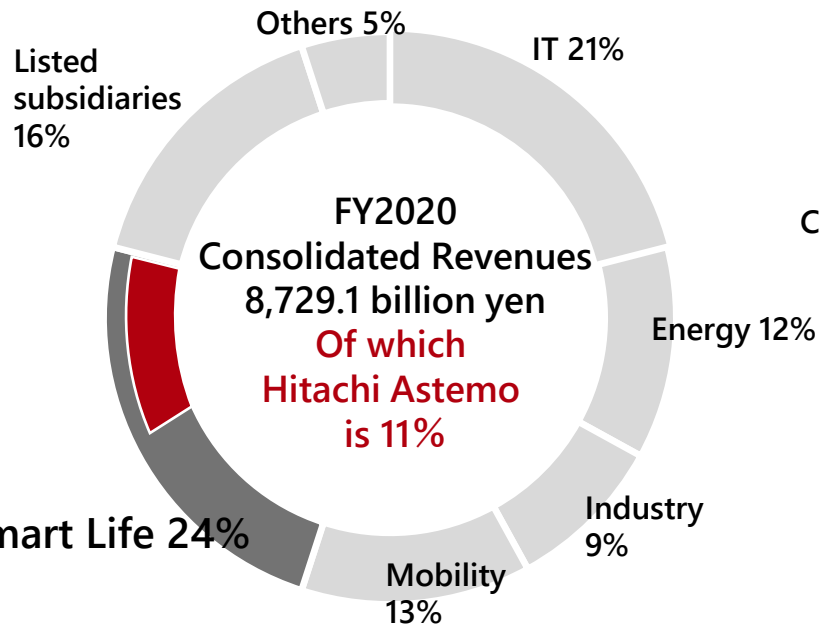
# 1-1. Position of Hitachi Astemo



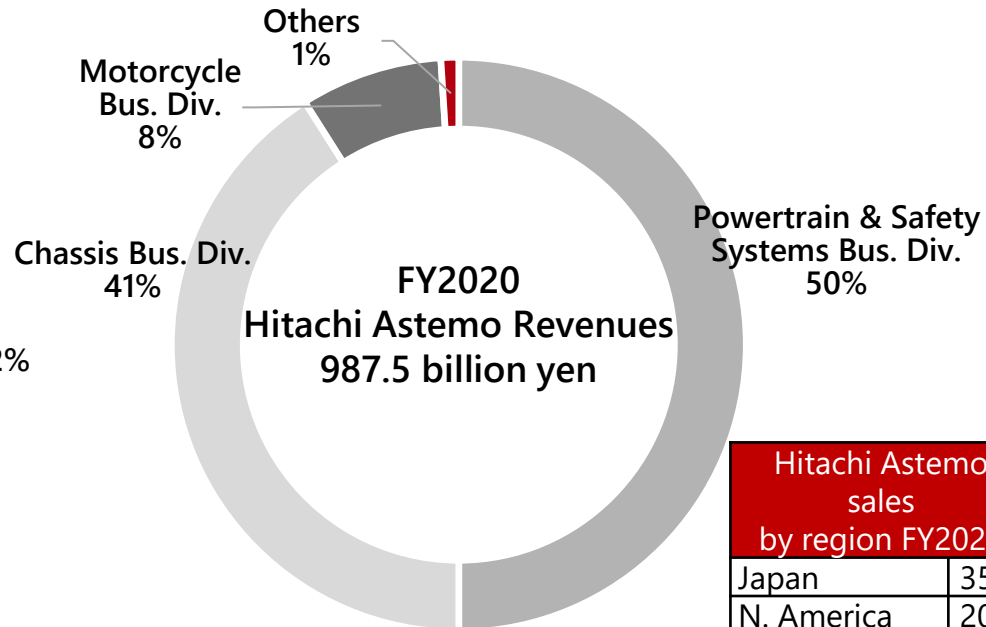
Hitachi Astemo shareholder ratio: Hitachi, Ltd. 66.6%; Honda Motor Co., Ltd. 33.4%

# 1-2. Business structure

Hitachi Astemo revenues as a percentage of Hitachi as a whole



Hitachi Astemo revenues by business



Hitachi Astemo sales by region FY2020	
Japan	35%
N. America	20%
China	17%
Asia	11%
Europe	11%
Other	6%

# 1-3. Business portfolio

Create new value for next generation automotive & motorcycle components / systems






Leveraging Full Potential





*Optimized investment*




Concentrate R&D on growth area leveraging Hitachi R&D capability

Future Growth Engine

*Prioritized investment*

Powertrain & Safety Systems Business Division	
<b>ICE BU</b>	Invest selectively in last-man-standing offerings
	Engine Control Unit for DI
<b>xEV BU</b>	Prioritized investment to capture market growth
 	Motor Inverter
<b>AD/ADAS BU</b>	Focused investment in high potential products
 	Stereo Camera AD ECU

Chassis Business Division	
<b>Brake BU</b>	Maximize synergies
	Disc Brake Caliper
<b>Drivetrain BU</b>	Maximize synergies
	Propeller Shaft
<b>Steering BU</b>	Maximize synergies
	Electric Power Steering System
<b>Suspension BU</b>	Maximize synergies
	Frequency Reactive Damper Hydraulic
<b>Future tech. : Advanced Chassis</b> Create new value for safety & comfort	

Motorcycle Business Division	
<b>Brake BU</b>	Strengthen market positioning
	Disc Brake Caliper
<b>Powertrain BU</b>	Strengthen market positioning
	Drivetrain
<b>Suspension BU</b>	Strengthen market positioning
	Front Forks
<b>Future tech. : Next gen. 2-wheel</b> Propose new technologies and solutions	

Supported by Software and Aftermarket Business Divisions and Global Functions

Advanced digital solutions also with

# 1-4. Progress of 2021 Mid-term Management Plan

Unit : Billions of yen	FY2019		FY2020		FY2021		Target (as of June 2019)	Change from the previous target
		YoY		YoY	Forecast (as of June 2021)	YoY		
Revenues	811.5	84%	987.5	122%	1,600.0	162%	1,200.0	133%
Overseas revenue ratio	59%	+4 points	66%	+7 points	68%	+2 points	-	-
Adjusted operating income	30.1	(7.9)	34.7	+4.6	97.0	+62.3	120.0	(23.0)
Adjusted operating income ratio	3.7%	(0.2) points	3.5%	(0.2) points	6.1%	+2.6 points	10%	(3.9) points
EBIT	(6.5)	(17.7) *1	4.3	+10.8	76.0	+71.7	120.0	(44.0)
EBIT ratio	(0.8%)	(3.0) points*1	0.4%	+1.2 points	4.8%	+4.4 points	10.0%	(5.2) points
EBITDA ratio	5.0%	(2.5) points*1	6.6%	+1.6 points	10.9%	+4.3 points	-	-
ROIC (Return on Invested Capital)	4.8%	+1.4 points	3.1%	(1.7) points	6.2%	+3.1 points	-	-

## FY2020 (Change vs previous fiscal year)

### ● Results

- Revenues and adjusted operating income: increased following relative market share\*2 gain, merger with Keihin, Showa & Nissin
- ROIC: Deteriorated due to increase in interest-bearing debt and equity as a result of integration with Keihin, Showa and Nissin

### ● Achievements

- Completion of management integration to form Hitachi Astemo with YoY improvement in business performance

## Revised FY2021 forecast

### ● Main reason for forecast revision

- Anticipated market growth delayed by up to five years
- Revenue target of 1.2 trillion yen was established prior to merger

## FY2021 Forecast (Change vs previous fiscal year)

### ● Forecast

- Revenues and adjusted operating income: increased following merger with Keihin, Showa and Nissin, relative market share gains as well as structural and operational improvements
- ROIC: Improved due to enhanced operating profit

### ● Issues

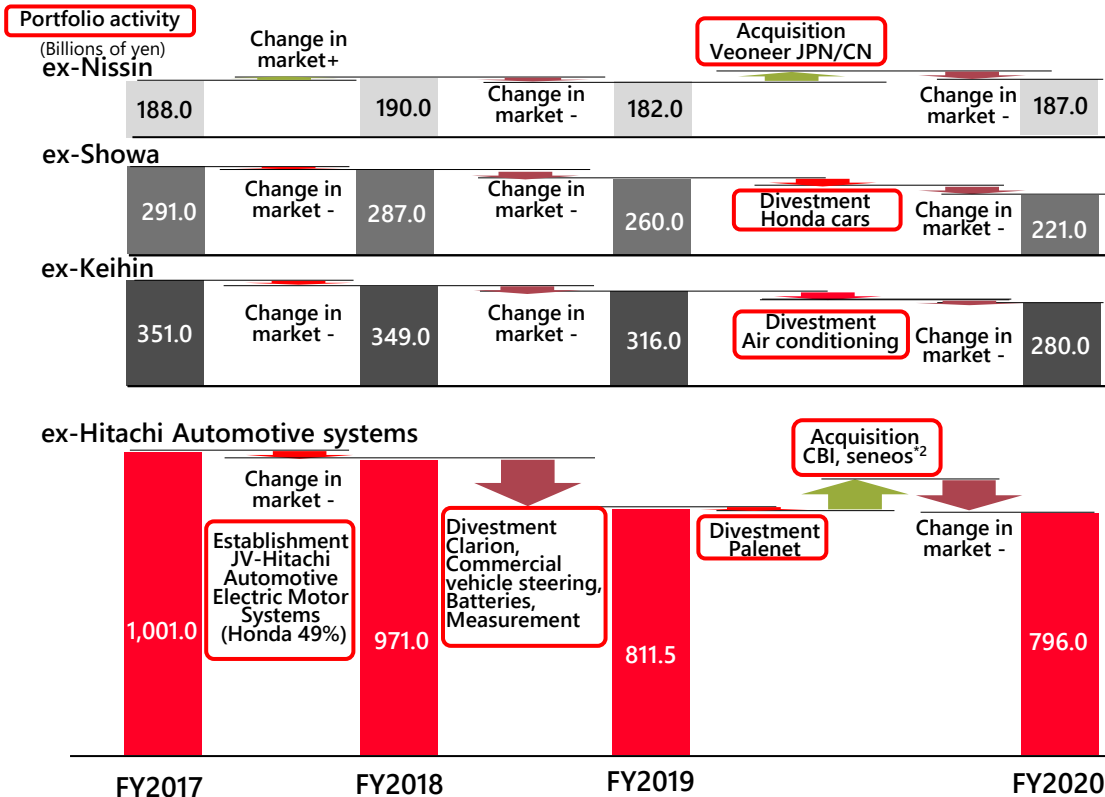
- Strengthening risk management in response to supply chain shortages and natural disasters



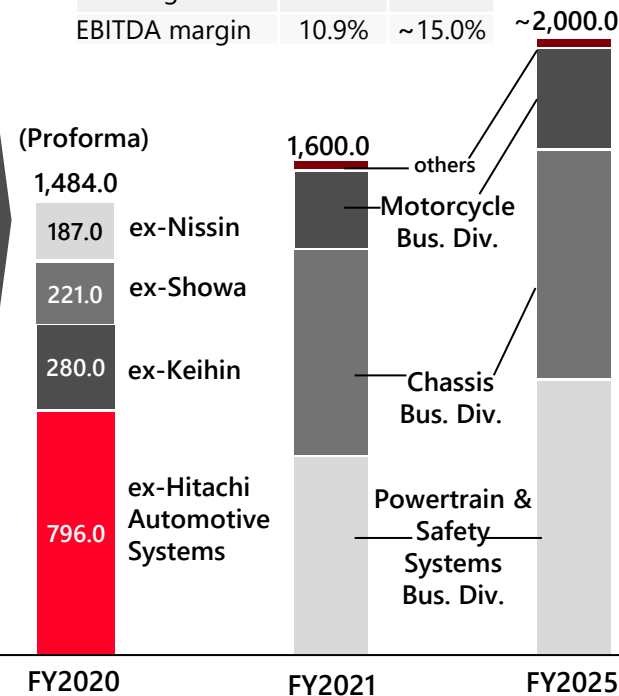
# 1-5. Growth: Stronger portfolio and relative market share gain (organically and in-organically)

FY2017 – FY2020 sales average growth rate of (5.6%) was 1.3 points ahead of (6.9%) market decline (Excl. M&A\*1; FY2017: 816.0 billion yen, FY2020: FY687.5 billion yen)

Forecasting FY2019 – FY2025 proforma annual sales growth of 4.4%, ~2X of market growth of 2.3%



	FY2021	FY2025
OP margin	6.1%	~10.0%
EBITDA margin	10.9%	~15.0%



# Automotive Systems Business

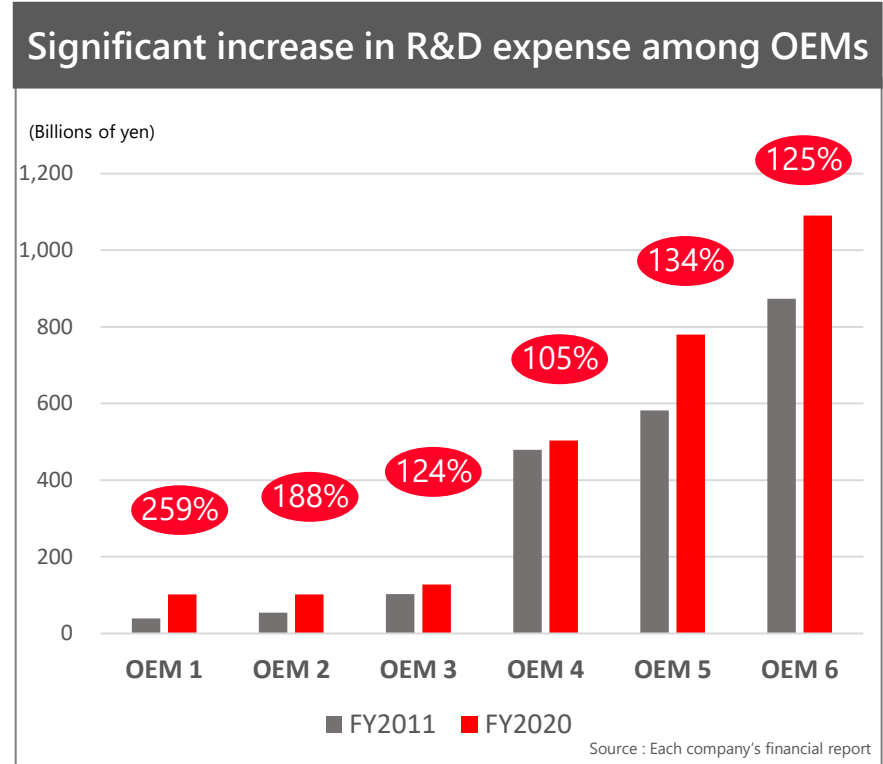
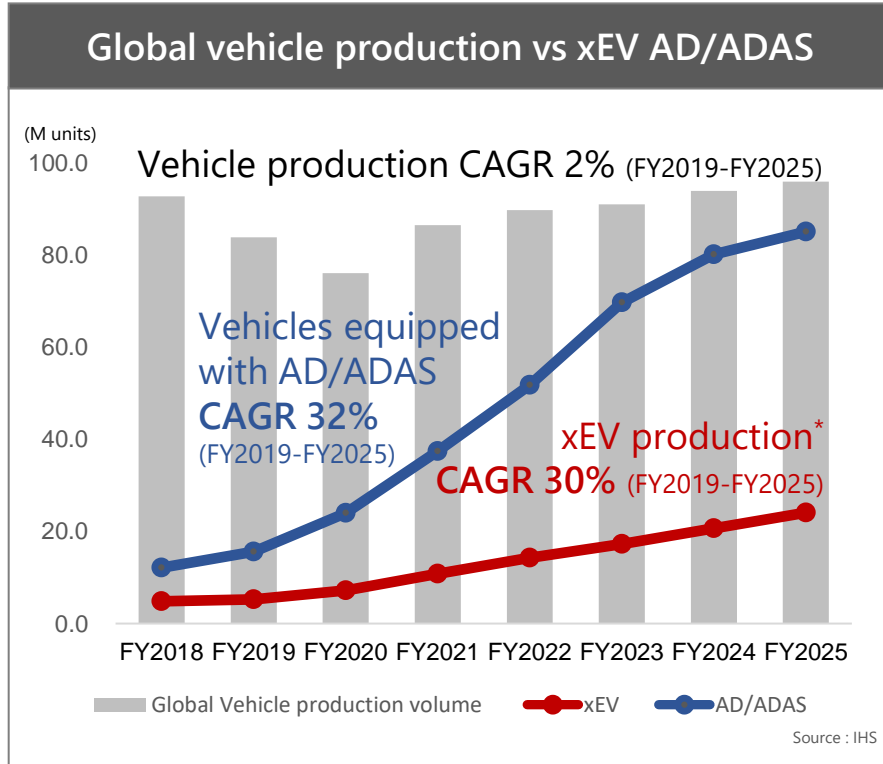
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# 2-1. Market trends

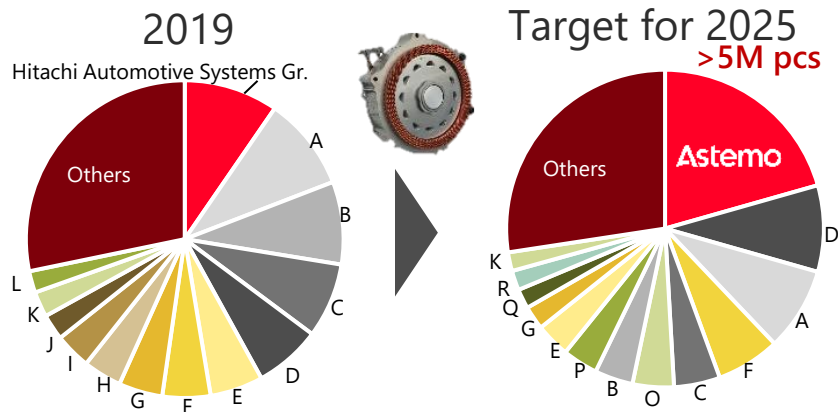
**Automotive market will increasingly demand CASE technologies and investment in R&D**  
 - Governments globally increasingly setting EV, ZEV and other targets



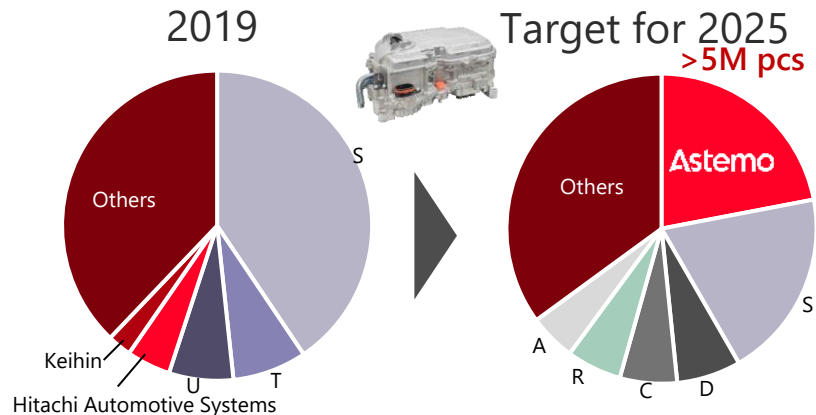
## 2-2. Competitive environment

### Competitive in xEV-related products with expanding market share

#### Motor share estimate\*



#### Inverter share estimate\*



- **Expand market coverage**  
Strengthen product lineup through product development and adding products from integrated companies
- **Strengthen cost competitiveness**  
Focus on modularization, scale, investment efficiency and new material development
- **Leverage software capability**  
Strengthen competitiveness of xEV-related products leveraging acquired senos and Hitachi R&D capability

**Strengths:** Compact and efficient e-Axes    Digitalized solutions    Next generation technologies with Hitachi R&D

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# 3-1. Social, Environmental and Economic value

Provide advanced mobility solutions that contribute to building a sustainable society

## Social value

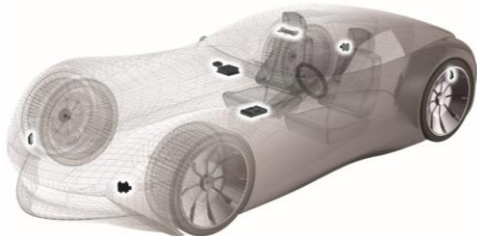
Improve safety, comfort and QoL with AD/ADAS systems and advanced chassis



**Connected car technologies**  
Onboarding devices and software

**AD/ADAS**  
Advanced environment recognition  
Integrated electronic control

- Scalable & competitive components
- Sensor fusion technologies



- Reduced traffic accidents

**Astemo**

A technology company making the world a better place

**Advanced Chassis**  
Integrated vehicle movement control

- Integrated chassis control with in-house manufacturing of brakes, steering and suspension

## Economic value

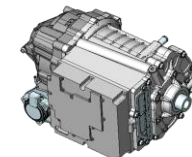
A commitment to achieve 1.6 TJPY in Revenues; + 10% EBITDA in FY2021

## Environmental value

Contribute to a greener world through efficient electrification technologies and products that improve emission reductions

**xEV**  
Advanced electric powertrain package

- Differentiated technologies
  - Motor: High torque density
  - Inverter: Unique cooling structure
  - Software: Optimized for efficiency
- Features of 'e-Axle'
  - High efficiency
  - Compact
  - Cost competitive
- Environmental sustainability with reduced CO<sub>2</sub> emissions



## 3-2. Environmental contribution: Astemo for a greener future

Global trend toward carbon neutrality



NetZero by 2045



NetZero by 2050



NetZero by 2060

### Astemo targets

**Factories:** Realize “carbon neutrality” in production lines by 2030

**Products:** Reduce CO<sub>2</sub> emission from product usage by 50% by 2030

### Carbon neutrality

- Improve production efficiency
- Retrofit and renew equipment
- Maximize renewable energies



Replace with LED (Tomi Plant)



Photovoltaic system (Dong Guan Keihin)

### Efficient electrification technologies and products

Provide highly efficient electrification components

Motor: High torque density

Inverter: Unique cooling structure, compactness

Software: Optimized control for efficiency



800-volt compatible high voltage and high output inverter

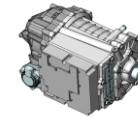
(The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, 2021 Awards for Science and Technology)

Features of 'e-Axle'

High efficiency

Compact

Cost competitive



Improving fuel consumption

Fuel saving through AD/ADAS

Weight saved chassis components

# 3-3. Leading-edge solutions leveraging Lumada

Lumada Ready: An advanced product group providing digital solutions

### Lumada Ready products

AD/ADAS-related In-vehicle Units (AD/ADAS ECU, MPU, CGW, AP etc.)

Equipped with functions required for autonomous driving and MaaS, such as recognition, perception, judgment, control, map, and security

### Related Lumada solutions

Automotive software updated utilizing wireless data communication (OTA : Over The Air)

### Related Lumada customer case

Improve efficiency and security of differential update of automotive software based on vehicle status and in-vehicle unit properties (OTA)

We provide AD-ECU and OTA solutions to Honda—the world's first automaker to mass produce level 3 automated cars



Honda Legend



AD-ECU



AD-ECU, OTA units


## Enhance Software Capability responding to Software Defined Vehicles

### Acquired seneos (2020)

- Automotive software specialist (Germany)



### Collaboration with Lumada and GlobalLogic

GlobalLogic ×  LUMADA

- Leverage the enhanced digital portfolio and engineering and software capabilities to create new and advanced solutions

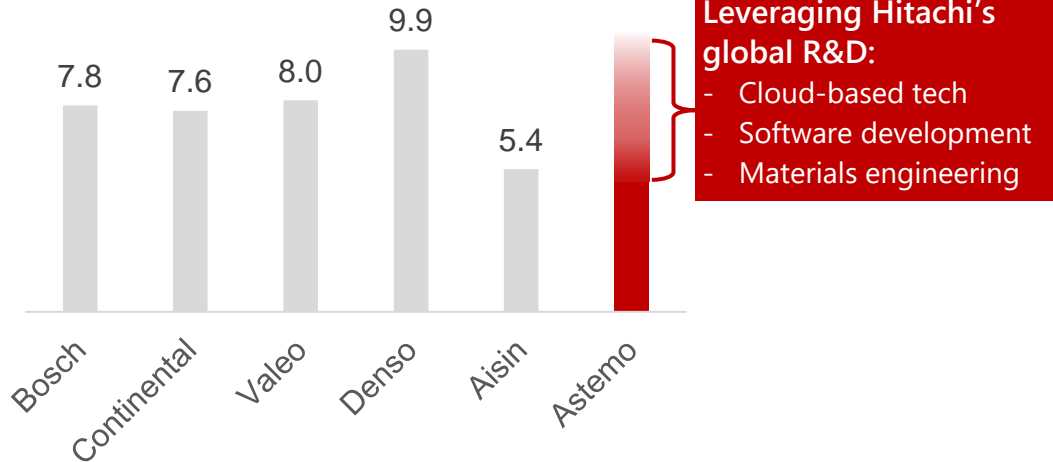
### Enhanced Software Division

- Expanded in-house software capability



## 3-4. Enhance investment to secure competitiveness

### Hitachi Astemo vs suppliers' R&D ratio (% in FY2019)



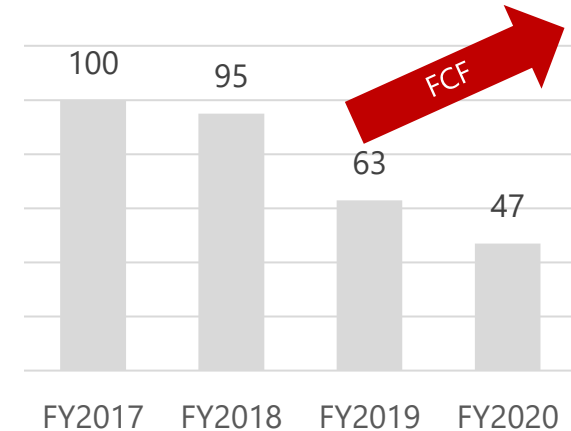
#### Hitachi Astemo:

- Shift overlapping resources, focus on CASE solutions xEV, AD/ADAS
- New additional investment of 300B yen including R&D for xEV by FY2025

#### Hitachi R&D:

- Benefitting from R&D resources
- Substantial engineering talent and investment

### CAPEX index when set FY2017=100



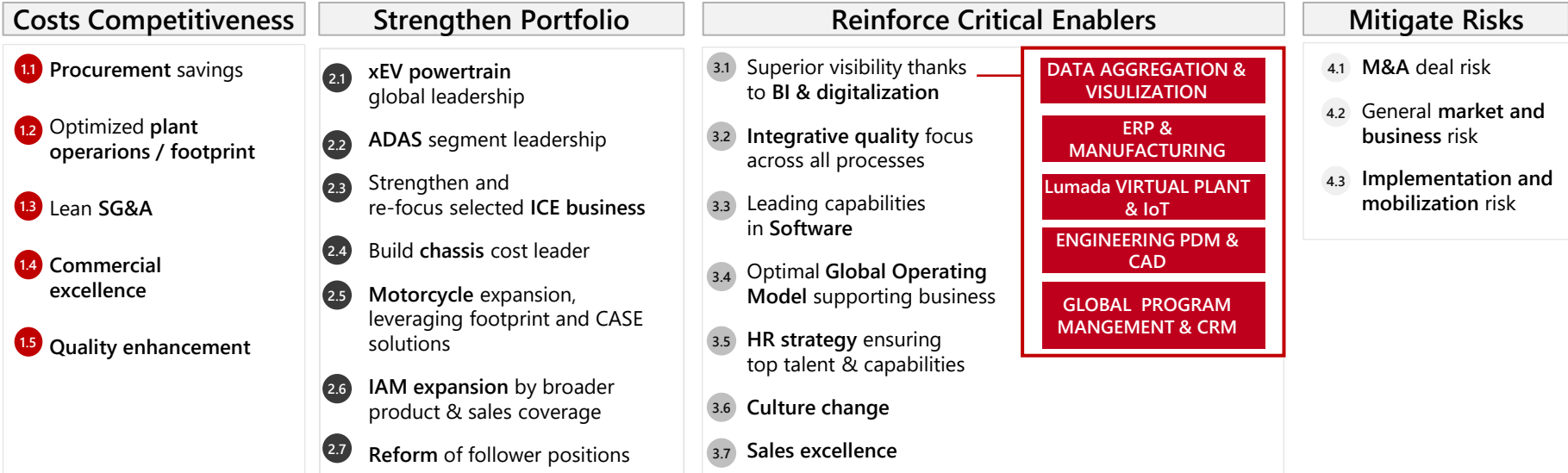
#### CAPEX priorities

- Strict investment governance with focus on prioritized product categories
- Footprint consolidation for global optimization
- Production lines modularization and improved Supply Chain Management
- Vertical integration optimized, focusing on value creation, Quality and technology differentiation

# 3-5. LEAP: Our path to a stronger and efficient company

**L**eadership   **E**ngagement   **A**cceleration   **P**erformance

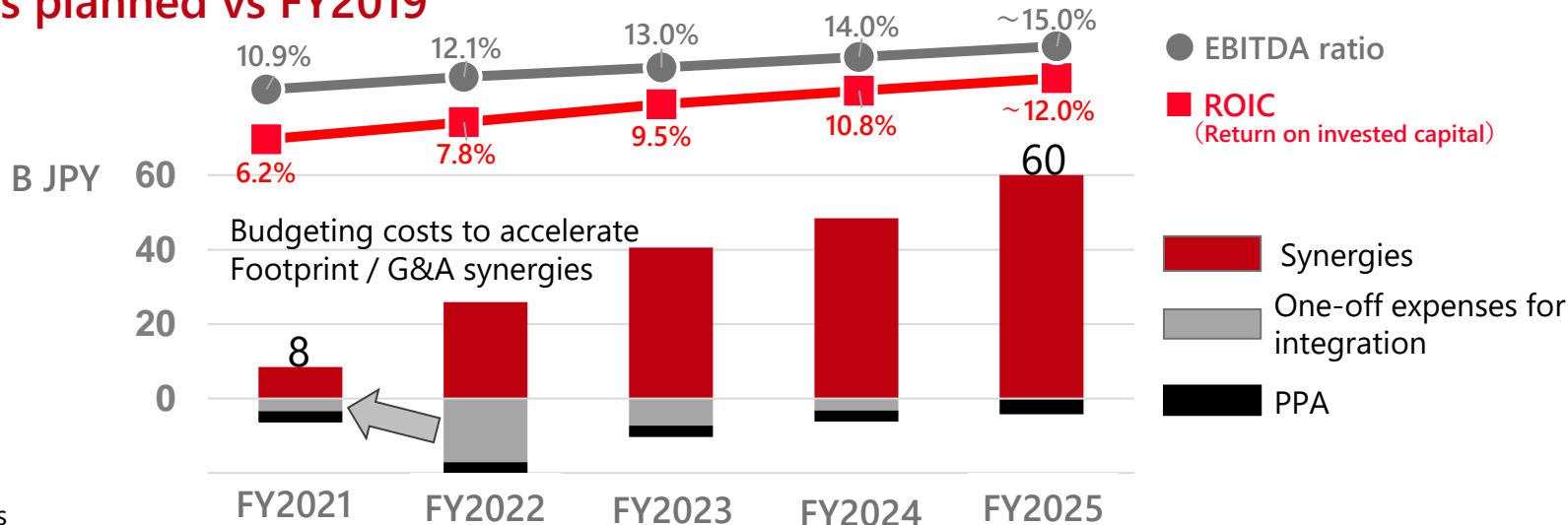
## The four pillars of LEAP



**Fully capture the value of Hitachi Astemo for sustainable growth**

# 3-6. Acceleration of synergies and a focus on costs

## Synergies planned vs FY2019



### Supply Chain

- Best-of prices
- “Make or Buy”
- Optimize supplier base
- Leverage scale

### G&A

- Simplify and enhance efficiencies

### Footprint

- CAPEX and logistics optimization

### R&D

- Product/program overlap integration and optimization

### Sales

- Optimize sales synergies across OEMs
- Leverage sales footprint and structure

### Quality

- Leverage best-practice

Key contributors	FY2025 B JPY
Supply chain	17-21
G&A	11-15
Footprint	10-14

**With additional synergies from Sales especially after FY2025**

## 3-7. Key factors for success

Offer products and solutions that outcompete and achieve global market leadership through differentiated technologies and scale

Maximize global and regional customer reach through geographical proximity and advanced technologies in high growth areas

Prioritize investment in xEV, AD/ADAS and advanced chassis shifting redundant resources from integration, Hitachi resources, seneos etc.

Strengthen profitability leveraging synergies and operational improvements

Continued investment in high growth and profitable areas with strict governance to maximize ROIC

## Challenges and opportunities in a quickly changing market

### Growth (value) drivers

#### Macro factors

- Decarbonization regulation in many countries
- Government support for development of green innovation
- Deregulation supporting spread of autonomous driving cars

#### Micro factors

- Acceleration of electrification by global OEMs
- CASE growing as a megatrend
- Expanding of sales of connected solutions in cooperation with Hitachi, Ltd.



### Risk factors

- Exchange rate fluctuations
- Trends in ICE demand
- Increased investment in the automotive industry
- Increased demand for software

- Prolonged economic slowdown due to COVID-19
- Emergence of geopolitical risks in major markets
- Escalation of the New Cold War between the superpowers
- Intensifying competition by entry from other industries
- Semiconductor supply and demand
- Natural disasters

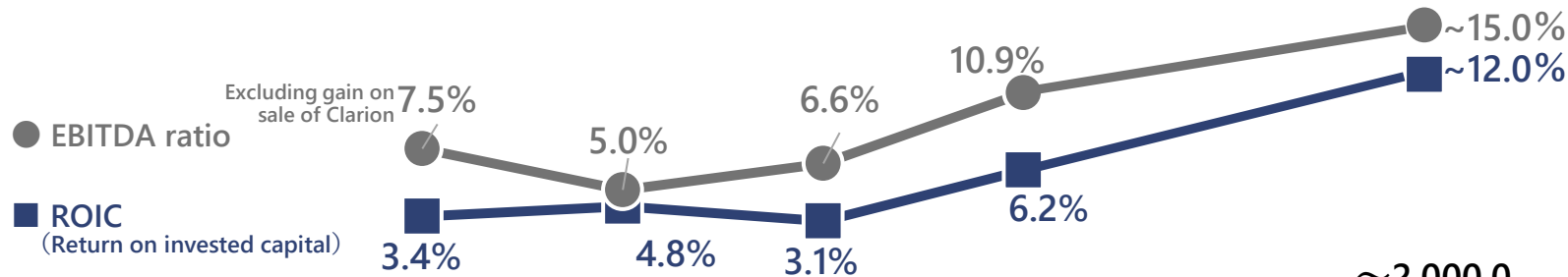
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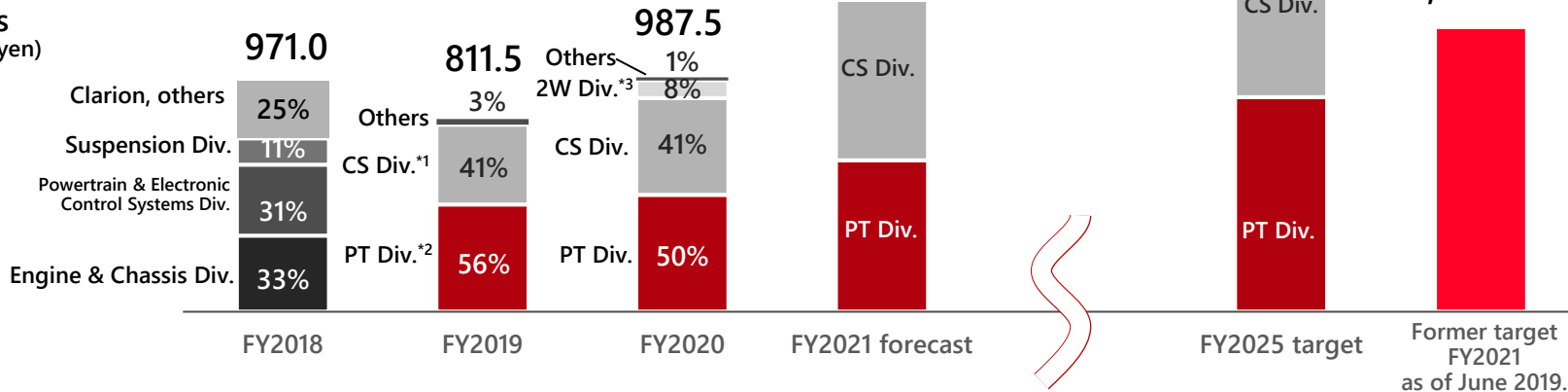
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# 4-1. FY2021 forecast



## Revenues (billions of yen)



\*1. CS Div.: Chassis Bus. Div., \*2. PT Div.: Powertrain & Safety Systems Bus. Div., \*3. 2W Div.: Motorcycle Bus. Div.

Contribute to a sustainable society and improved QoL by providing world-leading advanced mobility solutions that satisfy our customers

	FY2020		FY2021 forecast		FY2025 target
Revenues	987.5 billion yen	>	1,600.0 billion yen	>	~2,000.0 billion yen
Adjusted operating income ratio	3.5%	>	6.1%	>	~10.0%
EBITDA ratio	6.6%	>	10.9%	>	~15.0%
ROIC (return on invested capital)	3.1%	>	6.2%	>	~12.0%



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Contribute to a sustainable society and improved QoL by providing world-leading advanced mobility solutions that satisfy our customers

## Astemo

**Advanced technologies** that define tomorrow's mobility solutions

**Market leadership** in selected core products and solutions

**Business scale & comprehensive footprint** to better serve customers



Leveraging Lumada, Hitachi Astemo products provide sophisticated mobility solutions

## Social, Environmental and Economic Value

- Improve safety, comfort and QoL with AD/ADAS systems and advanced chassis
- Contribute to a greener world through efficient electrification technologies and products that improve emission reductions
- Achieving approx. 2 TJPY in Sales and approx. 15% EBITDA in FY2025



Compact e-Axles that meet OEM requirements for better vehicle packaging and competitive high-power density

- Enables flexible layout to increase space for various vehicles

Efficient e-Axles with less product line-up but broad application with “Module Design Concept” leveraging alliance with transmission suppliers to strengthen sales

- Cost-competitive products that meet OEMs’ complex, multi-vehicle needs

Digitalized, well-balanced solutions optimized utilizing Model Base Development

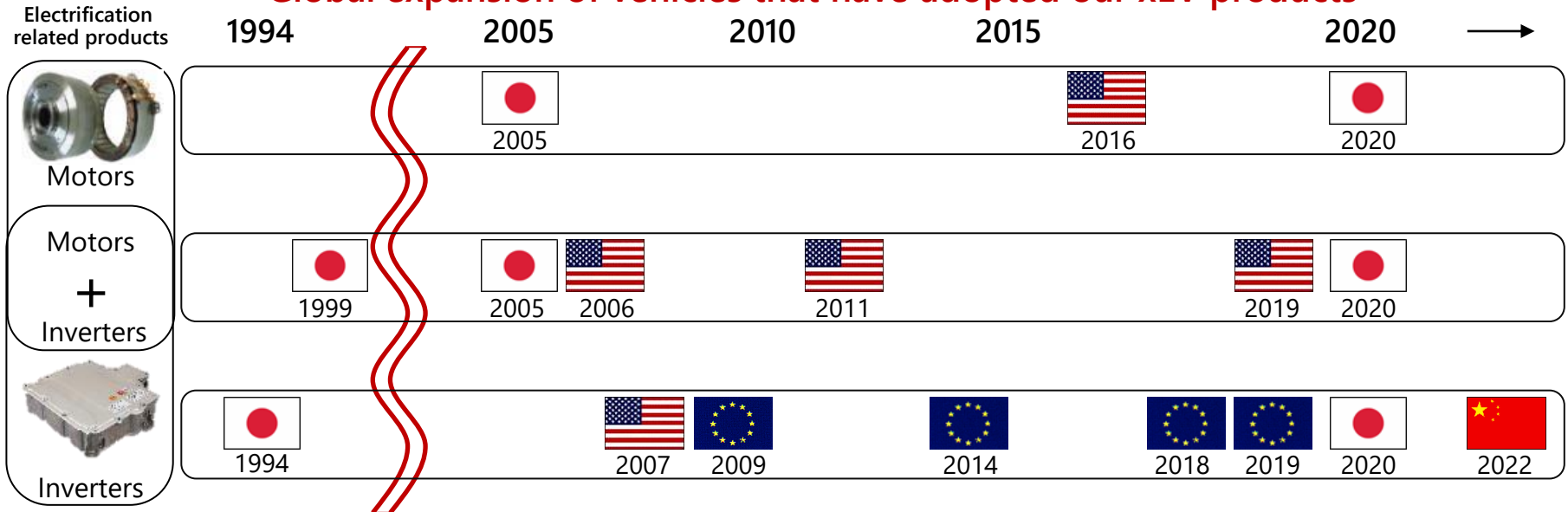
- Utilize digital tools to provide OEMs with differentiated products

Next generation technologies with Hitachi R&D for high efficiency, compactness and cost competitive products

- State-of-the-art products and systems

## Main examples of adoption

### Global expansion of vehicles that have adopted our xEV products

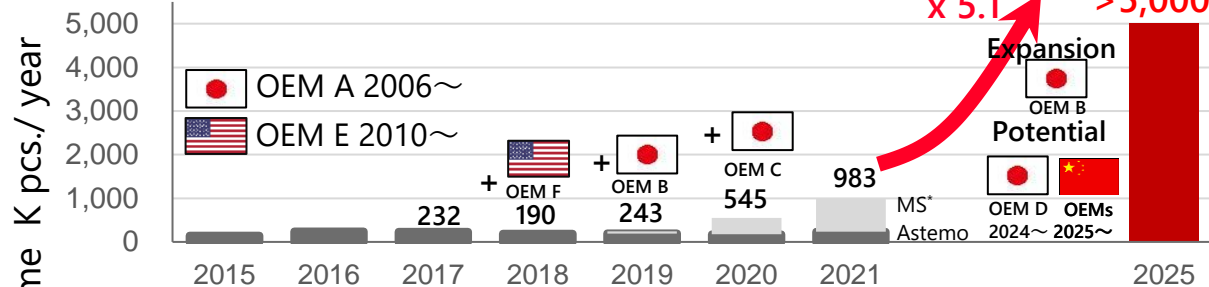


# Appendix-4. Sales growth in xEV products

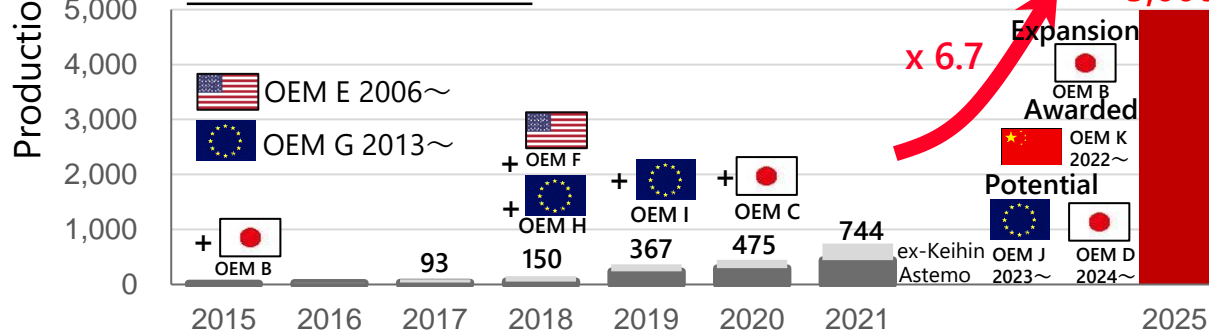
## Expanding motor and inverter sales to achieve global leadership

Year : SOP timing

### Motor volume

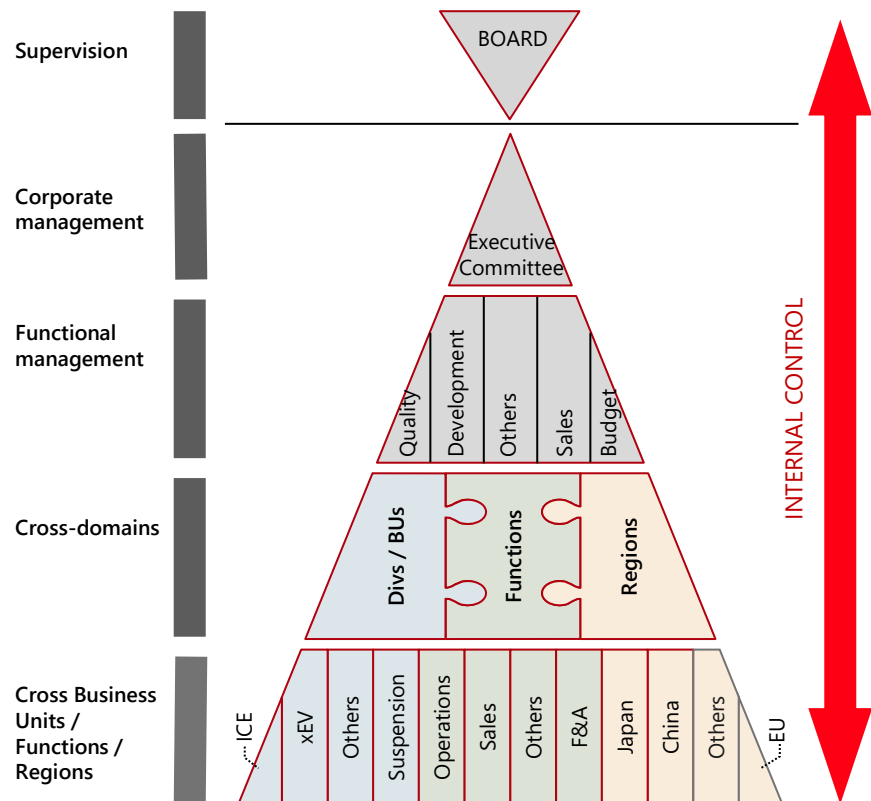


### Inverter volume



**Targeting over 5M pcs in 2025 for "Global Leader Position"**  
 (Not including OEM in-house production and mild hybrid EV products)

## A clear and effective corporate management and governance structure



**A global leader in both the automotive and motorcycle industries:**

- Approx. 90,000 staff
- 1.6 trillion yen in revenues
- 27 countries

**Management and Governance structure fully aligned with:**

- BoD Level Governance
- Unified Global Operating Model with business units fully responsible globally
- Governance layers, forums and processes
- Unified, selected KPIs

# Appendix-6. Leveraging founding companies' best practice

Full effort to discover and adopt the best practices of our four integrating companies



One year implementation timeline

Improve processes

Strengthen oversight

Improve work efficiencies

Strengthen branding

Increase safety

Enhance communication

Increase quality

Improve costs

Strengthen corporate culture

Accelerating synergies

# Cautionary Statement

Certain statements found in this document may constitute “forward-looking statements” as defined in the U.S. Private Securities Litigation Reform Act of 1995. Such “forward-looking statements” reflect management’s current views with respect to certain future events and financial performance and include any statement that does not directly relate to any historical or current fact. Words such as “anticipate,” “believe,” “expect,” “estimate,” “forecast,” “intend,” “plan,” “project” and similar expressions which indicate future events and trends may identify “forward-looking statements.” Such statements are based on currently available information and are subject to various risks and uncertainties that could cause actual results to differ materially from those projected or implied in the “forward-looking statements” and from historical trends. Certain “forward-looking statements” are based upon current assumptions of future events which may not prove to be accurate. Undue reliance should not be placed on “forward-looking statements,” as such statements speak only as of the date of this report.

Factors that could cause actual results to differ materially from those projected or implied in any “forward-looking statement” and from historical trends include, but are not limited to:

- exacerbation of social and economic impacts of the spread of COVID-19;
- economic conditions, including consumer spending and plant and equipment investment in Hitachi’s major markets, as well as levels of demand in the major industrial sectors Hitachi serves;
- exchange rate fluctuations of the yen against other currencies in which Hitachi makes significant sales or in which Hitachi’s assets and liabilities are denominated;
- uncertainty as to Hitachi’s ability to access, or access on favorable terms, liquidity or long-term financing;
- uncertainty as to general market price levels for equity securities, declines in which may require Hitachi to write down equity securities that it holds;
- fluctuations in the price of raw materials including, without limitation, petroleum and other materials, such as copper, steel, aluminum, synthetic resins, rare metals and rare-earth minerals, or shortages of materials, parts and components;
- estimates, fluctuations in cost and cancellation of long-term projects for which Hitachi uses the percentage-of-completion method to recognize revenue from sales;
- increased commoditization of and intensifying price competition for products;
- uncertainty as to Hitachi’s ability to attract and retain skilled personnel;
- uncertainty as to Hitachi’s ability to continue to develop and market products that incorporate new technologies on a timely and cost-effective basis and to achieve market acceptance for such products;
- fluctuations in demand of products, etc. and industry capacity;
- uncertainty as to Hitachi’s ability to implement measures to reduce the potential negative impact of fluctuations in demand of products, etc., exchange rates and/or price of raw materials or shortages of materials, parts and components;
- credit conditions of Hitachi’s customers and suppliers;
- uncertainty as to Hitachi’s ability to achieve the anticipated benefits of its strategy to strengthen its Social Innovation Business;
- uncertainty as to the success of acquisitions of other companies, joint ventures and strategic alliances and the possibility of incurring related expenses;
- uncertainty as to the success of restructuring efforts to improve management efficiency by divesting or otherwise exiting underperforming businesses and to strengthen competitiveness;
- general socioeconomic and political conditions and the regulatory and trade environment of countries where Hitachi conducts business, particularly Japan, Asia, the United States and Europe, including, without limitation, direct or indirect restrictions by other nations on imports and differences in commercial and business customs including, without limitation, contract terms and conditions and labor relations;
- the potential for significant losses on Hitachi’s investments in equity-method associates and joint ventures;
- uncertainty as to the success of cost structure overhaul;
- the possibility of disruption of Hitachi’s operations by natural disasters such as earthquakes and tsunamis, the spread of infectious diseases, and geopolitical and social instability such as terrorism and conflict;
- uncertainty as to the outcome of litigation, regulatory investigations and other legal proceedings of which the Company, its subsidiaries or its equity-method associates and joint ventures have become or may become parties;
- the possibility of incurring expenses resulting from any defects in products or services of Hitachi;
- uncertainty as to Hitachi’s ability to maintain the integrity of its information systems, as well as Hitachi’s ability to protect its confidential information or that of its customers;
- uncertainty as to Hitachi’s access to, or ability to protect, certain intellectual property; and
- uncertainty as to the accuracy of key assumptions Hitachi uses to evaluate its employee benefit-related costs.

The factors listed above are not all-inclusive and are in addition to other factors contained elsewhere in this report and in other materials published by Hitachi.



*Hitachi Social Innovation is*

**POWERING GOOD**

**HITACHI**  
Inspire the Next 