HOYA REPORT 2018





FY2018 Highlights



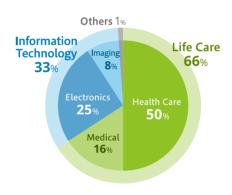
Financial

Sales Revenue

+11.8% (535.6 billion yen)

The HOYA Group's consolidated sales revenue reached a record high in fiscal 2018, increasing 11.8% year on year, to ¥535,612 million. Sales rose in both the Life Care segment, which HOYA considers its growth driver, as well as the Information Technology segment.

Sales Breakdown



Pretax Profits

+12.1% (124.2 billion yen)

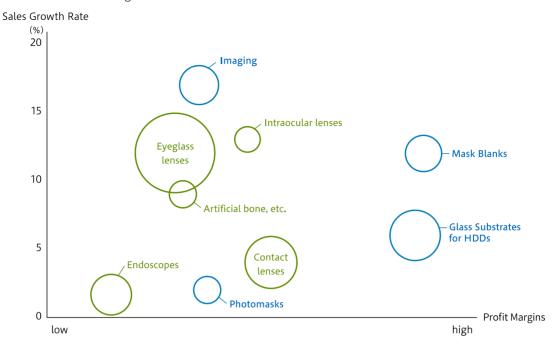
Pretax profits rose 12.1% year on year, to ¥124,248 million. Earnings also reached record highs, boosted by increased revenue and expanded sales of high-value-added products.

Pretax Profit Breakdown



HOYA

Product Sales / Profit Margins / Sales Growth Rate



^{*} The growth rates of sales are after exclusion of the effects of fluctuations in foreign currency exchange rates.





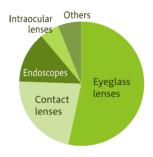
Life Care Segment

Sales Revenue

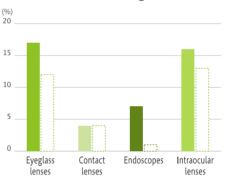
+12.2% (352.8 billion yen)

Sales revenue in the Life Care segment rose 12.2% from the previous fiscal year, to ¥352,872 million. Sales increased for main products on the whole, with double-digit growth in eyeglass lenses following the acquisition of U.S. lens manufacturer Performance Optics, LLC.

Life Care Sales Breakdown



Percentage Increase (Decrease) in Sales by Product in the Life Care Segment



*Dotted lines indicate figures after exclusion of the effects of foreign exchange

Pretax Profits

+3.2% (56.4 billion yen)

Earnings from ordinary business activities expanded steadily, offsetting the recording of an impairment loss at HOYA's Brazilian subsidiary for eyeglass lenses. Pretax profits rose 3.2% year on year, to ¥56,448 million.



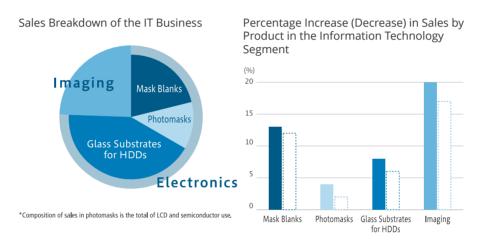


Information Technology Segment

Sales Revenue

+11.1% (178.4 billion yen)

Sales revenue in the Information Technology segment rose 11.1% from the previous fiscal year, to ¥178,480 million. Sales of imaging products increased considerably for new applications such as lenses for surveillance cameras, along with significant growth in semiconductor mask blanks on development demand for products compatible with next-generation EUV lithography technology.



^{*}Dotted lines indicate figures after exclusion of the effects of foreign exchange

Pretax Profits

+28.4% (69.9 billion yen)

Pretax profits increased significantly, rising 28.4% from the previous fiscal year, to ¥69,982 million. This was due mainly to expanded sales of high-value-added products such as semiconductor mask blanks for EUV lithography and recovery from the effects of the 2016 Kumamoto earthquake.



^{*}Percentage increase (decrease) in photomasks is the total of LCD and semiconductor use.



ESG

Proportion of Outside Directors

85.7% (6 of 7)

HOYA appointed its first outside director in 1995, when corporate governance was barely discussed in Japan. In 2003, the Articles of Incorporation were amended to stipulate that more than half of directors be outside directors. Currently, 86% of HOYA's directors are outside directors, an extremely high level even by global standards.



Corporate Management Experience of Outside Directors

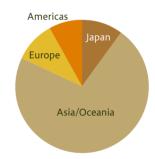
100% (6 of 6)

While many companies appoint lawyers, accountants, or academics as outside directors, all of HOYA's outside directors are persons with extensive experience in corporate management. The diverse fields of experience among HOYA's six outside directors includes automobiles, electronics, IT services, education, and the food-related industry. This diversity makes for lively discussion at meetings of the Board of Directors.



Number of Employees by Region

More than 90% of HOYA's employees work in locations outside Japan. Major manufacturing centers in Asia producing eyeglass lenses and HDD substrates account for the greatest proportion, with around 70% of employees in this region.



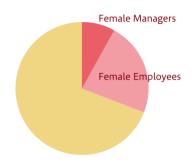


Proportion of Female Employees*/Proportion of Female Managers*

23% Up 2.2ppt YoY / 8.1% Up 1.3ppt YoY - Higher than the manufacturing industry average (3.8%)

HOYA is increasing the proportion of female employees and managers as part of its "Minkatsu" diversity project to create a friendly work environment for everyone. In addition to expanded recruitment and occupational fields for women, HOYA holds career advancement seminars for female employees, and promotes cross-divisional exchange.

* Cumulative total of all Group companies in Japan.



Proportion of Local Employees in Top Management Positions at Overseas Subsidiaries

97.3%

HOYA actively recruits diverse personnel of different races, ethnic groups, nationalities, and religions, in order to gain access to exceptional global talent, and generate new ideas and value. Local employees are regularly appointed to top management positions at overseas subsidiaries.







Products and Technologies

1941	1945	1962	1972
HOYA founded	Production of crystal	Production of	Production of
Production of optical glass	stemware	eyeglass lenses	contact lenses

History

iistoi y			
1941	1960	1961	1973
The brothers Shoichi and Shigeru Yamanaka established an optical glass production plant in the city of Hoya, Tokyo (a part of today's Nishi-tokyo).	Showa Factory (currently, the Akishima Factory) established Company name changed to Hoya Lens Corporation	Listed on the Second Section of the Tokyo Stock Exchange	Listed on the First Section of the Tokyo Stoc Exchange

HOYA

Milestones in Our Growth

1974~1996

Net Income by Fiscal Year





Business Portfolio

1979



Products and Technologies

1974	
Production	of photomask
substrates	for
semicondu	ctors

Production of semiconductor photomasks

1983

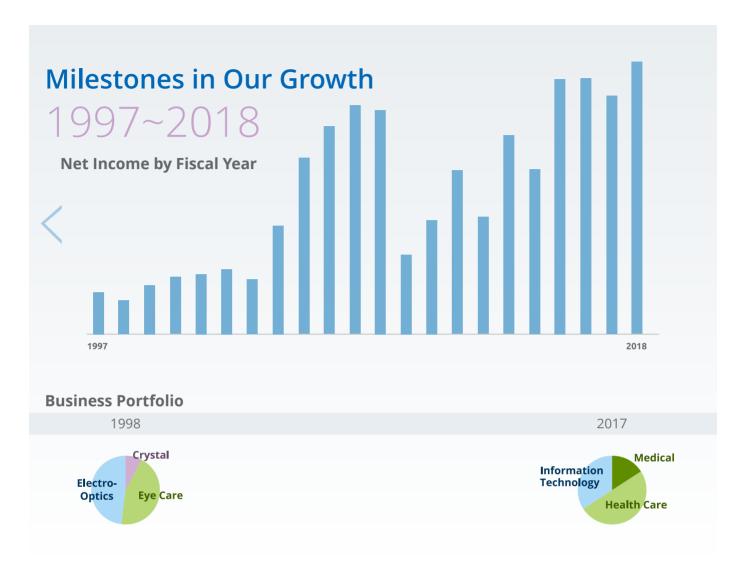
Production of intraocular lens for cataracts

Production of molded glass lenses Launch of HDD glass disks

History

1984	4 1986	1995
Company name changed to Hoya Corporation	9	Introduction of outside director system

HOYA



Products and Technologies

0			
200)9 201	0 2011	2017
Withdrawal from the crystal busine		Sale of PENTAX digital camera business	
	Sale of HD disk media		Acquisition of Performance Optics, LLC (manufacture and

History

1997	2003	2008	2010
Introduction of the Company System	Shift to Company with Committees structure (currently Company with Nominating Committee, etc.)	Merger with Pentax Corporation	Voluntary adoption of IFRS
	Majority of Board of Directors members outside directors		

sales of eyeglass lenses)





Looking back at fiscal 2018, what are your views of HOYA's performance?



In fiscal 2018, we expected the IT business to be steady. Strategically, we invested the cash flow generated by these businesses into our Life Care businesses to boost growth prospects. While this was my overall outlook of our performance in fiscal 2018, looking at the actual results, our Information Technology businesses grew more than had been forecast. At the same time, our Life Care businesses fell somewhat short of our expectations for expansion. Fortunately, on balance sales of HOYA as a whole grew more than had been forecast.

In Information Technology, the performances of HDD substrates and camera lenses were solid, although we had expected those businesses to come under pressure. This turned out to be a positive if unexpected outcome. The factors influencing the performance of HDD substrates included a shortage of NAND-type flash memories, which resulted in firm demand for HDDs. In addition, because sales of HDD substrates for use in so-called near-line servers, which is a rapidly expanding application area, performed favorably.

One of the main factors accounting for the growth in camera lenses was expansion in sales of mirrorless cameras. In addition to this, mask blanks for use in semiconductor manufacturing were favorably influenced by expansion in smartphone sales, growth in cryptocurrency mining, and other factors.

On the other hand, in the Life Care segment, we had aimed to take share from major companies in the eyeglass lens and medical endoscope fields, and, yet in some regions, performance was uneven. In the eyeglass lens business, price competition emerged in Europe, and, as we avoided resorting to price competition, the outcome was in a decline in sales. In addition, in Japan, where we have a relatively high market share, our performance was adversely influenced by a contracting factor in the overall market. In contrast, sales were favorable in the Americas and Asia.

In the medical endoscope business, while performance in Asia was strong, in the Americas, we were behind schedule in building our organizational systems and internal factors. At this point, we are making notable progress in addressing these issues.

Even if sales growth in our Life Care business was below expectations in fiscal 2018, we are committed to demonstrating clear improvements in efficiency and profitability of this strategic business segment in fiscal 2019.

Review of Performance in FY2018

(Millions of yen)

	FY2017	FY2018	Growth rate
Net sales	478,927	535,612	11.8%
Pretax profit	110,795	124,248	12.1%
Net profit	86,852	99,222	14.2%





What is the outlook for the operating environment in the Life Care and Information Technology businesses?



In the eyeglass lens business, which accounts for a major share of the Life Care segment, on the one hand, large chain retailers have shown more expansion in scale, while, on the other hand, independent retailers maintain a firm position in the market. As a result, retailers in the middle range have been squeezed out, creating polarized sales channels. To be sure, growth in both types of retailers is necessary for our expansion. Relationships with the independent retailers are important for regional coverage. The chain retailers, which focus on efficiency, are key to distribution scale. Accordingly, our approaches to manufacturing, marketing, and distribution for these two types of sales channels must be different. We are moving forward tailoring operating strategies and tactics that are most responsive to each type of retailer.

From a profitability perspective, we successfully moved forward with the operational integration of global ophthalmic lens manufacturer Performance Optics, LLC and its group company, which we acquired in August 2017. Operational integration will enable us to realize synergies in costs and sales and will be key to expanding sales.

In the Information Technology businesses, growth will be driven by a range of innovative new usage applications.

In the mask blanks for semiconductors business, contributions to expansion in profitability are expected from the development of next-generation EUV (Extreme Ultra Violet) technology, which will enable manufacturing of even finer circuit patterns. Work toward the commercialization of this technology is continuing. Also, in the HDD glass substrate business, we are benefiting from robust investments by cloud service providers in data centers and believe there are significant opportunities for us to play on this field. In the camera lens business as well, we are beginning to see opportunities for growth in the surveillance camera and autonomous driving technology fields.

What are your thoughts on future capital investments and possible merger and acquisition deals?



For about the last four years, we have positioned the Information Technology business as a cash cow, and have generally been conservative in terms of capital investments. Going forward, given our assessment of technology innovations and market trends, we expect to become more proactive in making investments to further boost the performance of our Information Technology

With regards to M&A, we are, of course, continuing to give consideration to potential deals in the Life Care business. At the same time, it must be said that valuations of companies that we would consider acquiring are currently rising to rather high levels. Accordingly, unless acquisition candidates can demonstrate clear and compelling synergies going well beyond our existing capabilities, such stiff acquisition prices may be difficult to justify. At any rate, it is always prudent to avoid rushing into such matters, so that we will remain ever alert to the most-promising opportunities, valuations, and timings.

We note that Japan's Government Pension Investment Fund (GPIF) is investing some of its assets in index funds. Concurrently, there is rising interest in companies that are sensitive to Environmental, Social, and Governance (ESG) and related considerations. What are your views?



When I am asked "How can HOYA best contribute to society?," I point out that the HOYA Group worldwide proactively encourages the implementation of the HOYA Business Conduct Guidelines. These set forth both our values and principles for conducting our businesses responsibly by creating shared value with society in terms of better vision and the benefits of technology; adhering to robust Environment, Health, and Safety (EHS) standards; and implementing best practices in line with HOYA Corporate Governance Guidelines. Since legal systems and culture differ from one region to another, we believe being sensitive to local areas and regularly updating our policies is clearly the smart way to go. One example is our support of inclusivity and diversity, including the promotion of women to more and more executive positions.





What performance indicators are you targeting for the medium-to-long term? For example, do you focus on ROE or another indicator?



Of course, I stress ROE, but I put most emphasis on ROI. I do not mean ROI in the narrow sense of the word, but ROI defined in terms pursuing efficiency in a very broad sense, including the time, effort, and opportunity cost spent on the specific project in question. Among the various kinds of efficiencies management looks at, the efficiency of human resources is by and large the most critical, so we look to what value added each individual employee can be encouraged to deliver.



What would you say are the main features of HOYA's corporate culture and corporate philosophy?



Overall, we put the most emphasis on making rational judgments based on clear financial indicators. You cannot make judgments without hard numbers. Without question, a defining character of the HOYA Group as a whole is that this quantitatively driven approach is firmly rooted in our DNA.

Regarding our key management philosophies, in addition to our core commitments to ESG and EHS, perhaps "Always responsibly make a fair profit" succinctly summarizes the matter. That is, the fundamental purpose of a company is to operate sustainably, which is to say, logically, in perpetuity. To do this, among other factors, healthy cash flow is a fundamental necessity. To be sure, for growth over the long term, we might occasionally sacrifice short-term profits in a specific area, but too much of that makes long-term growth impossible. Accordingly, our unwavering commitment to always and responsibly generate a fair profit is the cornerstone of our ongoing success.

> President and CEO Hiroshi Suzuki







Life Care Segment

Health Care

(Information on HOYA's products may be found in the "Business Domains" section of its website. Please refer to this section for further information.)

Eyeglass Lenses



Business Overview

Hoya conducts research and development, manufacturing, and sales of eyeglass lenses.

Our product lineup includes single vision lenses that possess a single corrective function for each lens, as well as progressive lenses (varifocal lenses) that offer wide visual fields and a seamless transition between near, intermediate, and far distances in a single lens.

By geographical region, a significant amount of sales, approximately 85%, takes place in markets outside of Japan.



Supply Chain



Lens Material Manufacturer



Lens Manufacturer



Optician



Market Conditions

Eyeglass lens demand is increasing globally on account of a worldwide aging population, enhanced purchasing power owing to burgeoning economies in emerging markets, increased awareness of health-related issues, and long hours of PC and smartphone use that leads to vision impairment.

Globally, the rate of growth is around 3%, although expansion varies according to region, such as is seen with the mature markets of Japan and Europe, and growth markets in the Americas as well as Asia and Oceania.

Within this, there are the emerging markets of Asia and South America, which are expanding notably beyond the middle-income range, and are driving the growth of emerging markets.



Regions around the world have differing and respective characteristics, although overall global trends, namely the consolidation and emergence of giant retail-type store chains, and falling unit prices are continuing. Given this, the key to growth will be to reduce production costs and to increase sales of value-added products, such as those with different varieties of surface coatings (anti-glare coatings and anti-smudge coatings) and progressive lenses.



HOYA Position and Market Share

HOYA stands at the No. 2 position in the industry, and, in addition to organic growth, has expanded its share of the market through M&A initiatives, including the 2013 acquisition of SEIKO's eyeglass lens unit, and U.S.-based Performance Optics, LLC in 2017.





[HOYA estimate on a value basis]



HOYA Outlook

Eyeglass lens products account for over 50% of Life Care Business sales, and are a growth driver for business expansion.

In the Americas as well as Asia and Oceania, primarily, there is still room for growth as our retail approach is not yet fully developed, and, together with aiming for organic growth of 4% to 5% per year through such measures as strengthening sales capabilities, we are also working to boost growth by conducting M&A activities.

As far as acquisitions are concerned, Performance Optics is currently working to promote the consolidation and elimination of plants and putting in place a structure that is capable of generating sales synergies while the safety eyewear business acquired from 3M is endeavoring to integrate its products and production with the Company in a bid to realize synergies.

Contact Lenses



Business Overview

In Japan, we are expanding Eyecity outlets, HOYA's contact lens specialty retail store chain.

At Eyecity, we offer consulting and sales, making product recommendations ideally suited to the needs of individual customers, and, leveraging our strength, we provide a wide lineup sourced from major manufacturers throughout the world.

Stores are established in convenient locations, in close proximity to train stations, inside shopping centers, and other areas.







Market Conditions

The contact lens market in Japan is valued at approximately ¥350 billion. Although currently at a mature stage, a growing level of nearsightedness among the younger generation, the rising age of those wearing contact lenses due to the growing prevalence of multifocal contact lenses, and people wearing disposable contact lenses, sales of which first began in the 1990s, are now at an average age of being in their 40s and 50s. On account of such factors, we presume an ongoing expansion, although slight.

By sales channel, the largest is the contact lens specialty store channel, and we project growth driven by ongoing share expansion.

Sales Composition Ratio by Sales Channel (FY2018)



(HOYA estimate on a value basis)



HOYA Position and Market Share

HOYA holds an overwhelming share, the largest, of the retail channel for sales made through brick and mortar stores.

On top of sales growth from existing stores, we are working to expand sales through new stores.

Number of Eyecity Stores in Japan





HOYA Outlook

Looking forward, HOYA is seeking to achieve a sustained sales growth rate at the 5% level by boosting sales at existing stores together with aggressively establishing new stores.

In addition, for new stores, HOYA will conduct detailed analyses of an area's contact lens wearing population, market growth rate, and competitive situation, and will establish stores mainly in city centers, regional cities, and large shopping centers.





Medical

(Information on HOYA's products may be found in the "Business Domains" section of its website. Please refer to this section for further information.)

Medical Endscopes



Business Overview

In this field, HOYA conducts research and development, manufacturing, and sales of medical endoscopes used in diagnosis and treatments of disorders associated with the ear, nose, and throat, the respiratory tract, and digestive system.

The endscope field comprises scopes and processors.



Supply Chain



Sales by Region

By geographical region, a large volume of sales takes place outside of Japan; in fact, this accounts for almost all of our sales.

Sales by Region (FY2018)





Market Conditions

Medical expenses are increasing worldwide in line with the aging of society. To keep medical expenses in check, governments in countries across the globe are promoting the early detection of disease and minimally invasive medical procedures. To this end, there are ever-greater needs for procedures that can as much as possible minimize the burden on a patient's body, without resorting to a surgical operation. Given this, endoscopes are increasingly in demand as a way that can address such needs.

The rate of growth is steady in the markets of developed countries and regions—Japan, the U.S., Europe, and others. However, in Asia, which is at a stage where endoscopes are becoming more prevalent, the growth rate continues to be high. Globally, we estimate that growth will continue at a rate in the lower half of the single-digit range.





In North America, customer transactions are increasing through a joint purchasing organization achieved with multiple business acquisitions, and building a sales system that responds to this kind of change can lead to sales growth.

With regard to products, overseas manufacturers of disposable endoscopes have been working to establish themselves, and it appears that in the long term they will become the standard for low-end products. At the present time, however, they are still some way away from replacing conventional endoscopes.



HOYA Position and Market Share

With its strengths lying in high image quality, ultrasonic endoscopes and small-diameter endoscopes that strike a balance between image quality, exterior diameter, and channel size, HOYA holds the second position in the industry.

Market Share (FY2018)



(HOYA estimate on a value basis)



HOYA Outlook

HOYA continues to secure stable earnings in Europe and the U.S., and is striving to achieve growth by boosting sales activities in emerging regions such as China, India, Russia, and Brazil.

While steadily engaging in products for gastrointestinal devices, the main battlefield in the flexible endoscope market, we will work on product enhancements for application sites other than gastrointestinal devices and on product differentiation by deploying unique functions and treatment instruments.

Intraocular Lenses for Cataract Treatment



Business Overview

In this field, we perform research and development, manufacturing, and sales of intraocular lenses (IOLs) for cataract treatments.

Cataracts are very likely to occur in people of advanced years, and are the largest cause of vision loss in people around the world. IOLs are manmade medical devices implanted inside the eye to replace the eye's natural lens when it is removed during cataract surgery. This surgery makes it possible to recover clear eyesight that has been lost due to cataracts.

At HOYA, together with a foldable intraocular lens that can be inserted with a small incision of around 2.0mm, we conduct R&D, manufacturing, and sales of injector systems that make for safe cataract surgeries that can be performed smoothly.



Supply Chain











Customer: Hospital, Agency

Component Manufacturer



Sales by Region

By region, sales in Japan are close to 50%.

Sales by Region (FY2018)





Market Conditions

In line with the aging of society in locations throughout the world, rising needs for minimally invasive medical treatments and other factors, the market is, on a volume basis, maintaining a growth rate at the lower half of the singledigit range.

On a monetary basis, growth in high-end products—such as for corrective lenses for astigmatism and progressive lenses to correct presbyopia—are driving overall expansion in the market. HOYA projects growth that exceeds the expansion of volume-based growth.



HOYA Position and Market Share

In 2015, we introduced to the market Vivinex[™], a product with few side effects that is easily implanted into the eye and has received high postsurgery evaluations. Being well received, this product experienced surging demand, and continues to see growth at a pace that is significantly above the market.

To address this rising demand, we launched a new factory in Thailand from August 2017.

HOYA is steadily increasing its market share and currently holds third place in global terms.

Market Share (FY2018)



(HOYA estimate on a value basis)



HOYA Outlook

We are striving to expand sales and earnings by bolstering sales capabilities, increasing sales area, and launching new products.

In addition, we are conducting sales activities by further fortifying our presence with increased numbers of sales personnel in areas where we maintain a presence, and we are steadily entering into areas where we have no market share, with the goal of expanding sales.

We are also actively introducing new products, both popular products and high-value-added products. Moreover, by steadily raising the utilization rate of our new factory in Thailand that went into operation in 2017, we are working to meet rising demand and to lower unit costs.

Through these activities, we are striving to expand business scale in terms of both sales and earnings.



Information Technology Segment

Electronics

(Information on HOYA's products may be found in the "Business Domains" section of its website. Please refer to this section for further information.)

Mask Blanks for Semiconductors



Business Overview

In this business, we perform research and development, manufacturing, and sales of mask blanks for semiconductors.

Critical in the semiconductor fabrication process, photomasks are the master plates used to transfer a semiconductor's intricate and complex circuit pattern onto a semiconductor wafer, and mask blanks are the raw material used for photomask manufacturing.

Because master blanks are created for each individual circuit pattern, photomasks are essential to new products developed by semiconductor manufacturers, foundries, and other HOYA customers, and in the R&D stage of new manufacturing technologies such as those of extreme ultraviolet (EUV) lithography.



Supply Chain













Semiconductor Manufacturer, Foundry

*In some cases product goes via photomask manufacturers.



Market Conditions

The semiconductor market is experiencing robust and sustained demand for semiconductors intended for smartphones, servers, and other devices, and predictions are for growth to continue in the future.

In addition, due to the advance of increasingly miniaturized circuits, a number of semiconductor manufacturers and foundries are starting to prepare for mass production based on EUV lithography, a next-generation manufacturing technology, from around 2019.

Being used in the prior-stage R&D process for that, demand for blanks is rising.







HOYA Position and Market Share

Putting to use our core technologies of glass polishing and thin film technology has enabled us to capture a large share of the market over the long term.

Moreover, we have continued to conduct EUV blanks research for nearly 20 years, and have demonstrated a firm presence in this field which has exceptionally high hurdles to clear for entry.

For HOYA, opportunities will continue to rise as we advance EUV lithography technology and expand market share.

Market Share (FY2018)



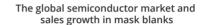
(HOYA estimate on a value basis)

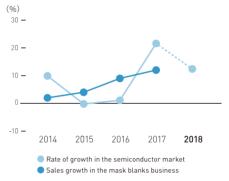


HOYA Outlook

Along with the advance of miniaturization in semiconductors, it appears that demand for high-precision mask blanks will be strong after fiscal 2019 as well.

Mask blank sales are difficult to accurately predict due to the dramatic fluctuations that occur in line with customers' development speeds, and also because they are not consumables used in production, and are not necessarily linked to movements in the semiconductor industry. However, on a monetary basis, sales for EUV applications are expected to double from fiscal 2017 levels in two years.





Reference: World Semiconductor Trade Statistics

Photomasks for LCD/OLED Display Manufacturing



Business Overview

HOYA conducts research and development, manufacturing, and sales of photomasks for LCD*1/OLED*2 display manufacturing.

When manufacturing panels for TVs, smartphones, laptop computers, and other devices, LCD/OLED display photomasks are used as the master plates to transfer the circuit pattern onto the substrate.



^{*1} LCD: Liquid Crystal Display

^{*2} OLED: Organic Light-Emitting Diode



Supply Chain









Raw Material Manufacturer Mask Blanks Manufacturer

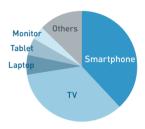
Panel Manufacturer

HOYA sources the substrate from raw materials manufacturers, and on that substrate performs polishing, deposition, and resist applications (blanks manufacturing). When the manufacture of the blanks is completed, HOYA conducts circuit pattern drawing, developing, etching, and resist stripping and cleaning, and delivers it to panel manufacturers (photomask manufacturing).

Sales Composition by Application

The ratio of sales by application is stated as follows. The end-product market for smartphone applications continues to grow, and this seems to have come to account for the largest proportion.

Sales Composition by Application (FY2018)





Market Conditions

The fiscal 2018 LCD/OLED display photomask market expanded significantly over the previous fiscal year. This was on account of a large increase in tenth generation products owing to a new panel factory established in China, and, in the latter half of the year, a return to a growth trajectory in the 8.5 generation mainly for TVs, and sixth generation, primarily for smartphones.

It appears that the tenth generation will continue to be a driver for growth in the market, but expansion is also expected with photomasks for high-resolution panels, (resolution over 300 ppi) mainly for smartphones.

With regard to regions, it appears that continued expansion will occur in the Chinese market where new factory construction is ongoing.



HOYA Position and Market Share

HOYA possesses expertise in high-precision products, and holds the topclass market share.

Market Share (FY2018)



(HOYA estimate on a value basis)





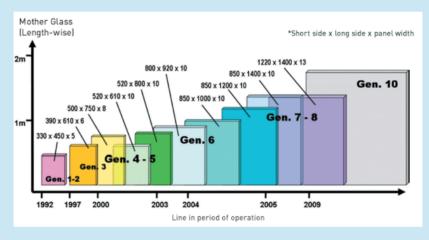
HOYA Outlook

In-house production of FPD photomasks is anticipated at Korean manufacturers; however, we are striving for growth in sales and earnings by making concerted efforts in the Chinese market and with high-precision products below eighth generation products where there are future prospects for growth.

We will continue to keep a close eye on demand trends with regard to entering the FPD photomask market for tenth generation products.

Panel Generations

LCD/OLED panel manufacturing lines are categorized by generation, which corresponds to mother glass size. Every year, the size of mother glass becomes progressively larger due to the upsizing of panels in line with increasingly big screens, mainly for TVs, and, in order to enhance productivity, because it is effective to increase the number of panel configurations per one sheet of mother glass.







Glass Substrates for HDDs



Business Overview

In this area, HOYA conducts research and development, manufacturing, and sales of glass substrates for hard disk drives (HDDs). HDDs are used as recording media in laptop computers and servers.

The size of substrates that HOYA normally manufactures is 2.5 inches, and these are primarily used in portable products such as laptop computers.

In addition, since HOYA's full-scale entry into the 3.5-inch market for nearline servers in fiscal 2018, production numbers have rapidly grown.



Supply Chain



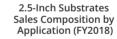
From raw materials manufacturers, HOYA sources substrate raw materials, which we process in ways such as making it into a disc shape, enhancing its shock resistance, and polishing. After processing, we deliver this substrate to the media manufacturer where magnetic film is applied, among other film-forming processes, and it undergoes burnishing (final polishing) and other treatments before being shipped. In hard disk manufacturing, the HDD manufacturer assembles the hard disk, head, and other components, tests the completed product, and then ships.

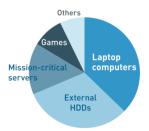
2.5-Inch Substrates Sales Composition by Application

The sales composition ratio of our 2.5-inch substrates, by application, is as follows.

From fiscal 2018, we commenced mass production of 3.5-inch glass substrates, as these are expected to see an expansion of demand in the future. The 3.5-inch substrates we produce are used in HDDs for near line (NL) servers that perform such functions as backup in data centers.

Sales are steadily growing, and by the fourth quarter had expanded to 13% of business overall.







Market Conditions

With laptop computers, mission critical servers and other end products, the 2.5-inch HDD market is being replaced by solid state drives (SSDs), which have faster data read/write speeds. SSDs were used in about 50% of the notebook PCs shipped in fiscal 2018.

Although demand for HDDs grew on account of the impact of inadequate supplies of NAND, which is used for SSDs, from 2018 there will be sufficient NAND supplies, and it is expected that the trend toward contraction in the HDD market will return.

^{*} Hard disks may also be manufactured by the HDD manufacturer.



On the other hand, in the 3.5-inch HDD market, NL servers, having a comparatively low access frequency with backup applications, predominantly use HDDs due to their recording capacity unit cost advantages over SSDs.

Data generation volumes are expanding throughout the world, and, in line with this, Amazon, Google, and other large-scale cloud service vendors are making aggressive investments into facilities associated with data centers, and surging growth is expected for this market.



HOYA Position and Market Share

HOYA maintains a high share of the 2.5-inch substrate market owing to the stable and high-efficient production of the best quality products. Speaking only of glass substrates, we hold a 100% share of the market.





(HOYA estimate on a value basis)



HOYA Outlook

Given the elimination of NAND supply shortages, sales of 2.5-inch substrate products, primarily for laptop computers and mission critical servers, are expected to decline.

For 3.5-inch substrate products, an increase in the adoption of HDDs equipped with HOYA products by end-user customers (cloud service providers) is expected to lead to sales growth.

Throughout the business, it becomes a matter of balance between the decline of 2.5-inch products and an increase for 3.5-inch products. Given this, our aim is to achieve growth in the business overall, and we will 1) take firm action to leverage market growth over the medium term and 2) work to increase sales of 3.5-inch products so as to offset the decline of 2.5-inch products.

Potential for glass substrates in the 3.5-inch market

Due to the expansion of data volume and the storage volume generated worldwide, data capacity per HDD continues to increase. The increase in data capacity per HDD has been realized by increasing the recording density or area of the disk, but, at present, the development of technologies designed to improve recording density is stagnating, and the expansion of the recording area remains key.

In the 3.5-inch market, the disk material is now mainly aluminum.

However, since a further increase in area can be realized by increasing the number of mounting disks by thinning the disks, it is becoming necessary to have rigid glass instead of aluminum.

Even in the event that HAMR (Heat-Assisted Memory Recording) or MAMR (Microwave-Assisted Memory Recording) is realized, from the viewpoint of the film formation process of the next-generation magnetic film, glass is considered superior to aluminum.





Imaging-related Products

(Information on HOYA's products may be found in the "Business Domains" section of its website. Please refer to this section for further information.)

Imaging-related Products (Including optical glass, optical lenses, camera lens units, and lasers)



Business Overview

In this area, we conduct research and development, manufacturing, and sales of optical lenses for a variety of cameras, as well as for optical glass materials and lens units.



Supply Chain

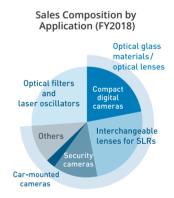


HOYA sources materials from optical glass material manufacturers, conducts compound and solution treatments, manufactures lens materials and lens products, and delivers to lens and camera manufacturers.

Sales Composition by Application

The ratio of sales by application is as follows. Digital camera-related items for compact digital cameras and for lens modules that had previously made up the majority of sales are trending toward a decline, and now account for less than 50% of the sales composition ratio.

However, sales of products for security cameras are increasing, and the second-largest application in the composition ratio has become optical glass materials and optical lenses.





Market Conditions

Compact digital cameras are increasingly being replaced by smartphones, and their decline is ongoing.

Modular camera lenses are undergoing a gradual decline together with a shrinking market for single-lens reflex cameras, but the market for mirrorless cameras is growing at a solid pace.

The market for security cameras is surging, mainly on demand from the Chinese market.





HOYA Position and Market Share

From research and development of optical glass composition to manufacturing of lenses, lens units, and other finished products, HOYA takes a consistent approach to its activities while building a structure that makes possible the mass production of an array of products.

HOYA maintains a high market share with its exceptional skills in aspherical glass molded (GMO) lenses.

GMOs are formed by directly pressing optical glass that has been subjected to high temperatures to make it malleable. These are optical lens products that require no polishing, and possess an excellent ability to correct distortions. Enabling a high angle design, the number of lenses used in optical systems can be reduced, and this contributes to compact, lightweight, and highly functional end-product cameras.

Share of Aspherical GMO lenses (FY2018) (Digital Camera-Related)



(HOYA estimate on a value basis)



HOYA Outlook

HOYA projects that the market for digital cameras will contract gradually, but, moving forward, we are working to leverage our GMO and other strengths for adoption into high-end products.

The market of optical lens for security cameras is growing rapidly, and, at the end of fiscal 2018, it had reached sales proportionate to that of its products for compact digital cameras. However, although dependent on the political situation in China, a main market for security cameras, growth is expected to be at a constant level.

We also project growth in the market for car-mounted camera used for image recognition in Advanced Driver Assistance Systems (ADASs), although it will be several more years before this offers a significant contribution to business results. Given this, we project that over the short and medium terms, results in the imaging business will remain essentially unchanged.





Sustainability



Environment

Basic Policy

The HOYA Group believes that ensuring a healthy global environment for the next generation is one of the social responsibilities of a corporation, and actively engages in environmental conservation.

The HOYA Group, to support employee-led environmental conservation activities and protect the health and safety of employees, has established a global management structure based on ISO 14001 and OHSAS 18001 standards. In February 2013, we acquired a Global Multi-site Certification, with 52 sites in 17 countries certified as of September 30, 2017.

HOYA Group's environmental measures: http://www.hoya.co.jp/english/csr/environment.html

Society

Basic Policy

HOYA's life care and information communication is a global business, and we endeavor each day to realize our management philosophy of helping to create a truly rich and prosperous society. We respect fundamental human rights, and, in all our corporate activities, work to eliminate discrimination and harassment for any reason, including race, nationality, gender, religion, faith, birthplace, age, and mental or physical disability. HOYA also pursues global social engagement activities closely related to our business domains in order to leave a better world for the next generation, focusing mainly on contributing to advancements in medicine, as well as improving health outcomes and enhancing the quality of life for all people.

HOYA Group's social action program: http://www.hoya.co.jp/english/csr/citizenship.html

Corporate Governance

Basic Policy

HOYA considers corporate governance to be one of its highest management priorities, and strives to maximize enterprise value. In accordance with our basis stance of ensuring fairness toward stakeholders, in June 2003 HOYA amended its Articles of Incorporation to require that a majority of Board of Directors members be outside directors. These outside directors oversee the conduct of management by executive officers and offer advice from the standpoint of enhancing corporate value from an objective, broad-based perspective. Executive officers are given authority and responsibilities for business execution, in order to enhance the speed of decision making and streamline management.

Of note, HOYA's Board of Directors has formulated guidelines for corporate governance, and regularly revises the content to ensure the best corporate governance structure and system.

HOYA Group's corporate governance: http://www.hova.co.ip/english/csr/governance.html





Main ESG Measures			
Environment	Society	Governance	
 HOYA Group environmental principles Global management structure for environmental protection and occupational health and safety CO₂ reduction measures Examples of measures to reduce environmental burdens 	 Social contribution activities Respect for human rights Cultivating and developing human assets Supply chain measures 	 Corporate governance structure HOYA Corporate Governance Guidelines Corporate Governance Report Enhancement of disclosure and investor relations activities 	

HOYA

FSG Feature: Discussion Meeting among Outside Directors



The Effectiveness of HOYA's Governance and Issues for Increasing Enterprise Value over the Longer Term

HOYA considers corporate governance to be a management priority, and conducts management with the aim of maximizing enterprise value. The Board of Directors comprises six outside directors and one internal director, and works to ensure effective and highly transparent corporate governance. We asked the five outside directors to participate in a discussion meeting on the nature of discussions among Board members, and how they provide appropriate advice and recommendations.

Outside Directors: Itaru Koeda, Yukako Uchinaga, Mitsudo Urano, Takeo Takasu, Shuzo Kaihori

The Background of Outside Directors, Their Views on Oversight, and **Assessment of HOYA**



Koeda: I joined Nissan Motor Co., Ltd. in 1965, serving in several positions including director and executive vice president, as well as co-chairman together with Carlos Ghosn.

HOYA'S Board of Directors is composed entirely of outside directors, except for President and CEO Hiroshi Suzuki. Despite everyone's business schedules, the attendance rate is 100%. I also think that the extremely active exchange of opinions and debate during meetings is exceptional from the standpoint of the Board's effectiveness. Decision making is extremely fast, and the matters decided by the Board are implemented quickly, with progress reports at the next meeting.

Uchinaga: I joined IBM Japan, Ltd. in 1971, handling mainly global operation-based work in technical areas such as development, manufacturing, and basic research laboratories. After some experience in management, I served as CEO for Berlitz.

I think the contribution I bring to HOYA is my experience in global operations. I am able to offer advice on the points that need to be considered in terms of global operations. For example, when there were quality issues in the Life Care business, I offered candid advice on the response by the division in charge. I hope that the quality and process management that has been thoroughly hammered into me over the course of my career will be of some use.

Takasu: I used to be in banking, but, when I was 50, I went to work for Bandai Co., Ltd. I fulfill my role by drawing on my experiences with the merger between Bandai and Namco, and served 12-13 years as company president, as well as my involvement as an outside director for other companies.



HOYA



Urano: I have around 20 years of management experience at Nichirei Corporation. Over the last decade, I have served as outside director at companies in eight different industries, including real estate and banking. I try to utilize my experience as an outside director in different industries.

HOYA developed a business strategy to be a "big fish in a small pond," developing its business to be highly profitable in niche markets. At the same time, it has commodity-style businesses such as eyeglass and contact lenses. Directing that strategy may seem difficult, but I feel that HOYA is managed extremely tightly, laser-focused on asset efficiency, and there is little to criticize.

Kaihori: I served as Chairman of the Board of Yokogawa Electric Corporation until June 2018. Along with work in sales and business divisions, I also directed the company's globalization efforts, so I feel that the area where I can contribute is in global expansion.

In terms of overall governance, the Board of Directors is extremely active, and will issue contrary opinions to internal proposals without being regardful of them. In the sense that things are decided by having everyone express opinions, I feel that governance functions extremely well.



Current Management Issues for HOYA

Takasu: HOYA's Board of Directors is composed entirely of outside directors, except for President and CEO Hiroshi Suzuki. However, having only one director from inside the Company is an issue in terms of cultivating a successor. I think it would be best to have one or two more internal Board members.

Kaihori: I basically agree. In addition, in the current situation of holding a lot of cash, how to use these funds, and what growth investments to make, are extremely difficult issues. Particularly in the Life Care business, which HOYA is trying to expand, finding the right balance between investments for growth and increasing profitability is a huge challenge.





Uchinaga: I think that the basis of all the issues everyone has cited is visualization. I feel that, in HOYA's global business, there is a lack of sufficient visualization of business structures, the way operations are conducted, and methods of evaluation. We need to clarify how to link businesses with different

characteristics, and determine common priorities (KGI, KPI), and then build a global information infrastructure. We also need a structure to raise alerts regarding risk.

Urano: Also from an auditing and finance standpoint, I feel there is room for system improvements. There is a tendency for the control of internal information to be dependent on individual expertise, so, for information systems going forward, I think we need to

rethink the approach of a single, massive framework.

Koeda: HOYA's business operations cover a broad range, so building a system that matches all businesses will be difficult in a practical sense. I think the key will be determining the common points in the businesses, and focusing on them.

Uchinaga: On the topic of diversity, globally, HOYA is utilizing diverse human resources in its business activities, but, in Japan, I'd like to see a greater push for the active participation of women, and greater diversity in values.





Financial Review



Scope of Consolidation



As of March 31, 2018, the HOYA Group consisted of HOYA CORPORATION, 148 consolidated subsidiaries (11 of which are domestic and 137 overseas), and 9 affiliates (4 of which are domestic and the other 5 overseas).

The HOYA Group has adopted a business management structure where the Life Care and Information Technology business segments control subsidiaries around the world based on their respective responsibilities. Regional headquarters in the Americas, Europe, and Asia support business operations by strengthening relationships with countries and areas in the respective regions, such as by providing legal support and conducting internal audits. The HOYA Group has its Financial Head Quarters (FHQ) at its Europe Regional Headquarters (Netherlands).

Adoption of the International Financial Reporting Standards



Beginning with the fiscal year ended March 31, 2011, the HOYA Group prepares its consolidated financial statements and other documents in compliance with the International Financial Reporting Standards (IFRS) pursuant to paragraph (1), Article 120 of the Ordinance on Company Accounting. With respect to reportable segments presented in the overview of operations by business category, the HOYA Group divides its business into three reportable segments, based on IFRS. These segments are Life Care, Information Technology, and Other Businesses.

The Life Care segment deals in health care related products such as eyeglass lenses and contact lenses, as well as medical-related products such as intraocular lenses and medical endoscopes. The Information Technology segment handles electronics related products used for the production of semiconductors, liquid crystals, and hard disk drives (HDDs), and imaging-related products such as digital camera lenses. The Other Businesses segment offers mainly information system services.

Review of Performance in FY2018

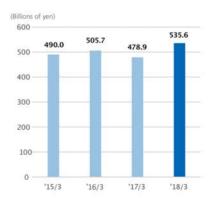


Sales of continuing operations for the consolidated fiscal year ended March 2018 amounted to ¥535,612 million, an 11.8% increase year on year.

Despite impairment losses of ¥5,798 million, profit increased due to increases in net sales, so profit before income tax and profit for the year increased compared to the preceding consolidated fiscal year by 12.1%, to ¥124,248 million, and 14.2%, to ¥99,222 million, respectively. The profit before tax ratio was 23.2%, on par with the preceding consolidated fiscal year.

Sales of the Life Care segment increased by 12.2% compared to the preceding consolidated fiscal year, to ¥352,872 million. Segment profit increased by 3.2%, to ¥56,448 million, despite amortization of intangible assets obtained through acquisitions, impairment of non-current assets, and other factors.

Sales







The retail market for eyeglass lenses in Japan continued its shrinking trend, but sales remained on par with the preceding consolidated fiscal year due to an increase in market share. Overall sales in overseas markets increased compared to the preceding consolidated fiscal year due to the firm capture of market growth in Asia, as well as significant growth in the Americas as a result of the firm growth of existing businesses and the acquisition of 3M's prescription safety eyewear business and Performance Optics, LLC.

Sales of contact lenses increased compared to the preceding consolidated fiscal year due to an increase in new customers caused by opening new "Eyecity" retail stores and enhancing existing stores.

Overall sales of medical endoscopes increased compared to the preceding consolidated fiscal year due to strengthening sales capabilities in overseas markets, especially in Asia.

Sales of intraocular lenses for cataracts increased compared to the preceding consolidated fiscal year due to continued strong sales of new products launched in the Japanese market in 2015 and firm growth of both direct sales and sales to dealers overseas.

Sales of the Information Technology segment increased by 11.1% compared to the preceding consolidated fiscal year, to ¥178,480 million, and segment profit increased by 28.4%, to ¥69,982 million.

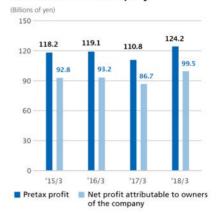
The saturation of the market for finished products such as personal computers and tablets continues, and the smartphone market is beginning to slow down. However, sales of the Company's mask blanks for semiconductors increased compared to the preceding consolidated fiscal year due to the capture of an active research and development demand related to leading-edge products.

Despite decreased production capacity of the Company in the first half of the year due to the Kumamoto earthquakes, sales of photomasks for liquid crystal displays increased compared to the preceding consolidated fiscal year due to progress in the restoration of production capacity of the Company in the second half of the year and recovery in research and development demand from overseas panel manufacturers. Sales of glass substrates for hard disk drives increased compared to the preceding consolidated fiscal year due to an increase in the Company's market share in addition to an improvement in overall demand for hard disk drives caused by a NAND (Not AND) flash memories supply shortage.

Looking at imaging-related products, in addition to the further easing of shrinkage in the digital camera market, which mainly covers finished products, an expansion in sales of products for new applications such as for security cameras and car-mounted cameras contributed to an overall increase in sales.

(For further information on performance by product, please refer to the Review of Operations section.)

Pretax profit, Net profit attributable to owners of the company



Profit margins



Profitability







Financial Position



Total assets at March 31, 2018 decreased by ¥8,939 million from the end of the preceding consolidated fiscal year, to ¥650,645 million.

Non-current assets increased by ¥40,192 million, to ¥204,455 million. This is primarily due to increases of ¥17,302 million in goodwill, ¥10,451 million in intangible assets, and ¥8,238 million in long-term financial assets. The increase in longterm financial assets is primarily due to the extension of loan terms.

Current assets decreased by ¥49,131 million, to reach ¥446,190 million. This is primarily due to decreases in cash and cash equivalents by ¥51,016 million and other short-term financial assets by ¥12,833 million.

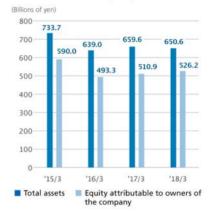
Total equity increased by ¥15,272 million, to ¥530,677 million. This is primarily due to an increase in retained earnings by ¥23,451 million.

Equity attributable to owners of the Company increased by ¥15,306 million, to ¥526,193 million.

Liabilities decreased by ¥24,211 million, to ¥119,967 million. This is primarily due to a decrease in interest-bearing short-term debt by ¥35,012 million.

The ratio of equity attributable to owners of the Company to total assets at March 31, 2018 increased by 3.4 percentage points from the end of the preceding consolidated fiscal year and reached 80.9%, which was 77.5% in the preceding consolidated fiscal year.

Total assets, Equity attributable to owners of the company



Ratio of assets attributable to owners of the Company







Cash Flow

Cash and cash equivalents at the end of fiscal 2018, inclusive of a ¥649 million decrease due to fluctuations in foreign currency rates, amounted to ¥245,835 million, a decrease of ¥51,016 million compared with the end of the previous fiscal year.

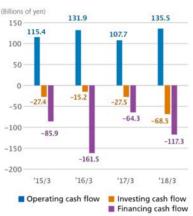
Net cash generated from operating activities amounted to ¥135,499 million (an increase of ¥27,837 million compared with the previous fiscal year). The main factors for the increase were ¥124,248 million from profit before tax (an increase of ¥13,453 million from the previous fiscal year); ¥28,711 million from depreciation and amortization (a decline of ¥1,065 million); ¥1,763 million from a decrease in inventories (an increase of ¥1,034 million); ¥6,562 million from an increase in trade and other receivables (a decrease of ¥1,035 million); ¥4,052 million from an increase in trade and other payables (a decrease of 44,912 million); and ¥26,425 million from income taxes paid (a decrease of ¥189 million).

Net cash used in investing activities amounted to ¥68,533 million (an increase of ¥41,026 million compared with the previous fiscal year). The main factors for

the decrease were ¥17,974 million from payments for acquisition of property, plant and equipment (a decrease of ¥3,554 million) and ¥54,018 million from payments for acquisition of subsidiaries (an increase of ¥47,658 million).

Net cash used in financing activities amounted to ¥117,333 million (an increase of ¥53,044 million compared with the previous fiscal year). The main factors were ¥29,042 million from dividends paid to owners of the Company (a decrease of ¥406 million); ¥35,021 million from payments for redemption of bonds (an increase of ¥35,000 million); and ¥55,034 million from payments for purchase of treasury shares (an increase of ¥20,027 million).

Cash flow



Capital Expenditures/Depreciation and Amortization

The total capital expenditures of all operations of the HOYA Group amounted to ¥19,289 million during the consolidated fiscal year ended March 2018, a decrease of ¥3,574 million over the preceding consolidated fiscal year.

In the consolidated fiscal year ended March 2018, investment in the Life Care business amounted to ¥10,727 million, and investment in the Information Technology business amounted to ¥8,413 million, which account for 55.6% and 43.6%, respectively, of the total capital expenditures by the Group.

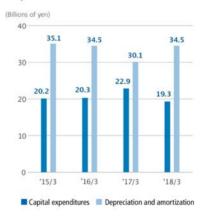
The investment was covered by internally generated funds.

During the consolidated fiscal year ended March 2018, in the Life Care business, the HOYA Group invested in production facilities, primarily for eyeglass lenses, with the aim of increasing capacity of production plants and optimization. For intraocular lenses for cataracts, the HOYA Group invested in production facilities with the aim of increasing production capacity to meet growing demand for its products.

In the Information Technology business, the HOYA Group invested in production facilities, primarily for high-value-added products of semiconductor and liquid crystal display related products and optimization of production facilities of imaging-related products.

Depreciation and amortization (including impairment losses) for the fiscal year under review were ¥34,510 million, 14.6% higher than in the previous fiscal year.

Capital expenditures, Depreciation and amortization







Policy Concerning Decisions on Appropriation of Retained Earnings, etc.



The Company aims to maximize the HOYA Group's corporate value by developing businesses globally and changing the business portfolio to conform to the changing times and environments.

With respect to capital policy, the Company's basic policy is to adopt decisions that strike the optimum balance between ensuring internal reserves for the future growth of the HOYA Group and returning profits to shareholders, while pursuing the optimum capital structure for the Company that includes financial soundness and capital efficiency.

In addition, by promoting management that gives priority to capital efficiency by realizing maximum profitability from the assets entrusted to the Company by the shareholders, and taking further steps toward management that gives priority to SVA (Shareholder Value Added), which is measured as the profit generated by the Company's operating activities minus the cost of capital, i.e., the profit expected by shareholders, the Company aims for "Maximization of Corporate Value."

With respect to internal reserves for future growth, resources will be preferentially appropriated to investment in the growing businesses for market share expansion, entry into untapped markets, and nurturing and obtaining new technologies. In addition to growth of existing businesses, the Company will also proactively pursue possibilities including mergers and acquisitions to further enrich our business portfolio. As for the Information Technology segment, which has been positioned as a steady earnings business, we will continue to make capital investment that further reinforces the technological abilities that become the source of competitiveness, and development investment that will contribute to developing next-generation technologies and new products.

With respect to returning profit to shareholders, the Company's policy is to proactively return profit to shareholders through using excess cash for dividends and the share buybacks while giving comprehensive consideration to the operating performance of the current term, level of internal reserves, and the medium-to-long term capital demands and capital structure, among other factors.

Coupled with the interim dividend of ¥30 per share, the annual dividend was ¥75 per share. The consolidated dividend payout ratio was 29.0%.

Based on the aforementioned policy, the Company resolved to repurchase its shares at the price equal to ¥55,000 million in this consolidated fiscal year.

Dividend per share, Payout ratio





