

The 2nd QT of Fiscal Year ending March 2019
(2018 April-September)

Business Results



Ichikawa Plant

 **TOYO GOSEI**

November 16, 2018

Business Results for the 2nd QT of FY2019

(2018 Apr-Sept)

Business Highlight for the 2nd QT of FY2019

- Under good market condition, the revenue increased by 910 million yen on a year-on-year comparison (up 9% on a year-on-year) to 11,177 million yen
- Operating profit increased to 801 million yen (up 4.5% on a year-on-year comparison) and ordinary profit increased to 842 million yen (up 15% on a year-on-year comparison) due to increased investment costs for the expansion of production capacity earlier than the revenue increase.
- No extraordinary income (153 million in same period of previous year), net profit decreased to 550 million (down 6.5 on a year-on-year comparison)

(Million Yen)	Previous Year Same Period Result	Original Forecast	Result	Comparison with Year-on-Year		Comparison with Forecast	
				I/D Amount	I/D %	ID Amount	I/D %
Revenue	10,275	11,000	11,177	+901	+8.8%	+177	+1.6%
Operating Profit	766	540	801	+34	+4.5%	+261	+48.3%
Ordinary Profit	728	480	842	+113	+15.6%	+362	+75.4%
Net Profit	588	320	550	△38	△6.5%	+230	+71.9%
Net profit per stock	74.18	40.32	69.37				
Dividend per stock	5.00	5.00	5.00				
FX rate (Yen per USD)	¥111/\$	¥107/\$	¥109/\$				

The summary of the Business Result

■ Revenue

- ✓ 11,177 million yen (up 901 million yen, up 8.8% compared to the same period of last year)
- ✓ Sales for photosensitive materials and EL solvent increased steadily

■ Operating profit

- ✓ 801 million yen (up 34 million yen, up 4.5% compared to the same period of last year)
- ✓ Due to prior investment cost (labor, depreciation etc.) for the capacity improvement in photosensitive material segment, gross profit remains as slight increase

■ Ordinary profit

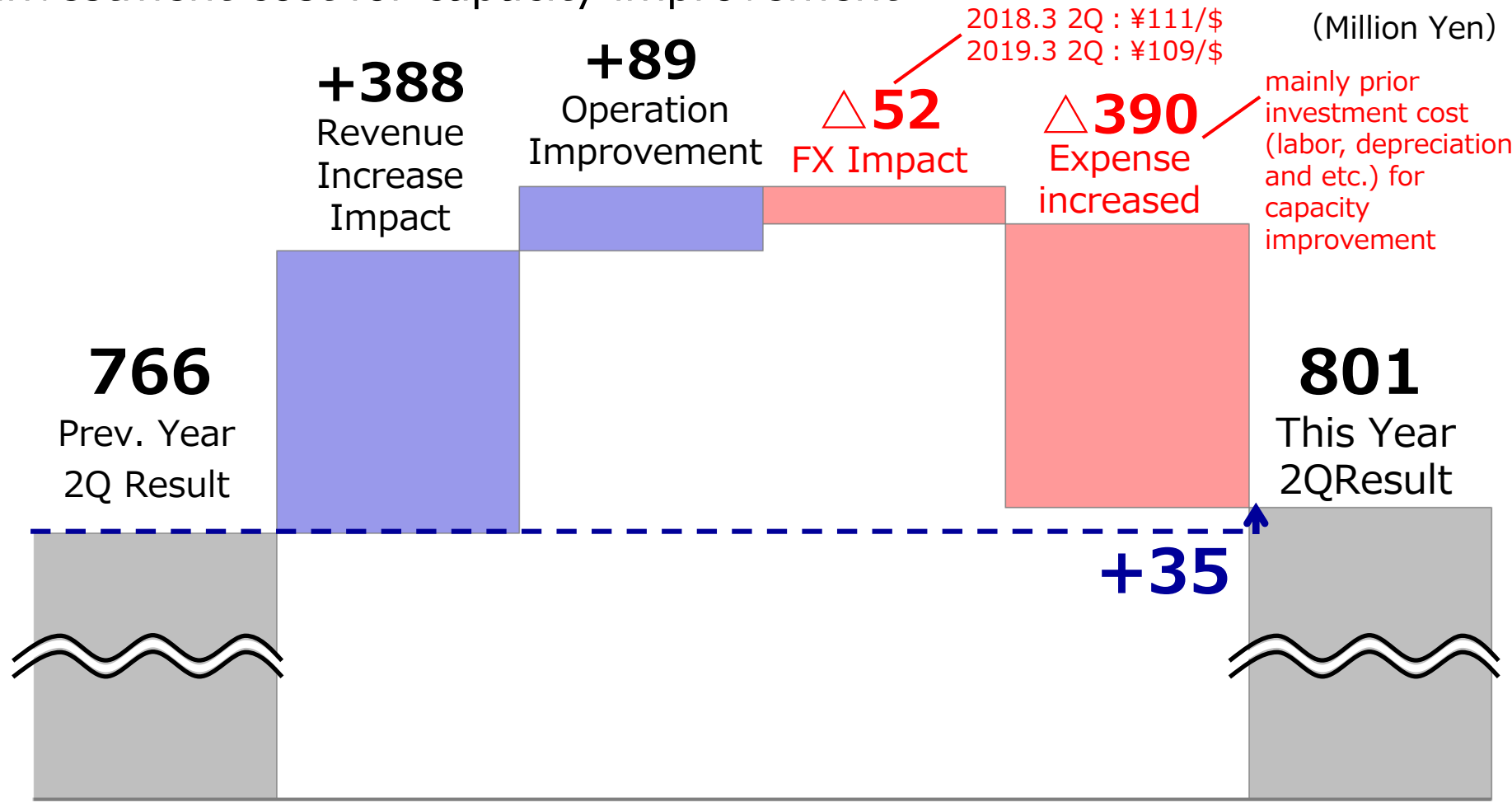
- ✓ 842 million yen (up 113 million, up 15.6% compared to the same period of last year)
- ✓ Because of non-operating profit 107 million yen (up 66 million yen compared to the same period of last year) including 71 million yen appraisal profit from exchange fluctuation, ordinary profit remains as slight increase

■ Net profit

- ✓ 550 million yen (down 38 million, down 6.5% compared to the same period of last year)
- ✓ Due to no extraordinary income (150 million as gain on assets sales of factory land in the same period of last year), net profit decreases from the same period of last year

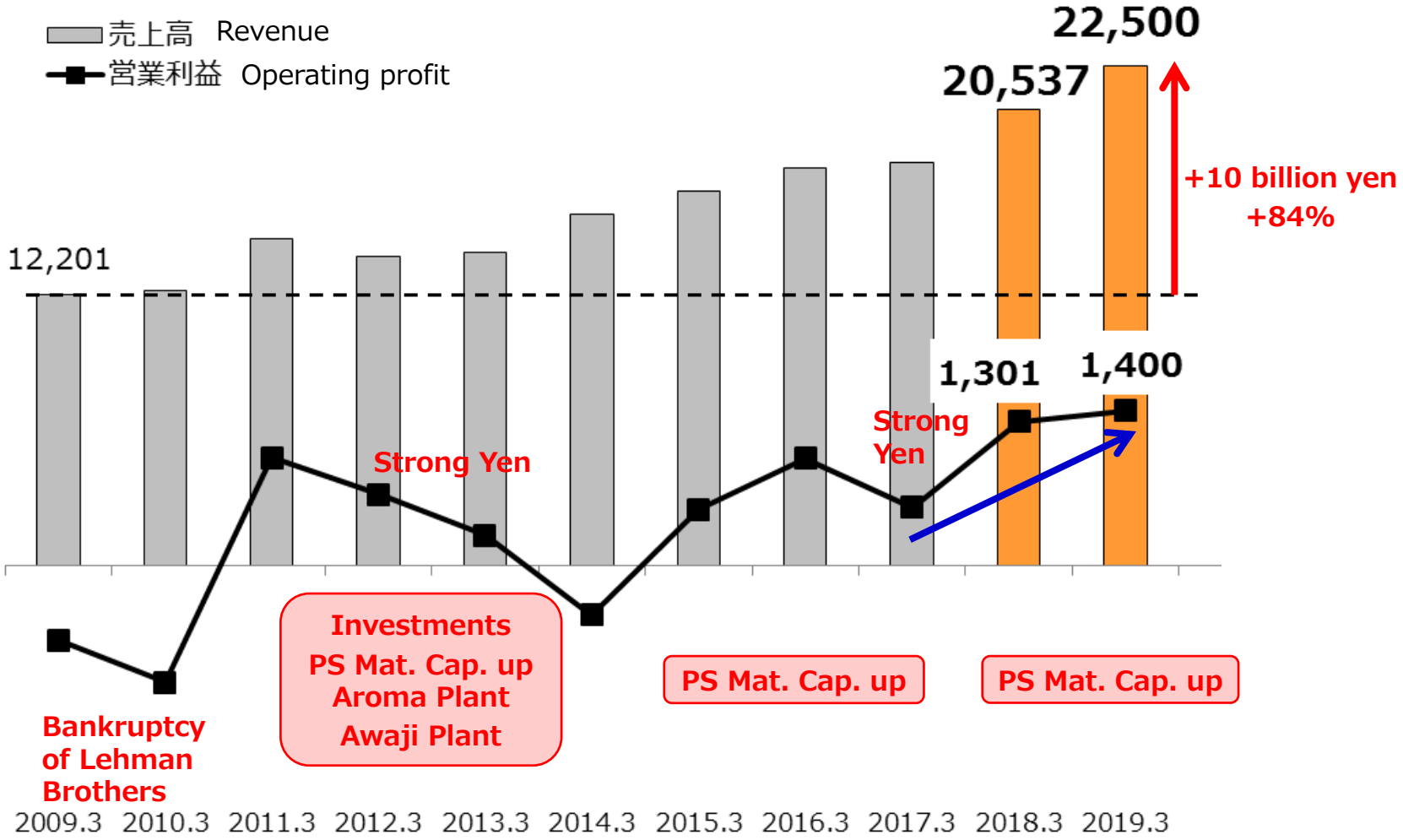
Operating profit, factors for increase/decrease

Revenue & Operating profit increased in spite of the spending prior investment cost for capacity improvement



Revenue & Operating profit development

Revenue increased 10 billion yen in the last decade, strategical investment contributed business growth

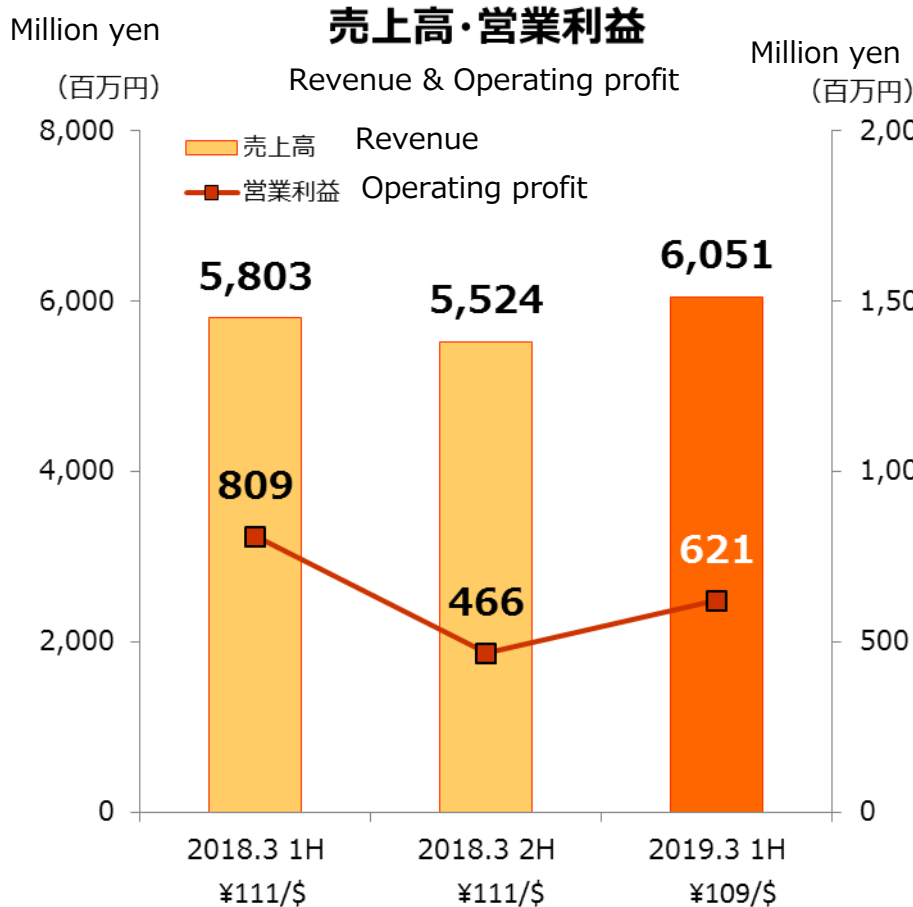


Photosensitive Materials Segment

- Business for Semiconductor and FPD applications going well resulted in the revenue increase
- Due to prior investment cost (labor, depreciation and etc.) for capacity improvement, profit level decreased compared to the same period of last year

Revenue: 6,051 million yen

(up 247 million yen, up 4.3% on a YOY)



- Photosensitive materials sales for legacy & advanced generation in Semiconductor applications as well as FPD application have been going well
- Launch EUV photosensitive materials to market
- Sales for OLED application was lower than the expectation

Operating profit: 621 million yen

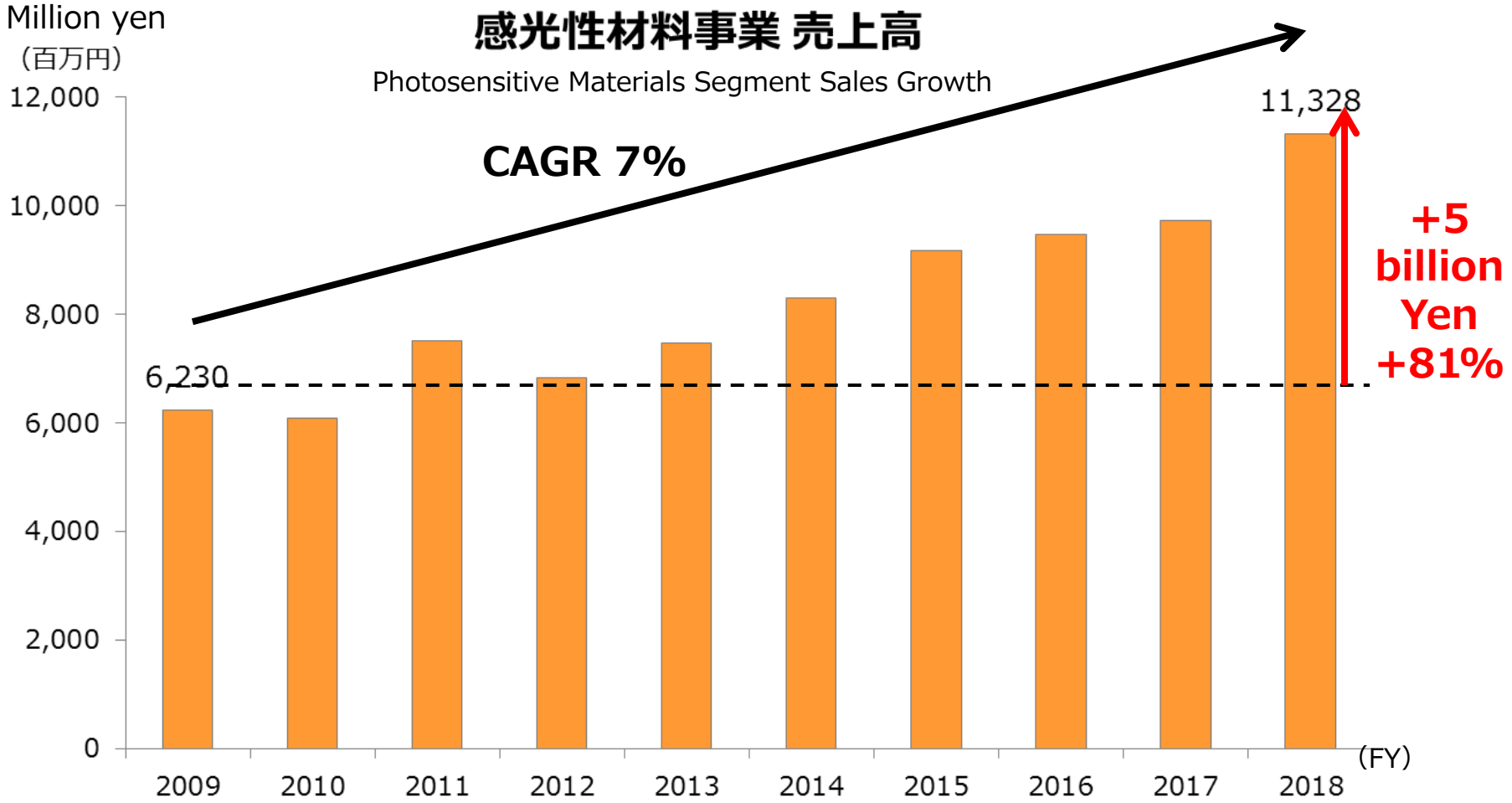
(down 187 million yen, down 23.2% YOY)

- In spite of the spending prior investment cost (labor, depreciation and etc.) for capacity improvement, gross profit remain as minimum decrease, down 187 million yen from the same period of last year

Photosensitive Materials Segment: Historical sales development

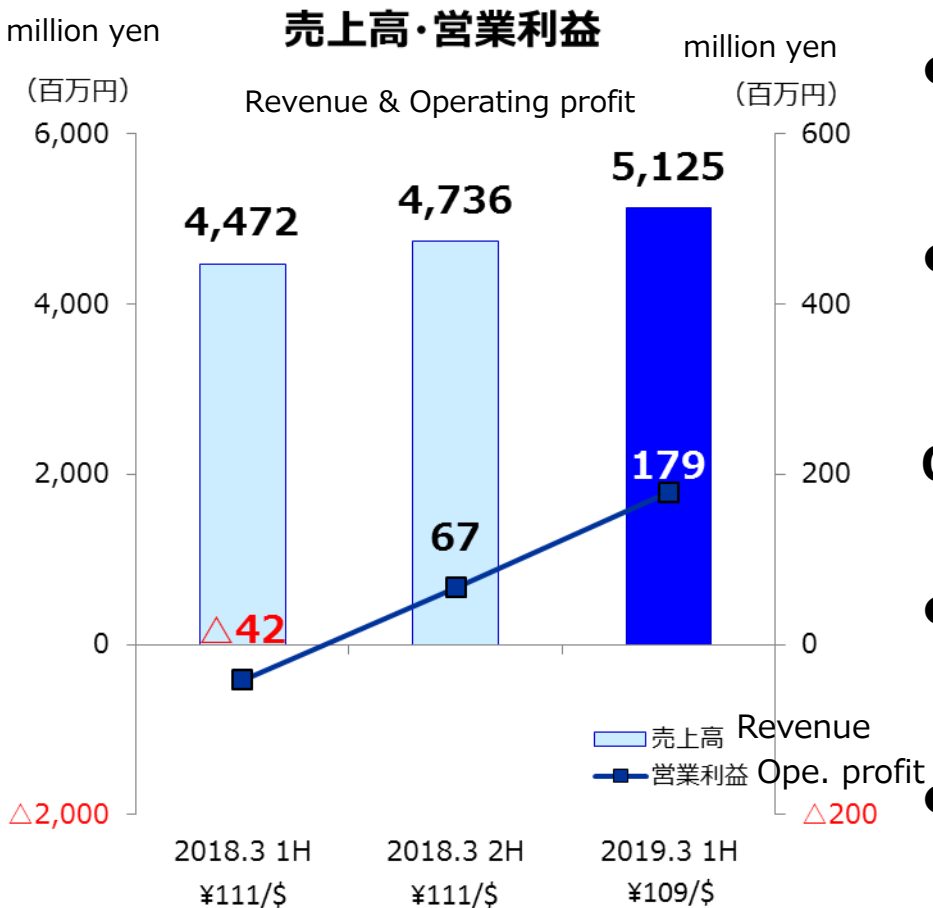
Revenue increased 5 billion yen in the last decade

The continued expansion of production capacity have been contributing to the sales growth



Chemicals Segment

Fine Chemicals business for Electronic industry going well contributed to the revenue increase



Revenue : 5,125 million yen

(+653 million, +14.6% YOY)

- Functional Chemicals business for Flavors & Fragrances going steadily resulted in profit increase
- Logistic business kept high operation

Operating profit : 179 million yen

(+222 million yen YOY)

- As Ultra-high purity solvent sale surged dramatically, it contributed to the profit growth
- Profit growth is continuing

Profit & Loss Statement

- Revenue +902 million yen, up 8.8% on a YOY
- Gross profit increased up 120 million yen on a YOY comparison in spite of the spending 390 million yen investment for Photosensitive materials capacity expansion
- Net profit decreased from last year due to no extraordinary income

(Million yen)	2018.3 2Q	2019.3 2Q	I/D AMT	I/D %
Revenue	10,275	11,177	901	8.8%
COGS	8,085	8,866	781	9.6%
Gross Profit	2,190	2,310	120	5.5%
Selling Exp.	1,423	1,509	86	6.0%
Ope. Profit	766	801	35	4.6%
Non-Op profit	40	107	66	167.5%
Non-Op Exp.	78	66	△38	△15.4%
Ordinary profit	728	842	114	15.7%
Extraordinary P&L	146	0	△146	—
Profit before Tax	874	842	△33	△3.7%
Tax	285	△22	△32	△7.7%
Net profit	588	550	△38	△11.5%

[Loss △146]
assets sales of factory
land in same period of
previous year

Balance Sheets

- Accounts receivable increased in accordance with the increased sales
- Inventories increased for the preparation of the capacity up work and sales increase

(million yen)	2018.3 end	2018.9 end	I/D amt
Current assets	12,617	13,218	601
Cash	2,525	2,075	△449
Accounts receivable	3,695	4,143	447
Inventories	6,108	6,702	593
others	287	297	9
Fixed assets	17,511	17,434	△76
tangible assets	16,585	16,530	△54
Intangible assets	331	300	△30
Invs.& other assets	595	603	8
Assets total	30,128	30,866	524
Liabilities	22,345	22,358	13
accounts payable	2,872	2,816	△55
interest-bearing debt	14,460	15,205	744
others	5,012	4,337	△675
Net assets	7,783	8,294	511
Shareholders' equity	7,738	8,249	510
Liabilities & Net Assets total	30,128	30,653	524

[interest-bearing debt+744]
 spending for capacity up

[equity ratio]
 27.1% (YOY+1.3pt)

2019 March ending Projection

2019.3ending Projection

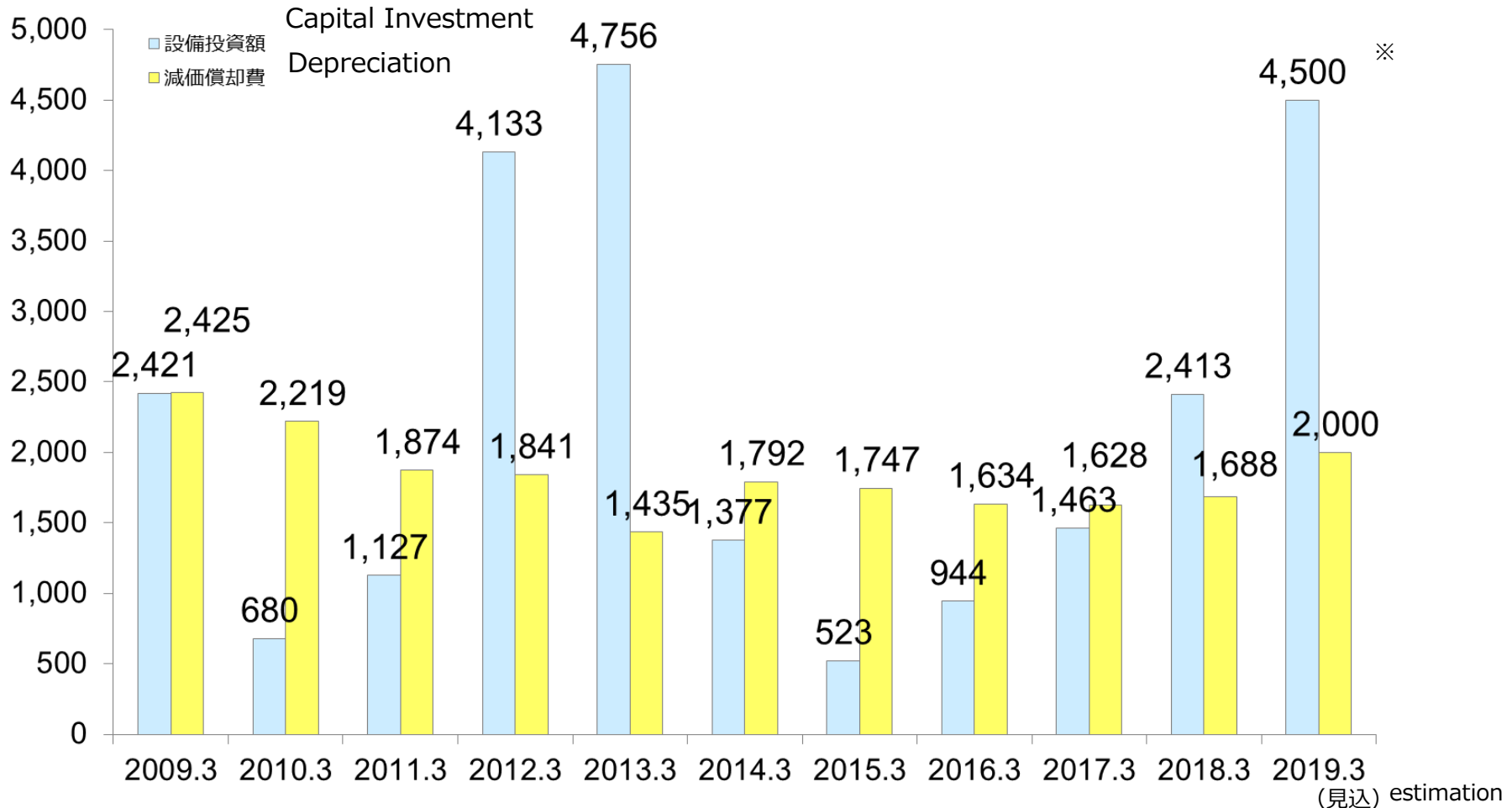
- FY ending projection changed to “Sales and profit growth” from “decline in profit” thanks to good business forecast for photosensitive material and ultra high purity solvent in 2nd half.
- Photosensitive materials business unit is under the capacity up construction, it will contribute to the profit improvement in next fiscal year
- Chemical business unit continues to work for profit improvement activities
- Budgeted exchange rates changed to ¥110/\$. Keep dividend amount per stock.

(million yen)	Previous year Result	Original projection for FY end	New projection for FY end	Comparison with Last year result vs New projection		Comparison with Original projection vs New projection	
				I/D Amt	I/D %	I/D Amt	I/D %
Revenue	20,536	22,000	22,500	1,964	+9.6%	500	+2.3%
Operating profit	1,300	1,100	1,400	100	+7.7%	300	+27.3%
Ordinary profit	1,089	1,000	1,350	261	+24.0%	350	+35.0%
Net profit	863	670	830	△33	△3.8%	160	+23.9%
Earnings per Share	108.73	84.41	104.57				
Dividend per Share	10.00	10.00	10.00				
FX Rate (USD)	¥111/\$	¥107/\$	¥110/\$				

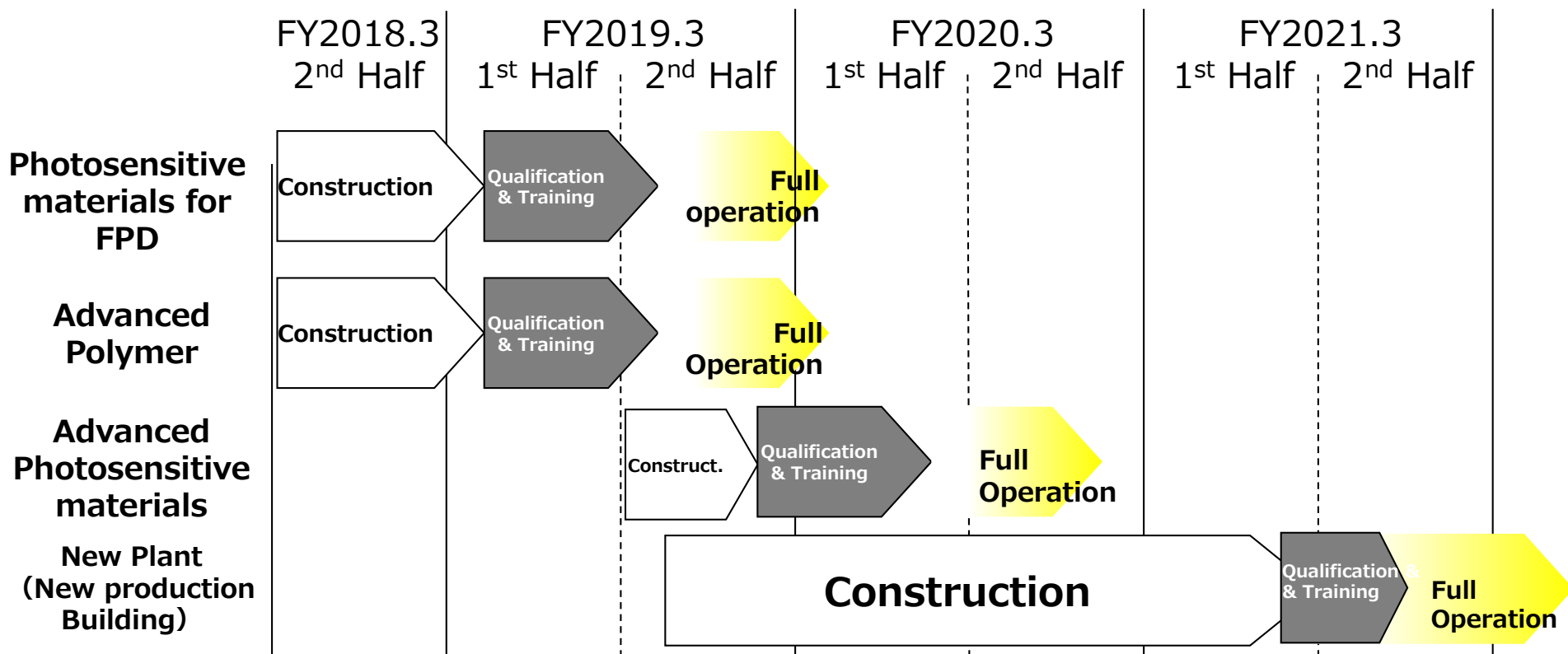
Capital Investment & Depreciation History

- Continuing capacity up investment from FY2018.3, depreciation will result in 2 billion yen

million yen
(百万円)



Photosensitive Material BU Capacity-up Investment



Medium-term management plan

-TGC300-

Corporate Principle, Policy and Business segment

Corporate Principles

Toyo Gosei aims to develop in order to support the advancement of civilization through projects based on human talent, creativity, science, and technology.

Corporate Policy

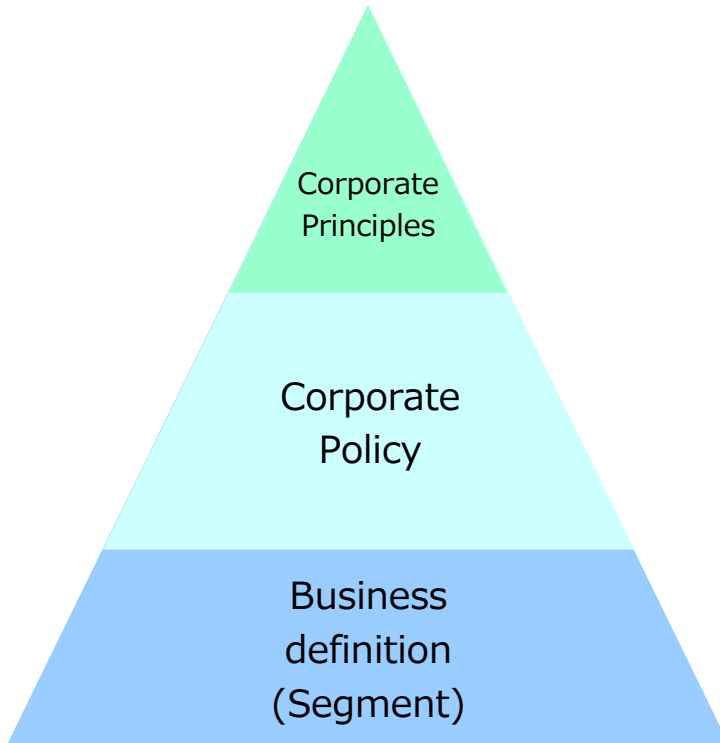
1. Provide a comfortable working environment for our staff, as well as the staff of partner companies and local citizens, with operational safety as our top priority.
2. Comply with applicable laws, rules and regulations and internal rules, engage in free and fair competition and conduct fair and equitable business activities in conformity with social norms.
3. Provide world-class microstructure materials for international society
4. Constantly develop new products, processes and services
- 5. Lead the market through advancements in production technology, process development and quality.**
6. Develop domestically and overseas as a global company from Japan.
7. Develop as a company and contribute to society through innovation based on building individual abilities

Business definition (Segment)

Develop and Provide IT·medical/life science segment with chemicals product & service

Innovative and advanced service development

Support to competitiveness of customers' business



Target

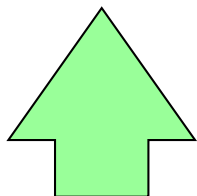
Target for FY2023 March ending

Revenue: ≥ 30 billion yen

Ordinary profit: ≥ 3 billion yen

Ordinary profit %: $\geq 10\%$

Capital investment: 12 billion yen
(Strategic investment for 5yrs)



FY2018 March ending

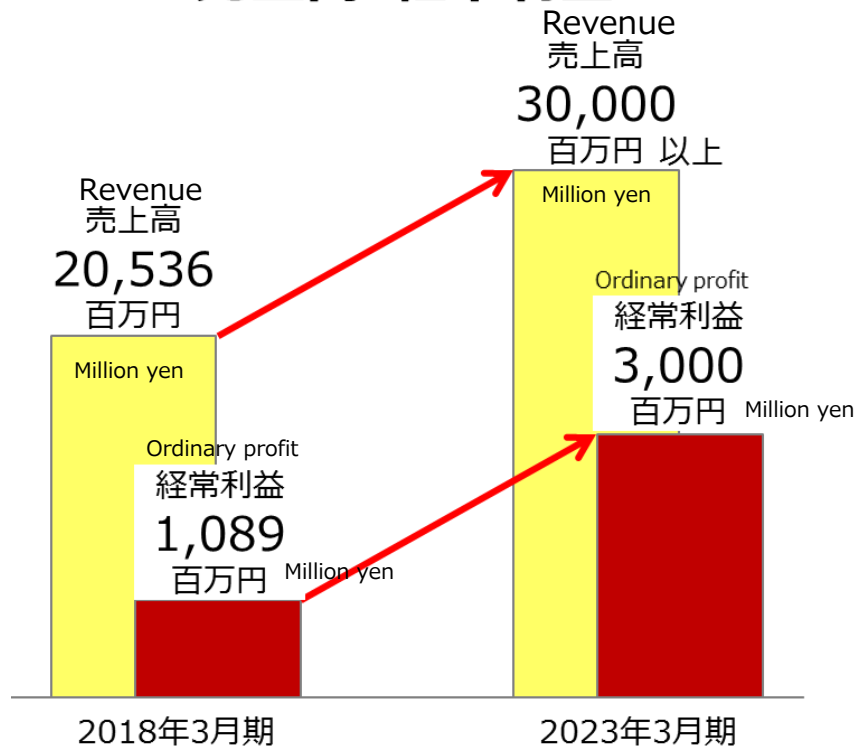
Revenue: 20.5 billion yen

Ordinary profit: 1 billion yen

Ordinary profit %: 5.3%

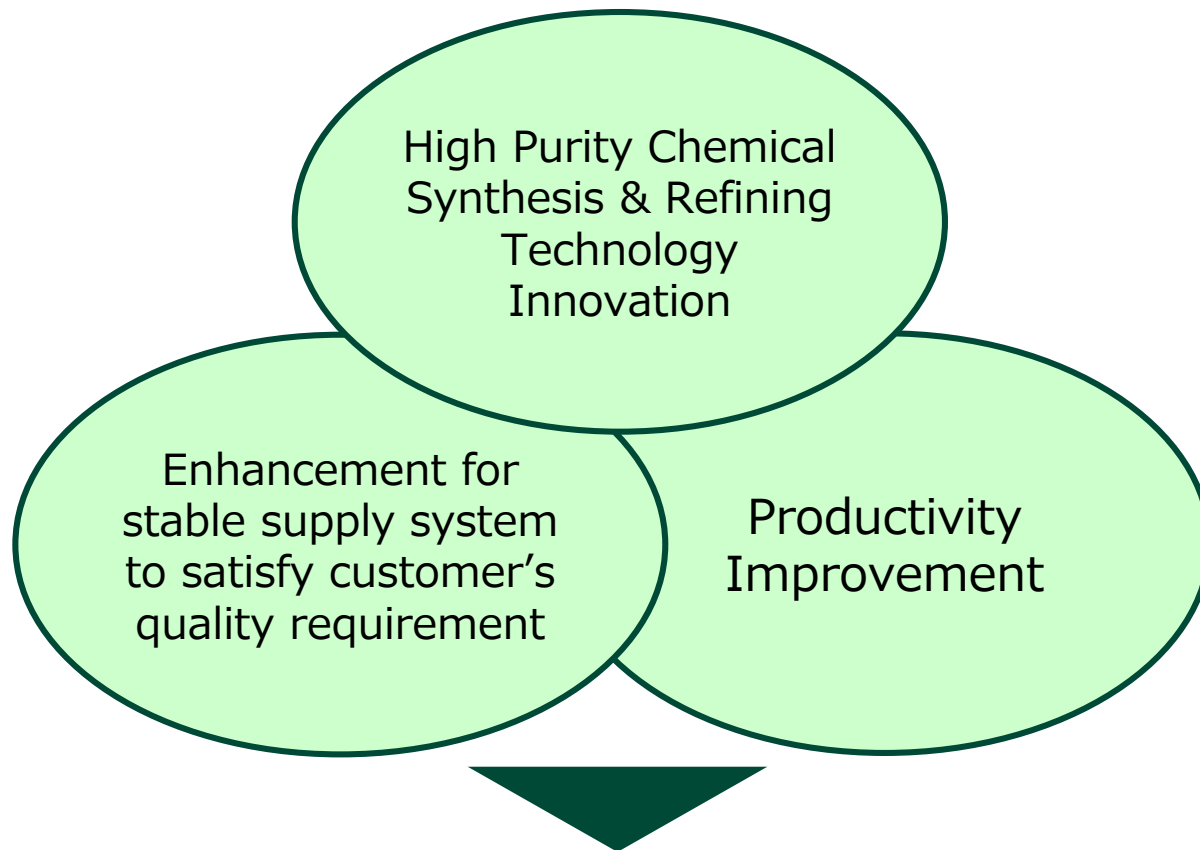
Revenue & Ordinary profit

売上高・経常利益



FY2018 March ending FY2023 March ending

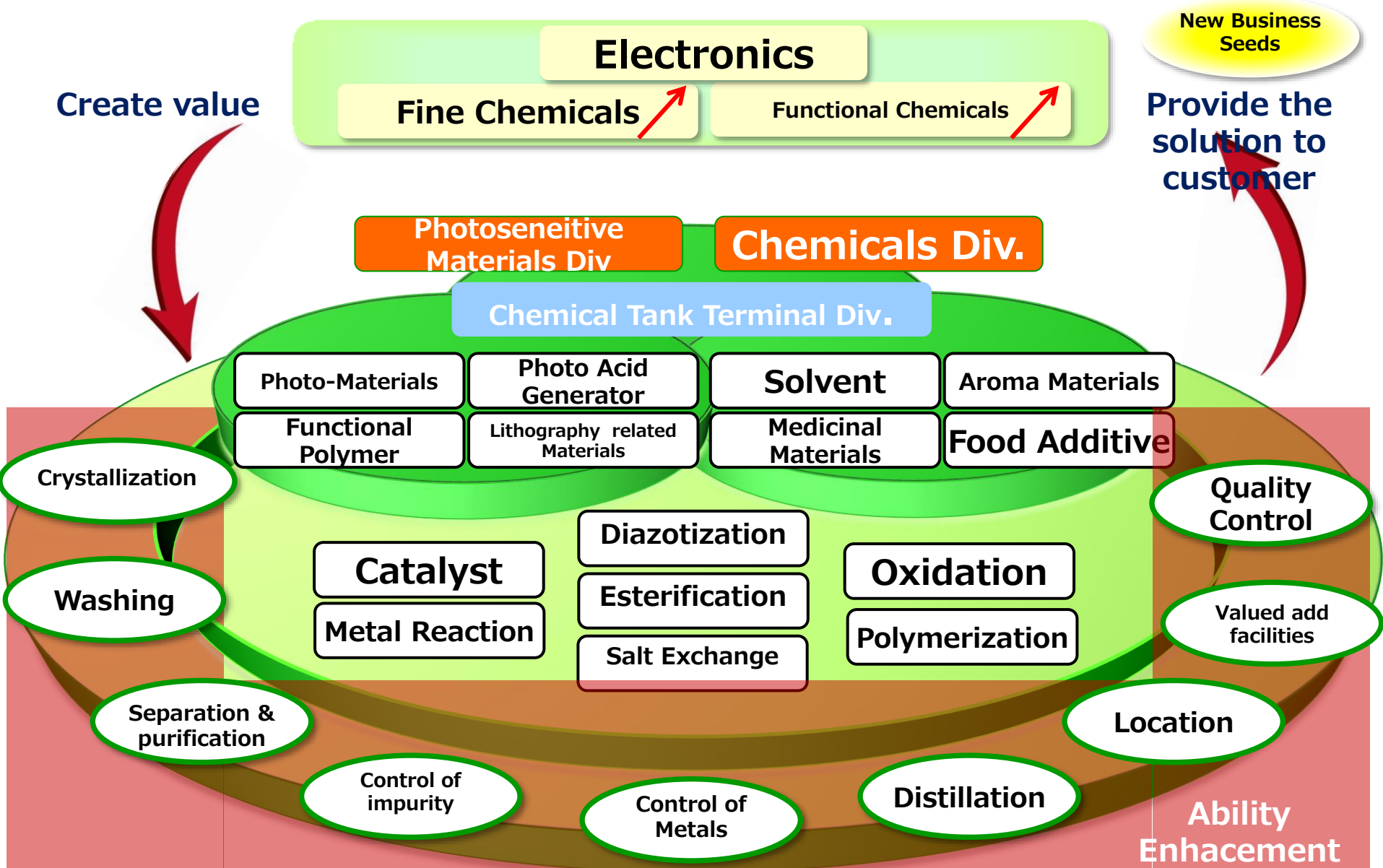
TGC300 Concept & Vision



■ Vision of TGC300

Sincerely proving solution for customer's agenda and technical issue by unique approach, become world #1 "DANTOTSU"(ultra outstanding) company in high quality and productivity.

Business Field in Medium-term Management Plan



Business Environment

Market Trend

- ✓ Usage of Electronic Device in Daily life continue to expand
(5G, big data, AI, IoT, EV etc)
- ✓ In line with minimizing device structure and improving performance, more high purity and functionality materials are being required more in market.

Customer's Requirements

- ✓ More requirements for Ultra high purified materials especially for EUV application
- ✓ Few technology companies can meet small lot size with challenging production process which is getting common in the advanced technology market

Challenge for market demand

- ✓ Need to establish state of art production for customer's quality requirement

Measurements

- Secure production capacity
- Productivity improvement
- Development of advanced purification technology

■ Photosensitive Materials Segment : Expand production capacity

- Satisfying customer's quality requirement contributed for the material innovation in Electronic industry
- Establishing strong combination of ultra high purification synthesis technology and sophisticated production technique for advanced semiconductor process

■ Chemicals Segment : Enhancement core business

- Enhancement of quality management, technical support and supply capability for advanced semiconductor process
- Enhancement of the value of dedicated chemical tank terminal with Robotic Process Automation and other innovative process automation

■ R&D and Production Technology

- Enhancement of the production technology to satisfy cost competitive productivity and customer's quality requirements
- Productivity improvement by integration of World #1 sophisticated purification production know-how and IoT technology
- Establishment of new business portfolio by enhancing business process with material innovation

■ Human Resource Development

- Talent development enhancement for productivity improvement
- Training new business leader for next generation

■ Corporate Structure Enhancement

- Improvement of the safety technology for functional materials supply chain in the emerging market
- Establishment of Corporate Governance system to meet our business development plan

Position of TGC300: Display Market

Demand for FPD photoresists continues to expand, driven by expanding FPD production in China. The shift to higher resolution screen is supporting a significant increase in demand for high-grade photosensitive materials.

Demand outlook for FPDs (surface area)

(Million m²)

(百万m²)

FPD面積需要見通し

Total FPD
2015→2024 : x1.4
CAGR: 3.4%

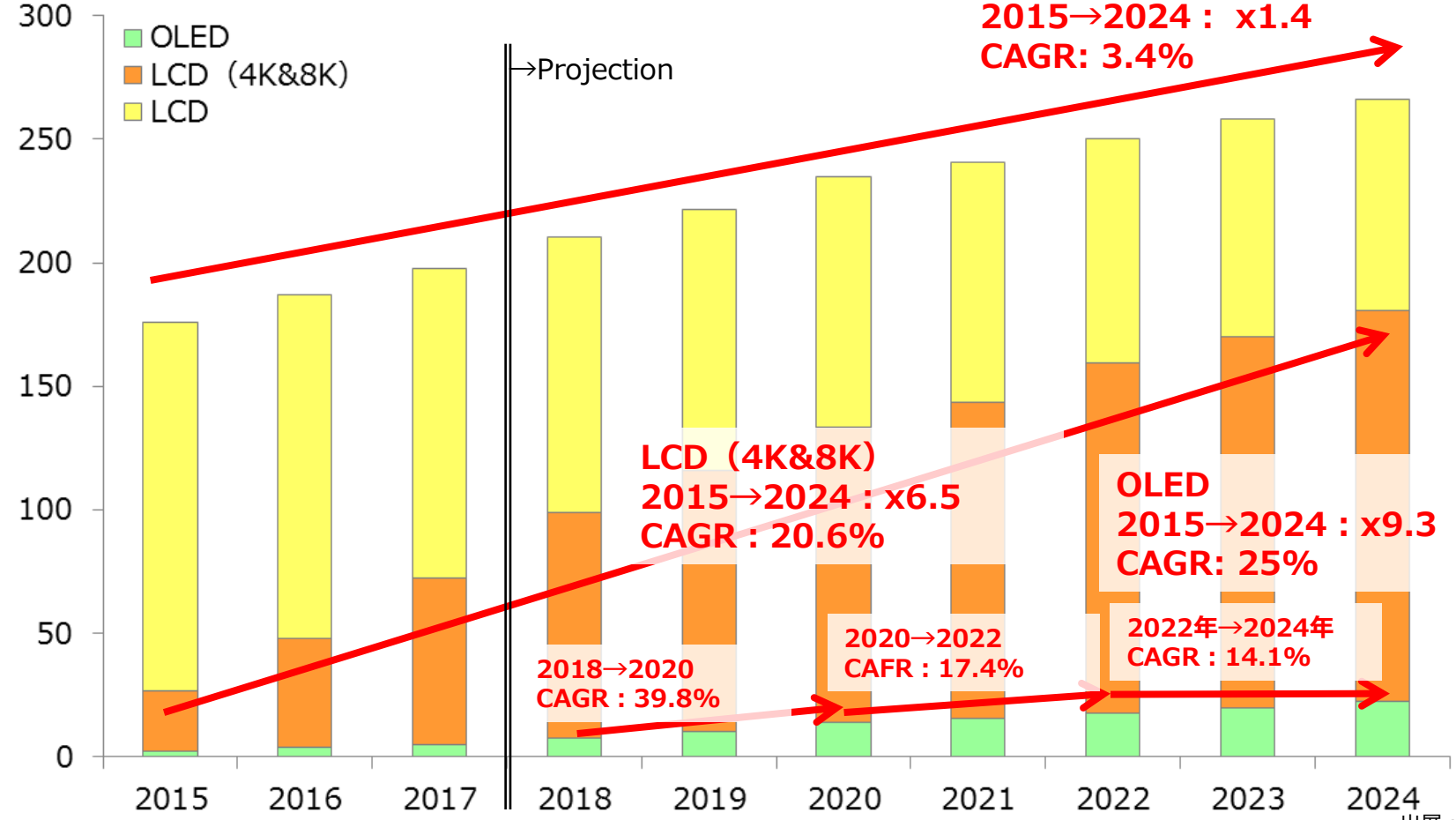
LCD (4K&8K)
2015→2024 : x6.5
CAGR: 20.6%

OLED
2015→2024 : x9.3
CAGR: 25%

2018→2020
CAGR : 39.8%

2020→2022
CAF: 17.4%

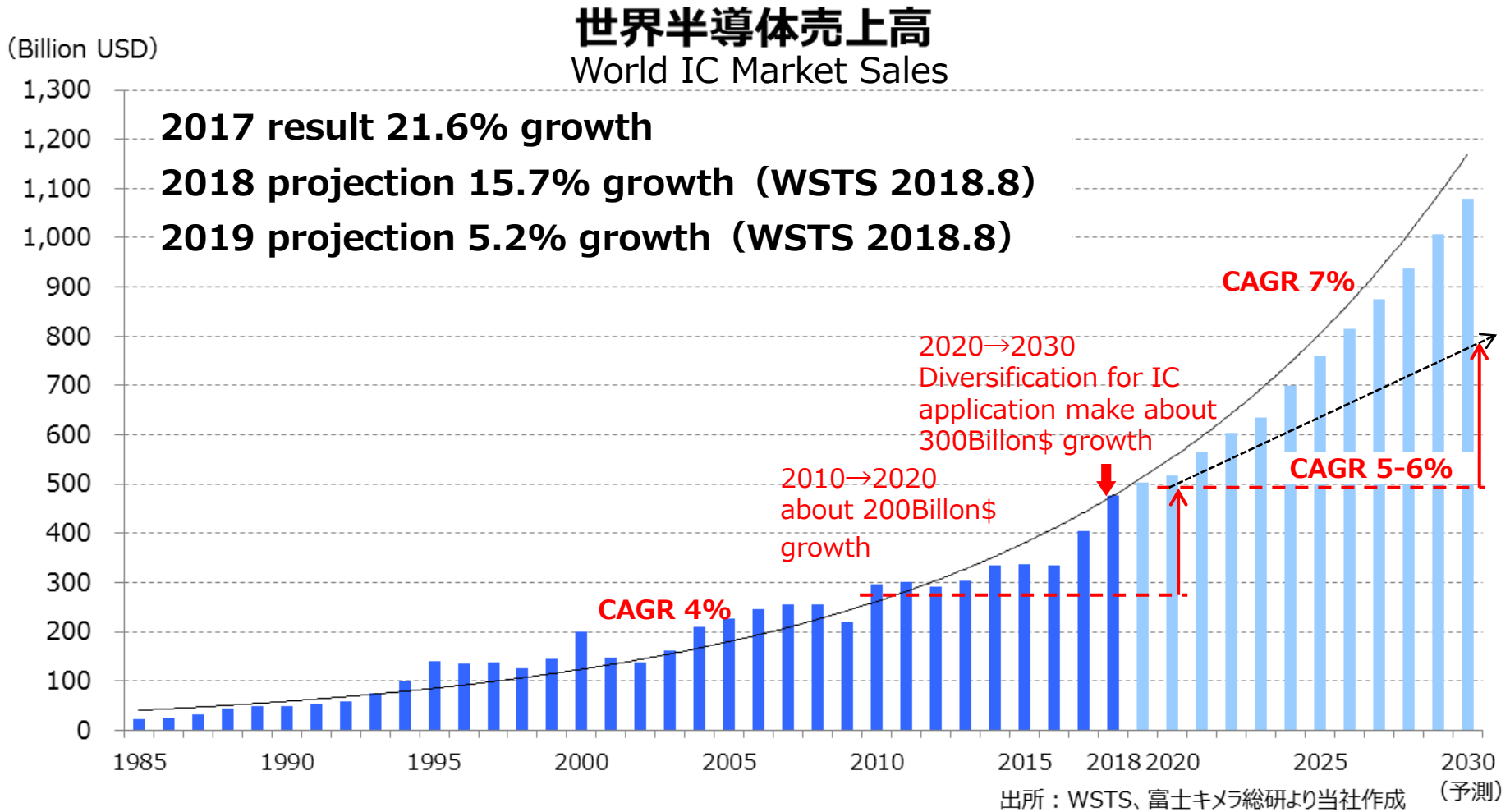
2022年→2024年
CAGR : 14.1%



出展 : IHS

Position of TGC300: IC market development & projection

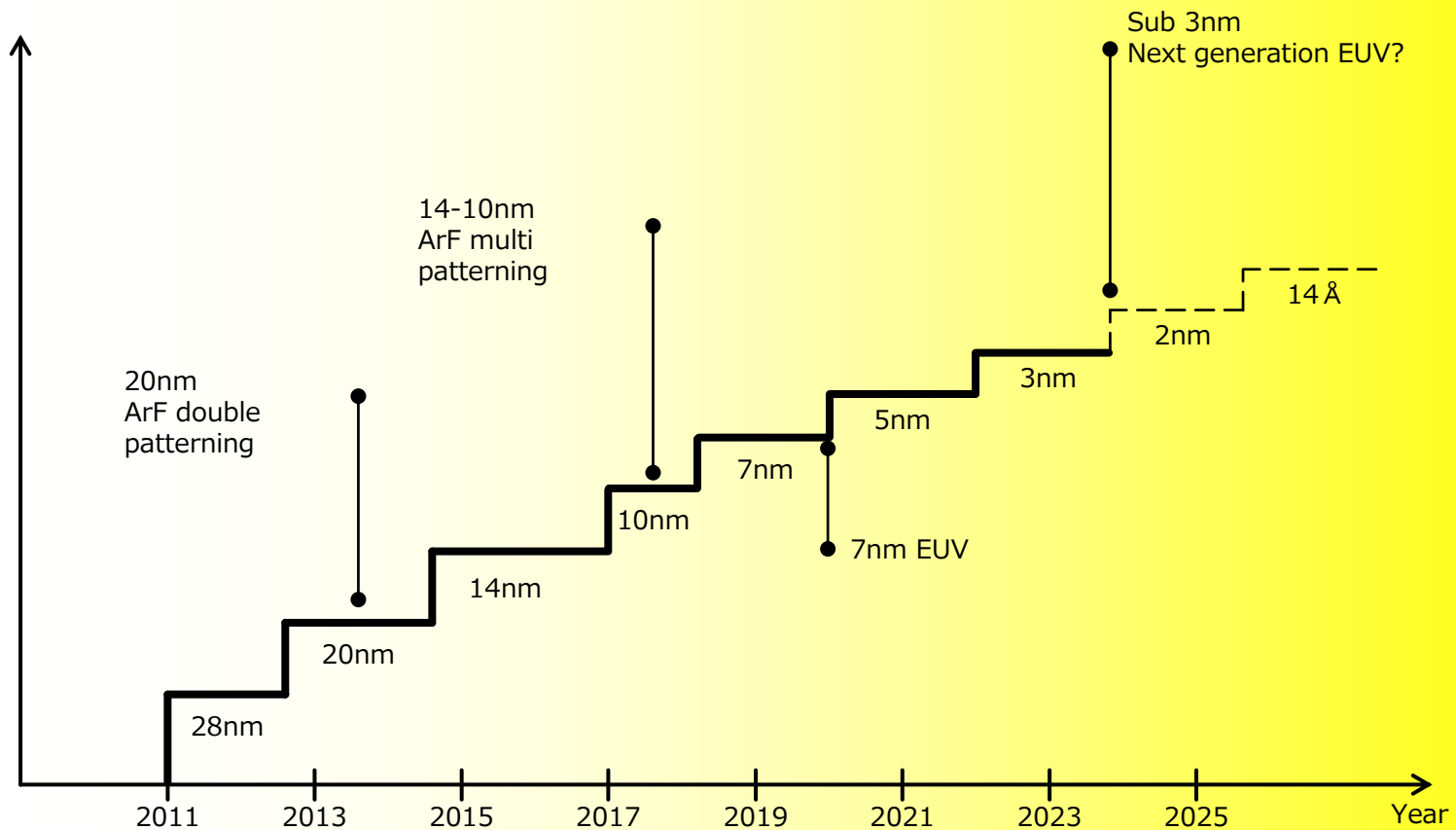
- 2018 Jan-June result up 20.4% on a YOY (SIA), Memory IC slowing down now
 Popularization of Electronic Device in daily life driving IC market expansion to x 1.5-2.0 market size in 2030 World IC Market Sales



Source: WSTS & Fuji Chimera Research Institute, Inc

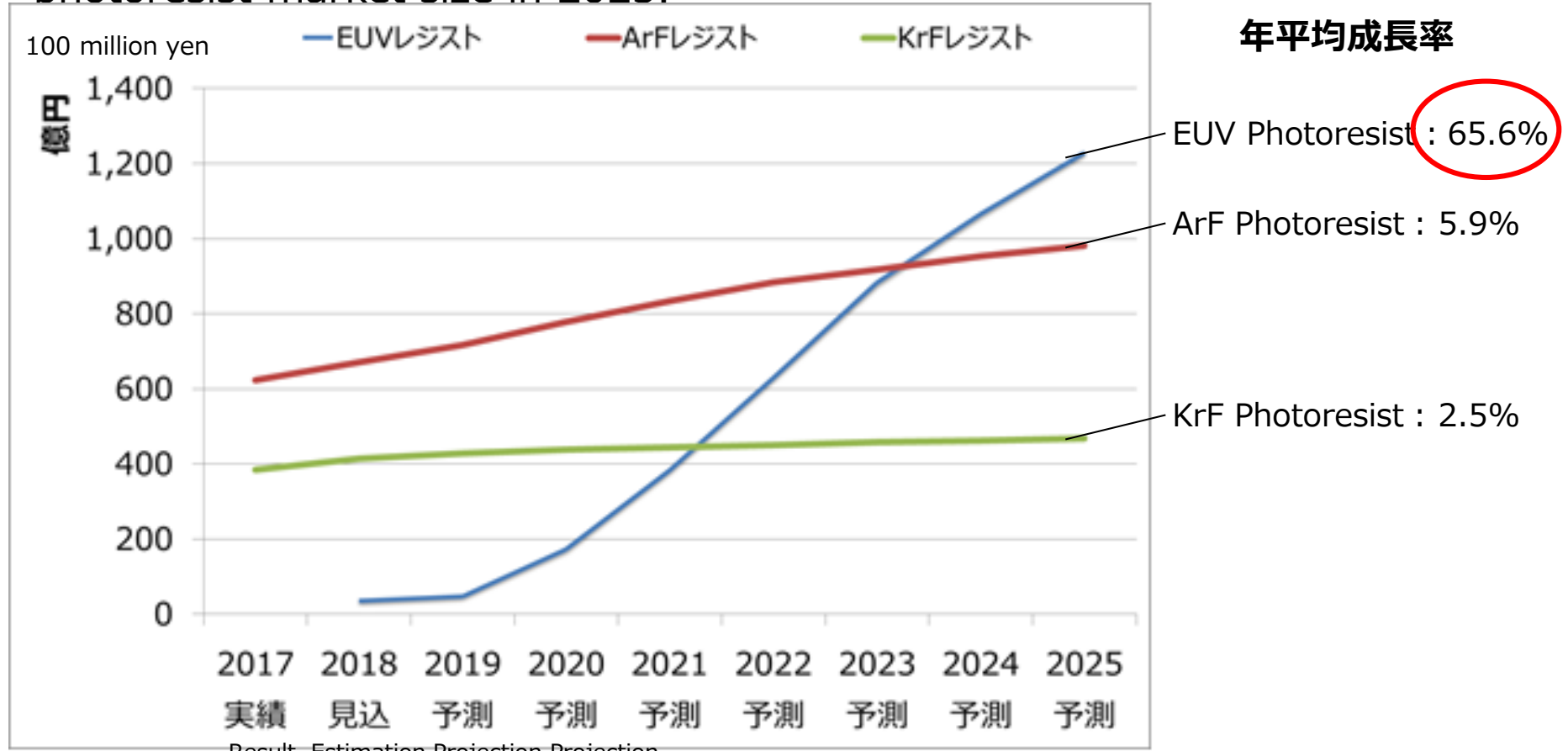
Position of TGC300: Lithography Technology Down Sizing

- Semiconductor Node (Line Width) continues to be down size to 7nm as mass production at Year 2018
- Suppose to be down size to 2nm level in 2025
- In accordance with line width down size, 3D structure, severe quality control for process materials, surging need more high purity photosensitive materials



Photoresist Market Development

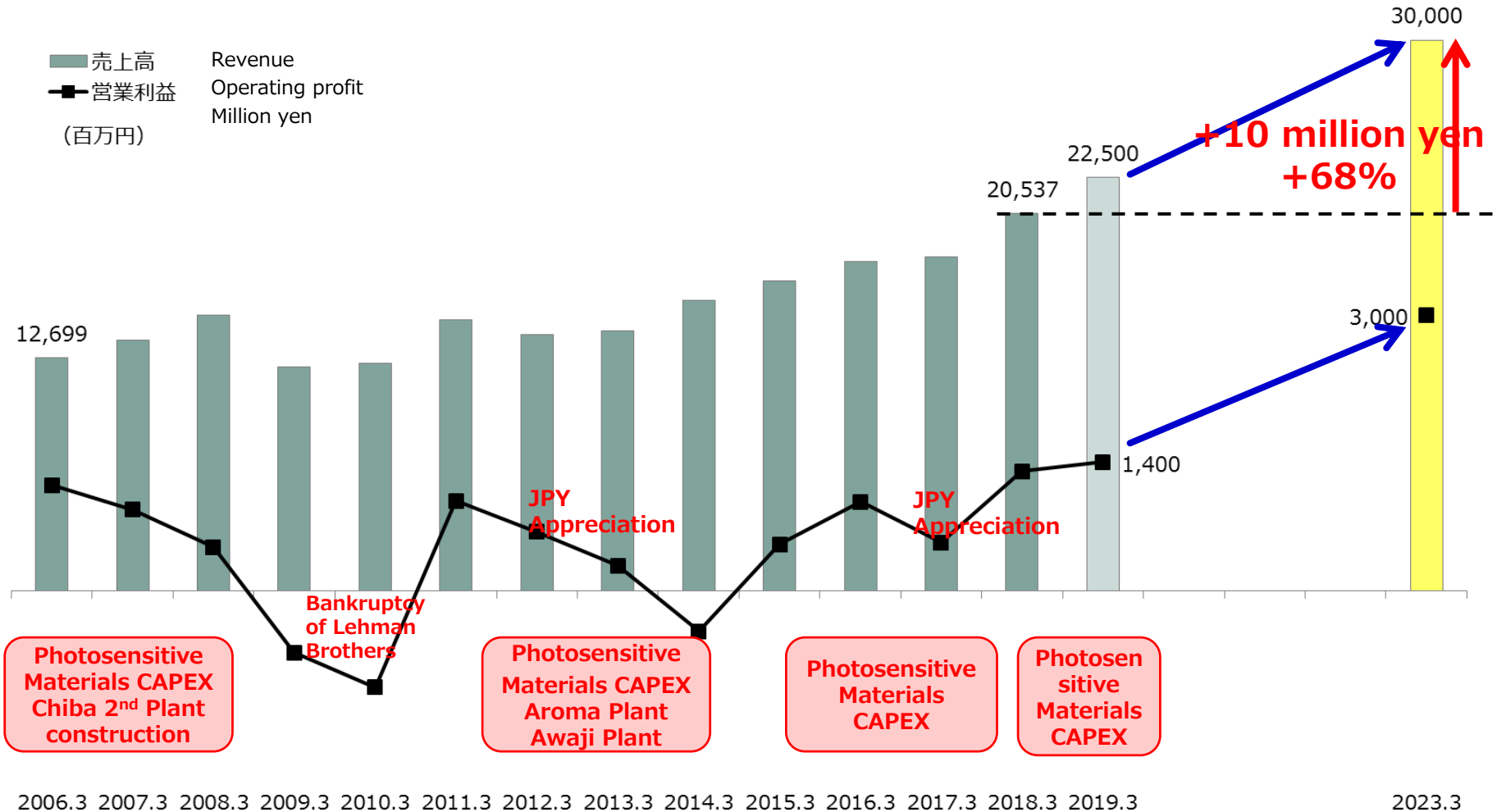
- EUV photoresist: trial to mass production in 2018, after 2019 volume sale will start
- EUV photoresist will overtake KrF photoresist market size in 2021 and ArF photoresist market size in 2023.



Source: Fuji Chimera Research Institute, Inc 「Å (オングストローム) 半導体プロセス材料/技術の展望調査 (2018年7月)」より 当社作成

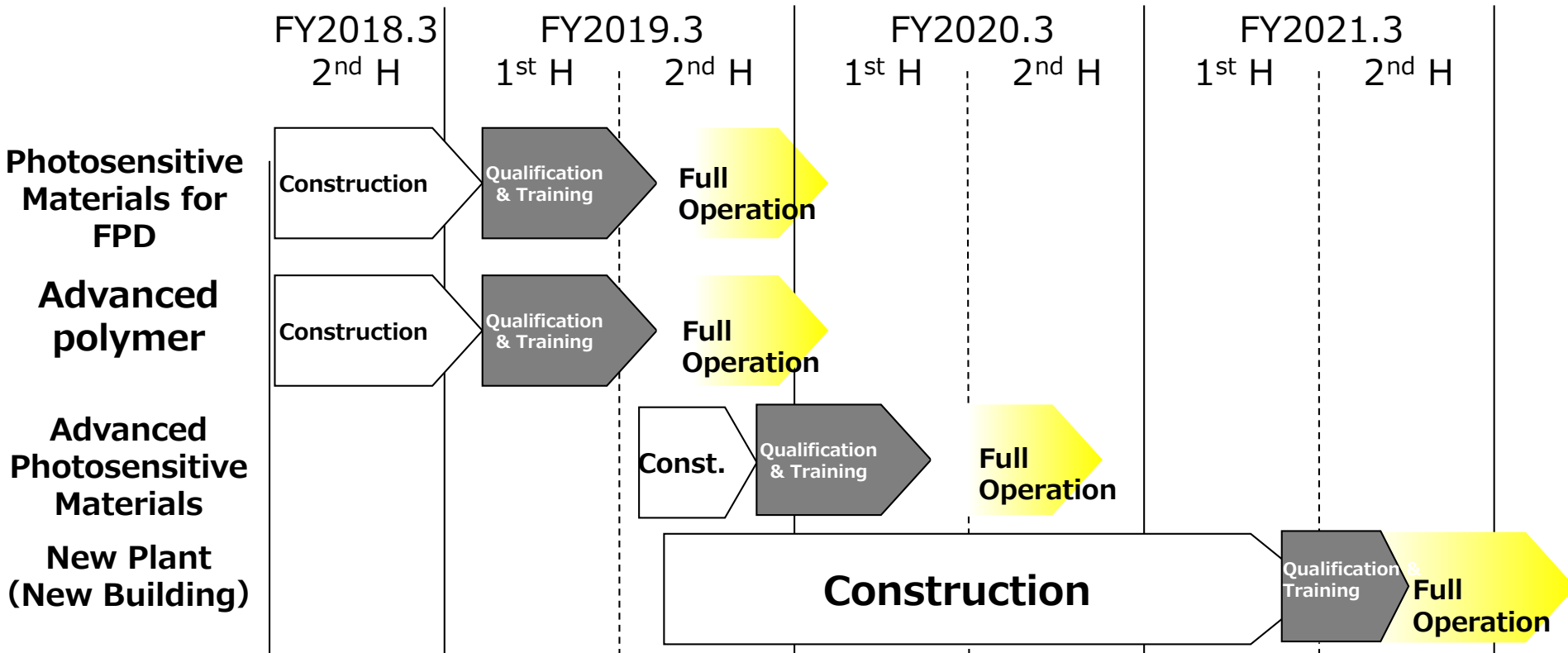
Position of TGC300 : Investment and Business Development

- Photosensitive Materials Business has been enforced by periodical capacity up investment in Semiconductor lithography process down sizing
- During the term of TGC300, we aim at increase both revenue and profit by optimizing portfolio



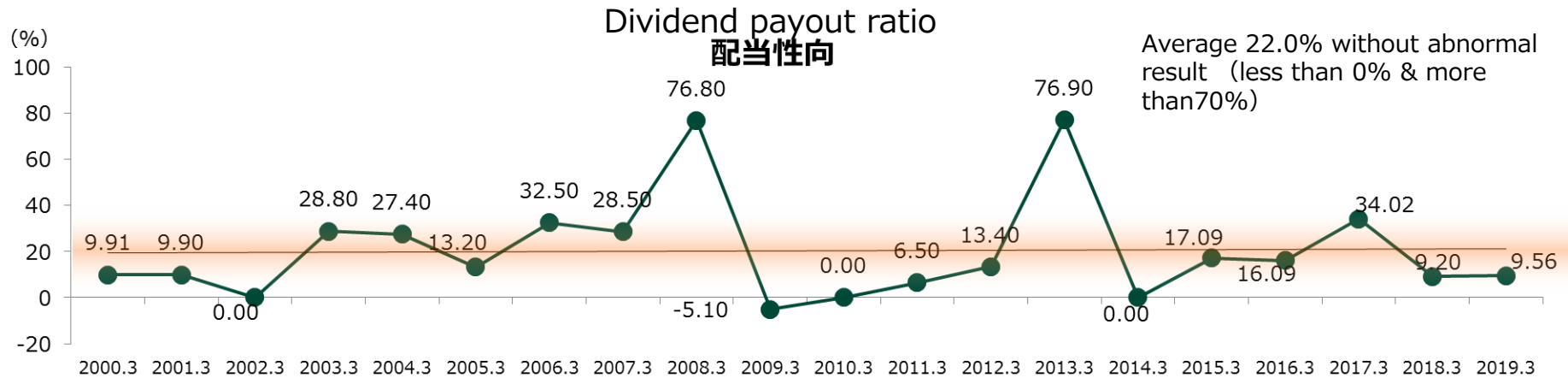
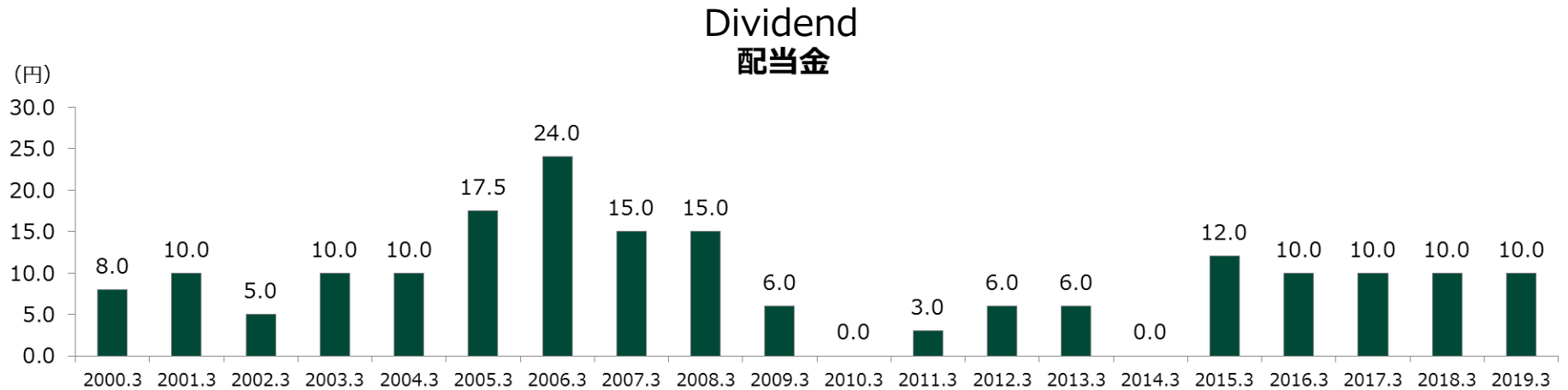
Key Strategy : Photosensitive Materials Capacity Up Investment

- From FY 2018.3, Investment in existing facilities for about 30-40% capacity up
- Decided to invest new production building (7 billion yen for another 30-40% capacity up) as completion in FY2021.3 to satisfy demand increasing in current market trend



Capital Policy and Shareholder Return

- Continuously business development drive profit improvement to secure investment capability for the next development
- Stable dividend is shareholder return policy, which will count also financial condition and future business development



独創的な視点で世界へ

Individual Development, to the global Chemical

東洋合成工業株式会社

(見通しに関する注意事項)

本資料の業績予想は、現時点において見積もられた見通しであり、これまでに入手可能な情報から得られた判断に基づいております。

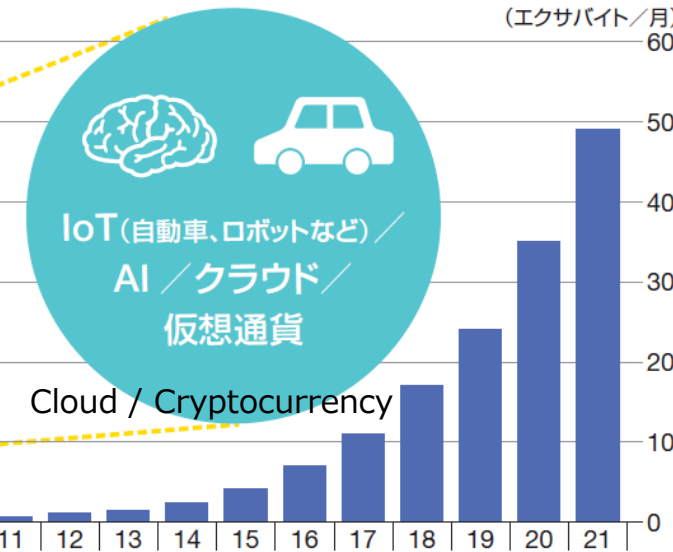
従いまして、実際の業績は、様々な要因やリスクにより、この業績予想とは大きく異なる結果となる可能性があり、いかなる確約や保証を行うものではありません。

Position of TGC300 : IC Demand surging

Diversification of IC's application need more data capacity and higher processing speed

Diversification driving demand
—Projection traffic data demand—

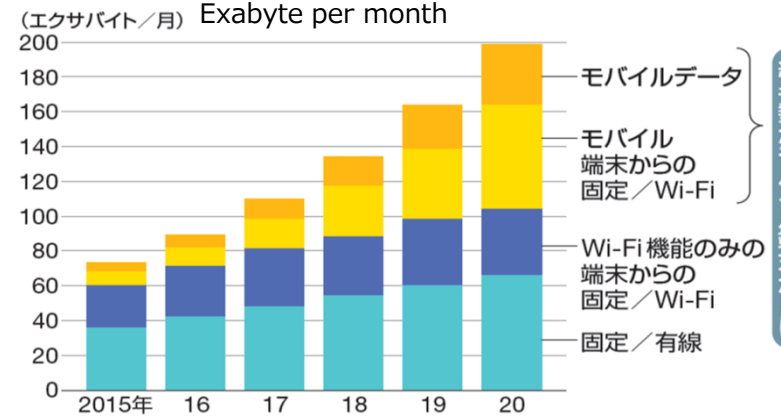
■ 用途多様化が需要を牽引
—モバイルデータトラフィック量の予測—



From 2018, projection (source) Toyo Keizai based on Cisco Visual Networking Index and etc

Popularization of Mobile device in the world drive data demand surging

■ モバイル端末の普及でデータ量は急増
—世界のデータトラフィック推移と予測—

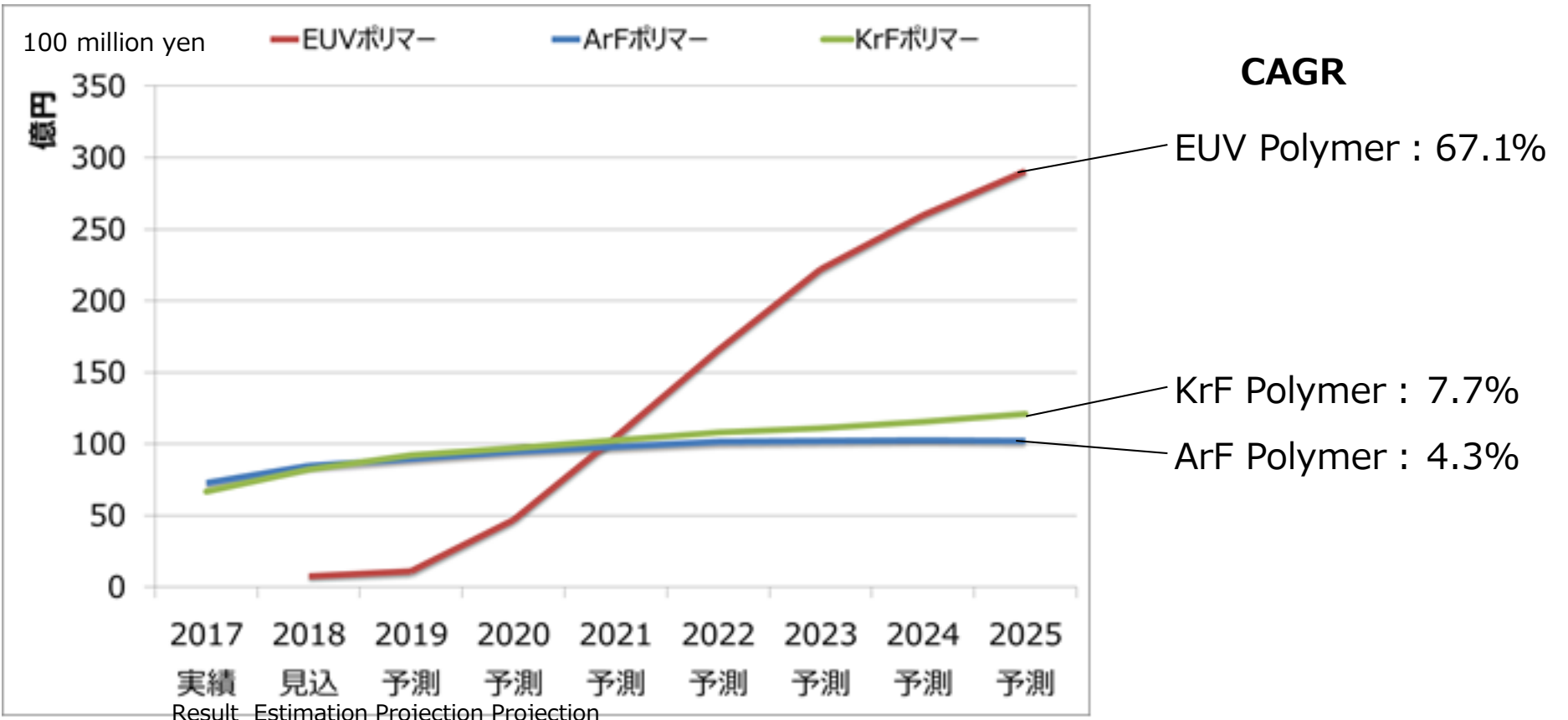


※1 exabyte = 1000 m gigabyte. Number from 2017 are projection
(Source) 2017 「Cisco VNI Mobile」

約半数がモバイル端末からに

Photoresist Polymer Market Development

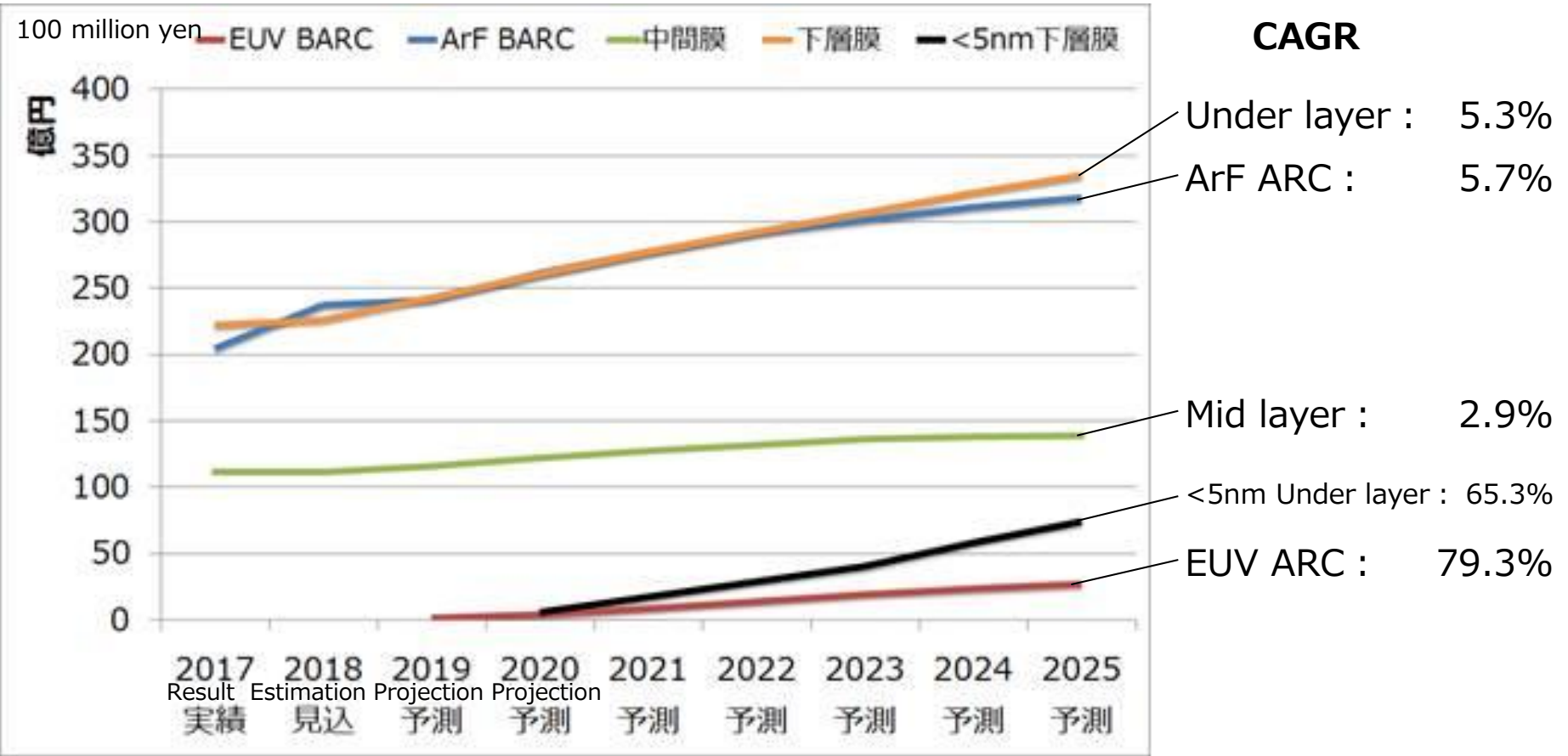
- EUV Photoresist Polymer market will overtake KrF & ArF photoresist polymer in 2021, then the market will be 3 billion
- In accordance with line width down size, the number of EUV layer will increase, usage will surge (EUV Layer : 7nm 4 layers, 5nm 15-16 layers, 3nm more than 30 layers as expect)



Source: Fuji Chimera Research Institute, Inc 「& (オングストローム) 半導体プロセス材料/技術の展望調査 (2018年7月)」より当社作成

Lithography Materials Market Development

- With photolithography process down sizing, rapidly surging under layer, middle layer and antireflective coating market as expect



Source: Fuji Chimera Research Institute, Inc. 「Å (オングストローム) 半導体プロセス材料/技術の展望調査 (2018年7月)」より当社作成

Position of TGC300: Lithography Technology Down Sizing

- Semiconductor Node (Line Width) continues to be down size to 7nm as mass production at Year 2018
- Suppose to be down size to 2nm level in 2025
- In accordance with line width down size, 3D structure, severe quality control for process materials, surging need more high purity photosensitive materials

