

Semiconductors Business Strategies

May 31, 2021

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■ Business Overview

■ FY2021 Management Plan

- Market Outlook
- Business Policies
- Business Plan
- Priority Measures
- Capital Investment / Research and Development

Electronic Devices segment renamed Semiconductors segment effective April 1, 2021, and divided into Industrial, Automotive and Information subsegments

Subsegments

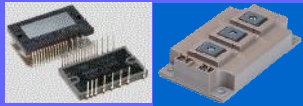
Major Products

Applications, Customer Industries

Power
Semi-
Conductors

Industrial
51%
of total net sales

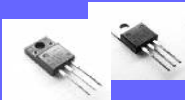
IGBT modules



Power supply
ICs



MOSFET



Inverters, NC machine tools, elevators, etc. [factory automation, general industry]

PCSs* (solar/wind power) [new energy]

Household air-conditioning, TVs, etc. [consumers, etc.]



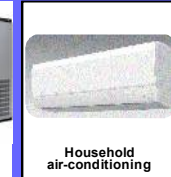
Inverters



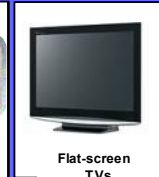
NC machine tools



PCS



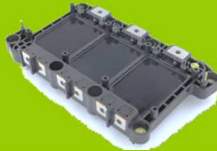
Household air-conditioning



Flat-screen TVs

Automotive
34%
of total net sales

IGBT modules



Pressure
sensors



Power ICs

xEV motor control, engine control, transmission control, brake control, steering control, etc.



xEVs, gasoline vehicles

Information
15%
of total net sales

Photoconductors



Aluminum substrates
Glass substrates



Copiers, printers

HDDs

Former
Semi-
Conductors







88%
of total
net sales

Former
magnetic
disks
12% of total
net sales

Note: Percentages of total net sales represent FY2020 performance and are calculated before deduction and adjustment for inter-segment sales.

* PCS: Power conditioning systems

Industrial: Consistently strong demand centered on factory automation systems and new energy in Chinese market
Automotive: xEV market growth and recovery in demand for gasoline vehicles, but concern regarding semiconductor supply issues
Information : Rising data center demand, falling PC demand

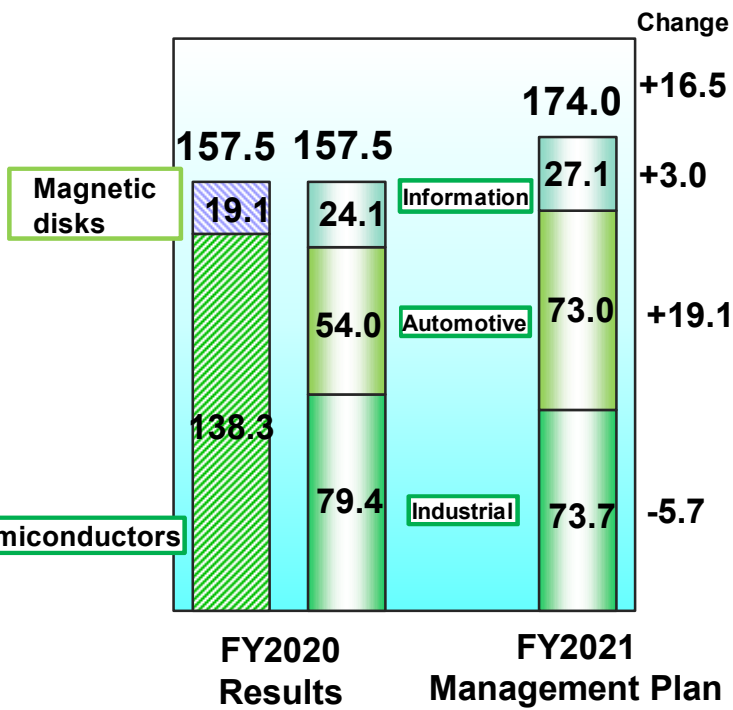
		Market Outlook (FY2021)	
		YOY Change	Details
Industrial	Factory automation		Strong performance of 5G- and semiconductor production equipment-related exports to the Chinese market in domestic operations; brisk demand centered on products for the Chinese market in overseas operations
	New energy		Year-on-year growth projected centered on solar power as accelerated global decarbonation movement drives shift from fossil fuels to renewable energy
	Consumers, etc.		Year-on-year growth in inverter air-conditioners and TV sales projected due to strong appetite for purchasing eco-friendly air-conditioners and home appliances and consistent demand related to people staying at home
Automotive	xEVs		Ongoing trend toward xEVs
	Gasoline vehicles		Recovery in sales from FY2020 slump resulted from COVID-19 pandemic
Information			Flat sales growth as decreased HDD demand due to PCs increasingly employing SSDs is counterbalanced by higher data center-related demand stimulated by IT investment (5G, economic recovery)

Note: Factory automation comprises inverters, servo, and machine tools; new energy comprises wind power and solar power generation-related products; consumer, etc. comprises products such as household air-conditioners and TVs; xEVs refers to full hybrid vehicles and electric vehicles (EVs); HDDs refer to hard disk drives; and SSDs refer to solid state drives (semiconductor memory). ©2021 Fuji Electric Co., Ltd. All rights reserved.

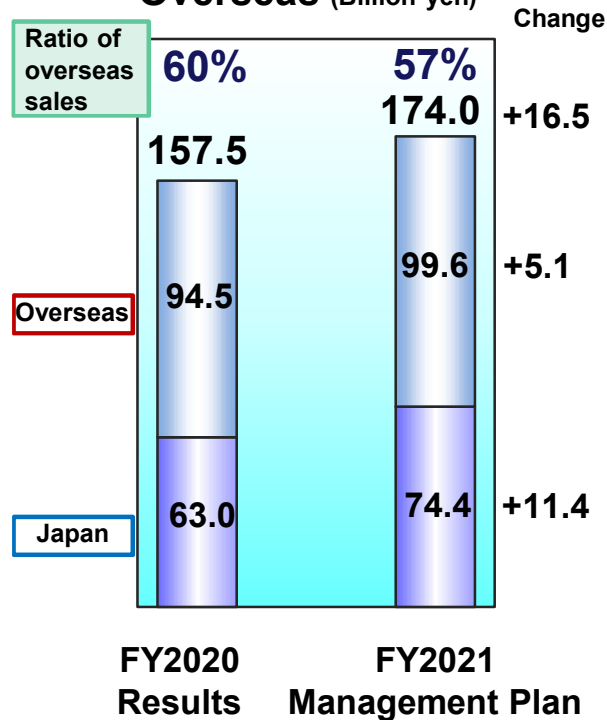
Business Policies

Continuation of proactive investment and pursuit of sales growth centered on semiconductors for xEVs

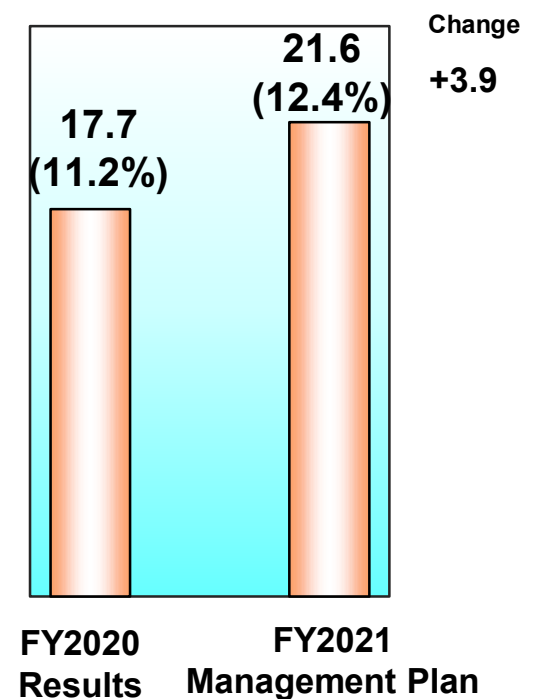
Net Sales by Subsegment (Billion yen)



Net Sales in Japan / Overseas (Billion yen)



Operating Income / Operating Margin (Billion yen)



● **Automotive field**

- **Expansion of sales of products for growing xEV market**
- **Acceleration of adoption of new automotive IGBTs**

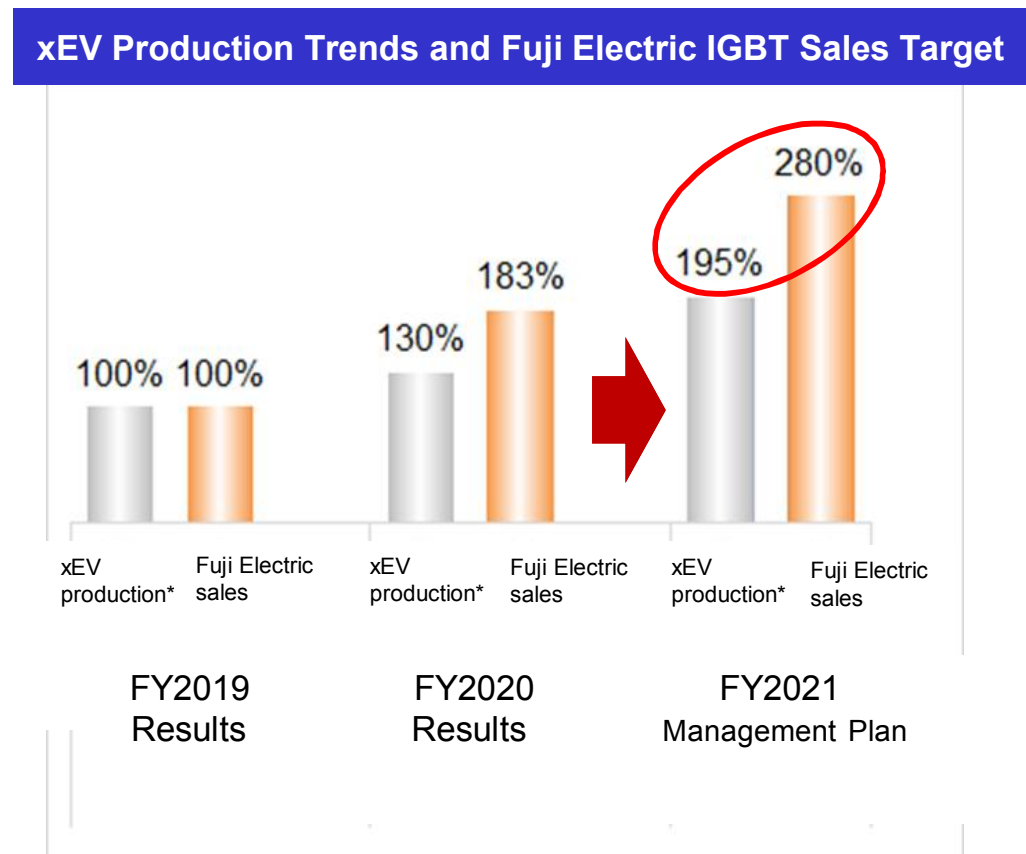
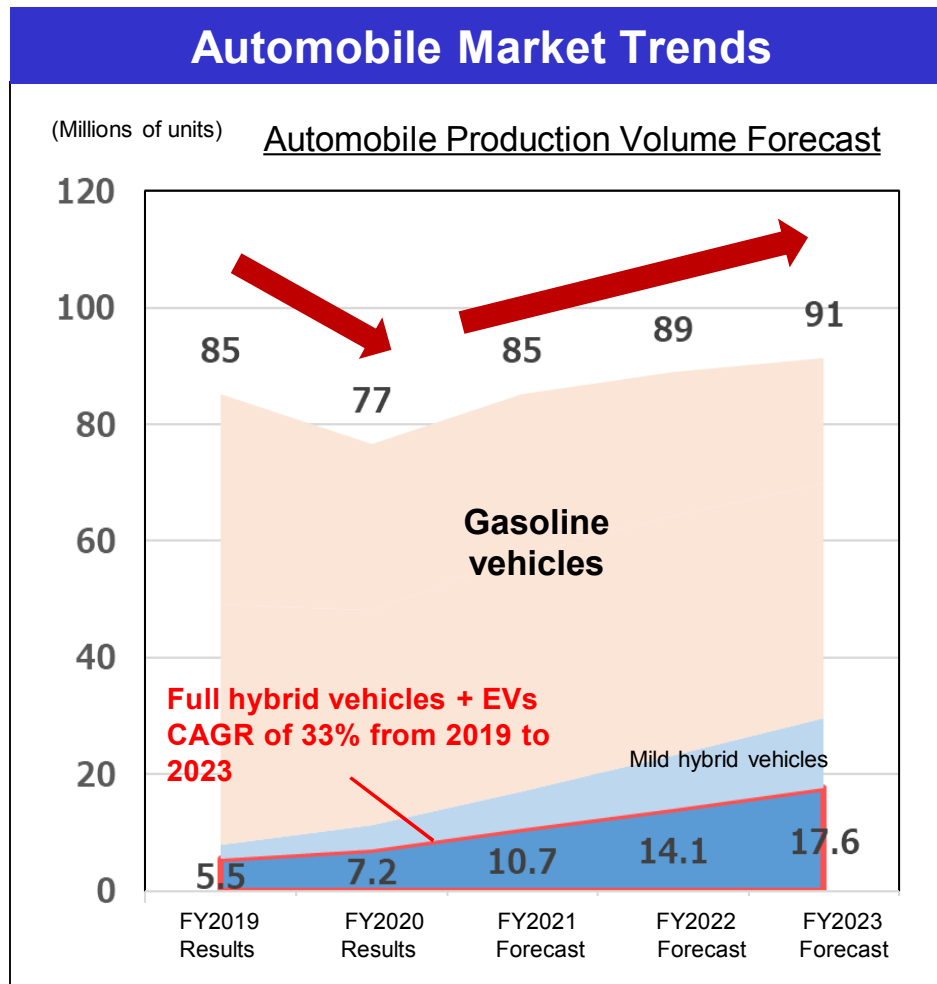
● **Industrial field**

- **Expansion of sales of 7th-generation IGBTs**
- **Growth of sales of products for new energy and air-conditioner markets**

● **Enhancement of manufacturing**

- **Front-end: Bolstering of 8-inch wafer production capacity**
- **Back-end: Augmentation of production capacity and expansion of range of products manufactured**

- Ongoing growth of xEV market and recovery of gasoline vehicle market from COVID-19-induced slump
- Target pursuing sales growth exceeding xEV market growth rate

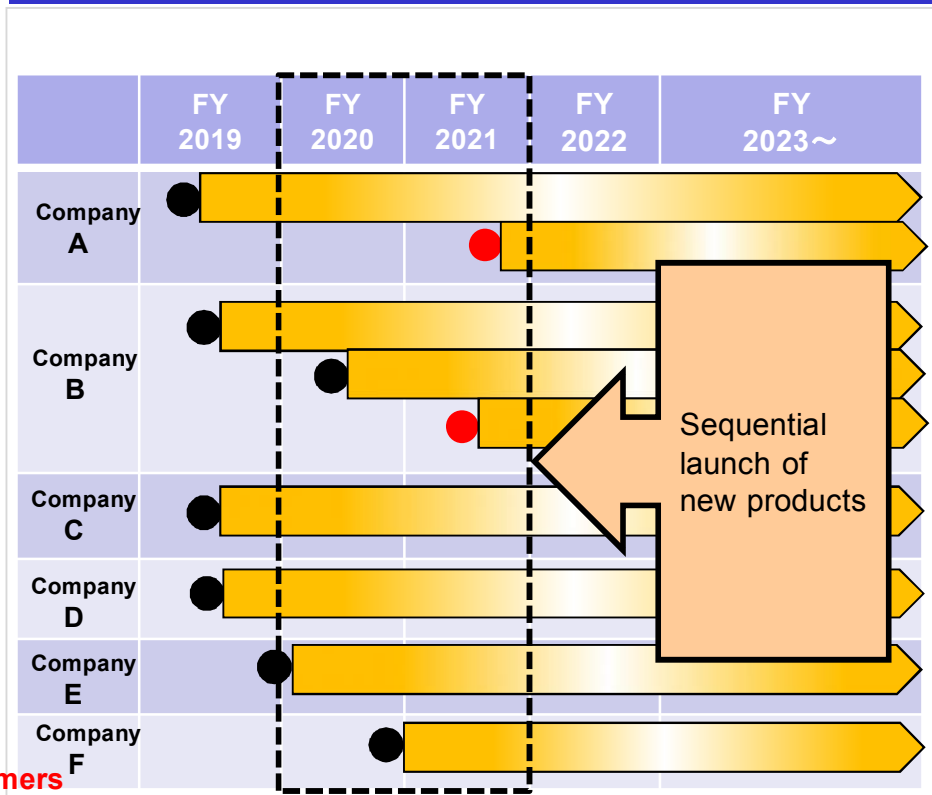


* xEV production represents Fuji Electric's estimates based on projections by investigation firms and uses the total of full hybrid vehicles and EVs.

Acceleration of Adoption of New Automotive IGBTs

- Mass production commenced targeting new customers in FY2020 and scheduled to commence targeting existing customers on schedule
- Portion of sales attributable to Automotive field expected to grow substantially from 41% to 50% (achieving FY2023 medium-term management plan target two years ahead of schedule) due to accelerated demand growth and new product launches

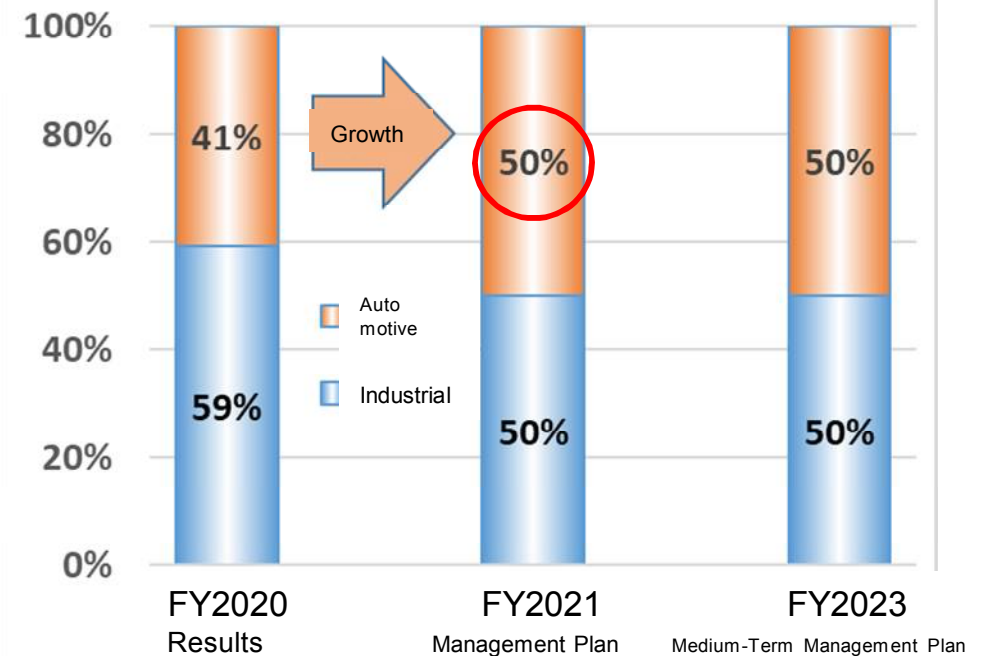
New Automotive IGBT Sales Growth Targets



New customers

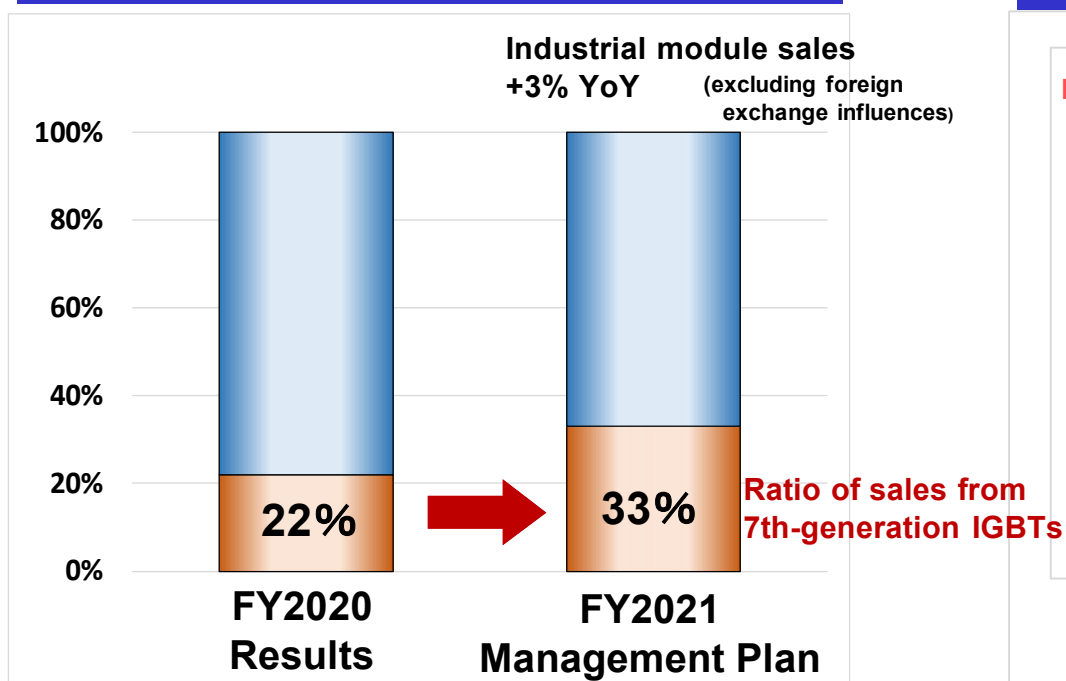
● Mass production commenced ● Mass production scheduled

Breakdown of Automotive IGBT Sales by Field (Excluding information field)

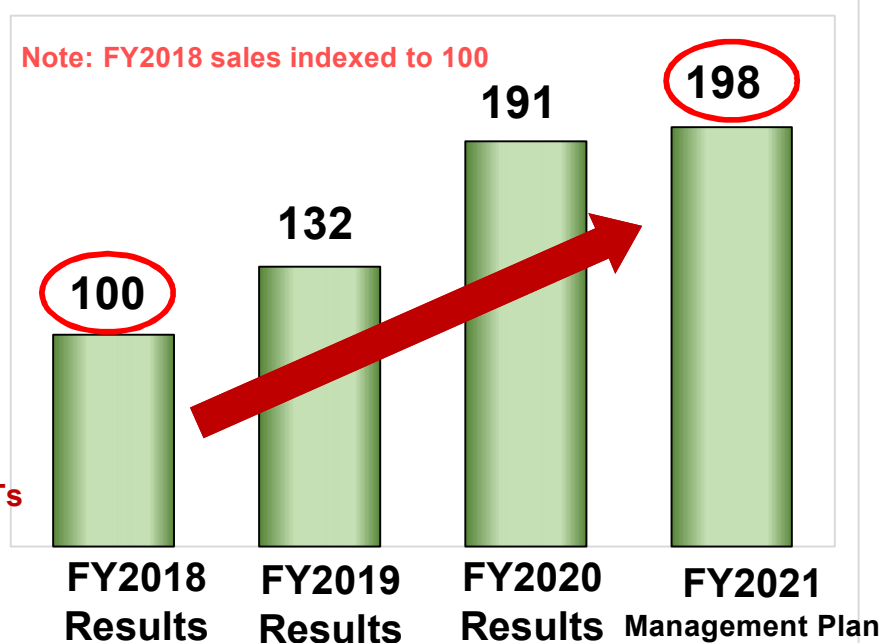


- Expansion of sales from 7th-generation IGBTs (+11 % points in ratio of total sales)
- Ongoing growth of sales of products for new energy and air-conditioning applications (roughly double FY2018)

Ratio of Sales from 7th-Generation IGBTs



Sales of Products for New Energy and Air-Conditioning Applications



Bases



Japan (Matsumoto)

- Mother factory
- Expansion of 8-inch wafer production capacity
- SiC device production base



Japan (Tsugaru)

- Commencement of 8-inch wafer production



Japan (Yamanashi)

- Principal 8-inch wafer factory
- Production of automotive IGBTs and 7th-generation IGBTs



Malaysia

- Production of 6th-generation IGBTs

Measures

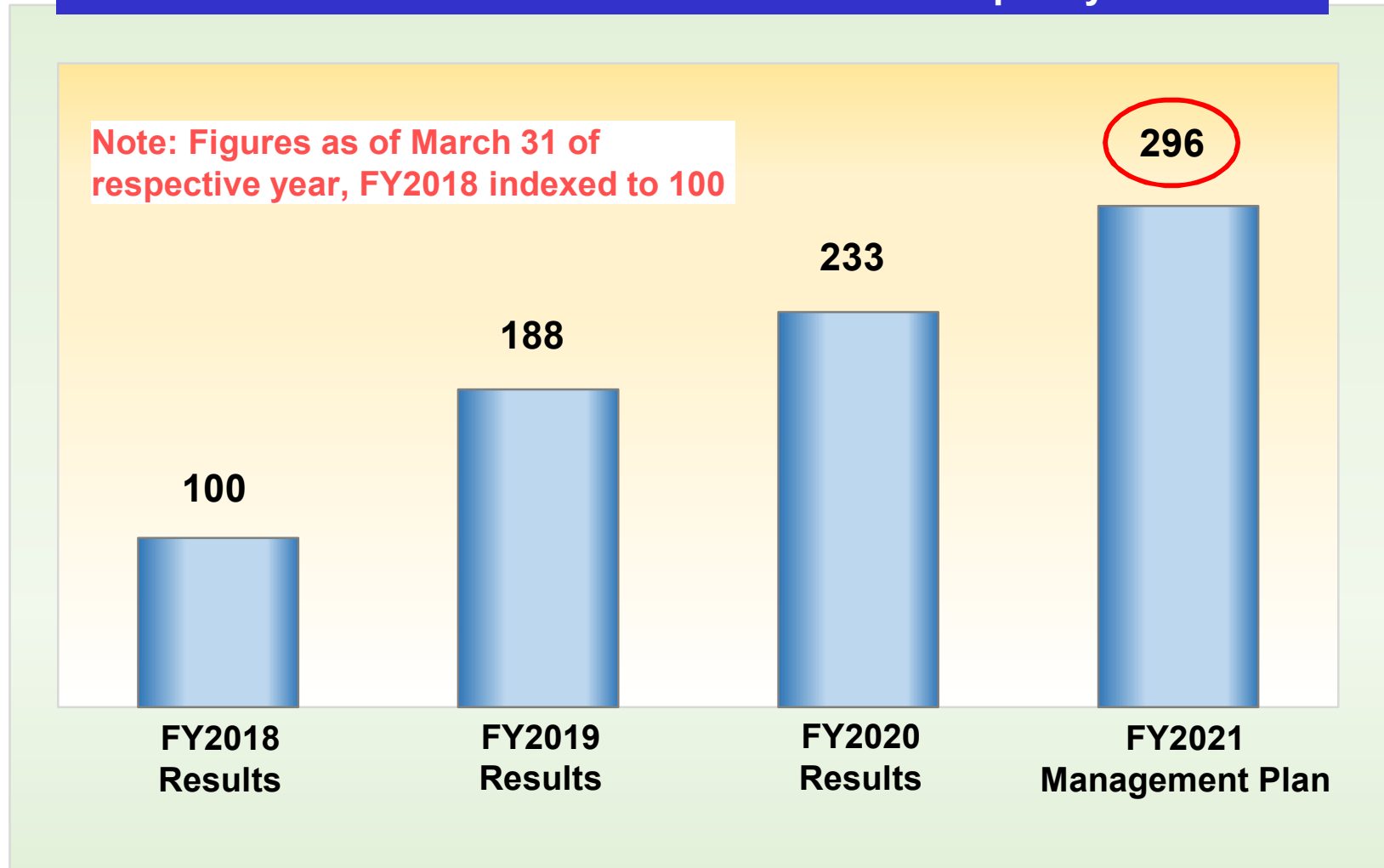
Augmentation of large-diameter wafer production capacity and expansion of range of models manufactured

- Ongoing expansion of 8-inch wafer production capacity (30% year-on-year increase on March 31, 2021)
- Expansion of range of models that can be produced
- Preparation for capacity increase aimed at FY2022 and beyond

Tripled production capacity to be achieved in comparison to FY2018

Front-End 8-Inch Wafer Production Capacity

Note: Figures as of March 31 of respective year, FY2018 indexed to 100



Bases



Japan (3 bases)

- Mother base for assembly products, manufacturing of products for domestic customers, **expansion of module production capacity**



Philippines

- Principal discrete device production base, production of automotive pressure sensors and air-conditioner modules



China (Shenzhen)

- Production base for IGBT modules for Chinese market, **commencement of production of 7th-generation IGBTs**



Malaysia

- Industrial IGBT module production base, **expansion of module production**

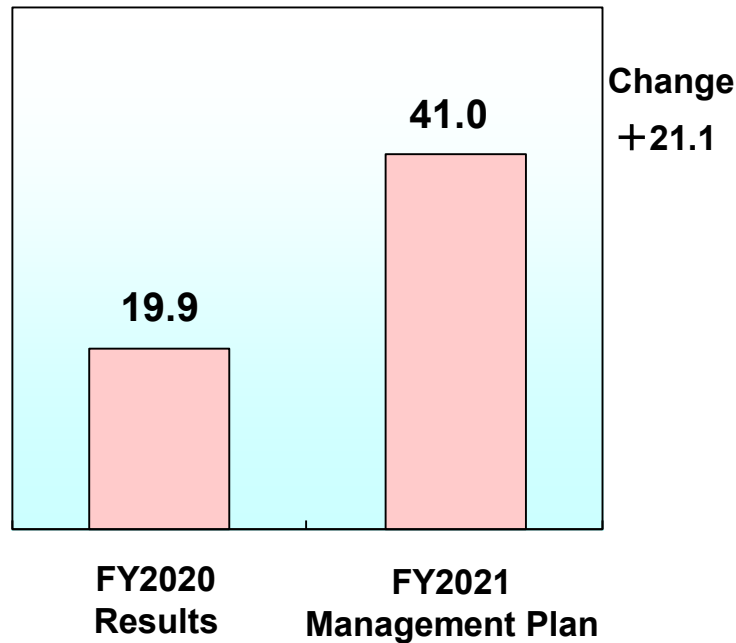
Measures

Expansion production capacity and range of models manufactured

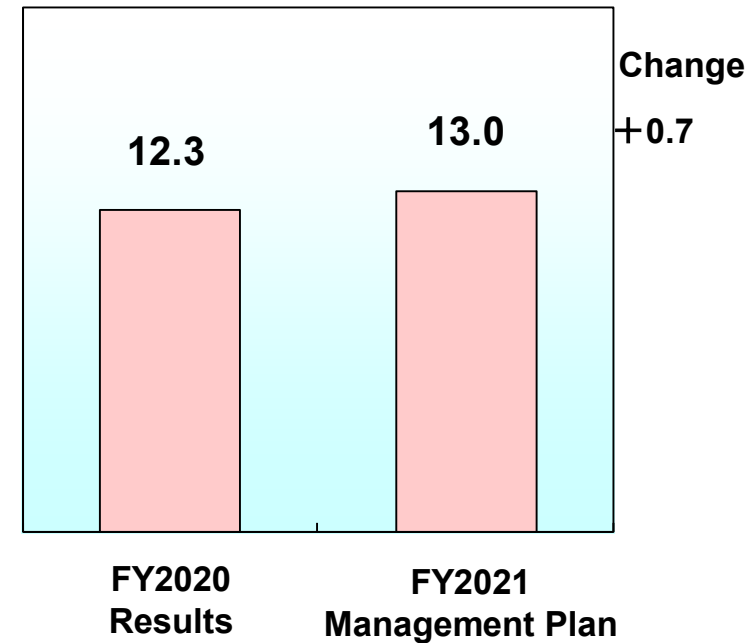
- **Expansion of automotive product production capacity**
xEV module production (double FY2020 level in FY2021)
- **Expansion of production capacity and range of models manufactured for industrial modules**
Production of large-capacity modules for new energy applications
(20% increase from FY2020 level in FY2021)

Capital Investment / Research and Development

Capital Investment (Billion yen)



Research and Development (Billion yen)



- Expansion of front-end (8-inch wafer) production capacity
- Expansion of back-end (automotive module) production capacity

- Automotive IGBTs
- SiC modules
- Development of 8th-generation IGBT technologies

Note: The R&D expenditure figures above represent expenditures that have been allocated to segments based on theme and may therefore differ from figures contained in consolidated financial reports.

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