

We intend to fund our cash commitments with cash flows generated from our operations as well as debt financing activities. In addition, we also have continuing obligations to make cash royalty payments under our technology license agreements, the amount of which are generally determined based on a percentage of sales of our display products.

Expenses relating to our license fees and royalty payments under existing license agreements were ₩150 billion in 2021, ₩152 billion in 2022 and ₩146 billion (US\$113 million) in 2023, representing 7.1%, 6.3% and 6.1% of our research and development related expenditures in 2021, 2022 and 2023, respectively. We expect to make additional license fee payments as we enter into new technology license agreements from time to time with third parties.

Taxation

In 2023, the statutory corporate income tax rate applicable to us was 9.9% (including local income surtax) for the first ₩200 million of our taxable income, 20.9% (including local income surtax) for our taxable income between ₩200 million and ₩20 billion, 23.1% (including local income surtax) for our taxable income between ₩20 billion and ₩300 billion, and 26.4% (including local income surtax) for our taxable income in excess of ₩300 billion.

In recent years, the Organization for Economic Cooperation and Development has introduced and implemented the Base Erosion and Profit Shifting 2.0 framework ("BEPS 2.0"), which imposes a minimum tax for multinational enterprise groups with total consolidated group revenue of €750 million or more in at least two of the four most recent fiscal years (the "global minimum tax requirement"). Under the model rules of BEPS 2.0, a multinational enterprise group meeting the above-described criteria would be required to pay a top-up tax on excess profits realized by a consolidated entity in any jurisdiction in which the effective tax rate for the jurisdiction is below a 15% minimum rate. The top-up tax must be paid to the tax authority of the country in which the controlling company that meets certain requirements is located. In 2023, the Korean government enacted a new tax legislation, which is effective for fiscal years that begin on or after January 1, 2024, that reflects the global minimum tax requirement. We are currently reviewing the potential impact of the global minimum tax requirement on our financial condition and results of operations. However, as many of the countries in which our consolidated subsidiaries are located have yet to enact, or in the process of enacting, related legislations, we are currently unable to provide a reasonable or detailed estimate of the potential impact of the global minimum tax requirement.

Tax Credits

We are entitled to a number of tax credits relating to certain investments in tangible assets for business use (excluding certain assets for which tax credits are not permitted under Korean tax laws) and facilities used for research and development and human resources development. For example, in 2023, under the Restriction of Special Taxation Act, we were entitled to a tax credit of 15% of our qualifying capital investments in certain national strategic technology facilities in 2023. Under the same law, we are also entitled to a tax credit on a percentage of our research and development expenses incurred for procuring certain national strategic technologies, which include OLED display technology. The applicable amount of such tax credit is calculated by multiplying the applicable research and development expenses by the sum of (x) 30% and (y) three times the proportion of such research and development expenses as a percentage of revenue.

Tax credits may be utilized for an amount up to the tax payable using the minimum tax rate for a given fiscal year. Tax credits not utilized in the fiscal year during which the relevant investment was made may be carried forward over the next ten years. As of December 31, 2023, we had recognized deferred tax assets related to these credits of ₩148 billion (US\$115 million), which may be utilized against future income tax liabilities through 2033. In addition, we also had unused tax credit carryforwards of ₩869 billion (US\$673 million) as of December 31, 2023 for which no deferred tax asset was recognized. See Note 24 of the notes to our financial statements.

Item 5.C. Research and Development, Patents and Licenses, etc.

Research and Development

The display panel industry is subject to rapid technological changes. We believe that effective research and development is essential to maintaining our position as one of the industry's leading technology innovators.

To meet the demands of the future trends, we have formulated a long-term research and development strategy aimed at improving the process, performance and design of the existing products and diversifying the use of display panels as new

opportunities arise with the development of communication systems and information technology. The following are examples of products and technologies that have been developed through our research and development activities in recent years:

- In 2021, we produced a 65-inch UHD bendable OLED television display product and an 83-inch UHD OLED television display product. In addition, we developed the world's first 42-inch OLED television display product. For TFT-LCD products, we produced the world's first 15.6-inch QHD 240Hz gaming notebook products and the world's first 27-inch and 31.5-inch UHD high contrast ratio monitor products. We also produced our first LCD 750R extreme curvature automotive display product.
- In 2022, we produced the world's first 97-inch OLED television display product as well as the world's first large-sized (55-inch, 65-inch and 77-inch) television display products applying META OLED technology. In addition, we produced our first notebook display panel with a borderless design, which applies variable refresh rate technology with low power consumption, and we also produced the world's first 27.6-inch multi-tasking monitor display product with a 16:18 screen ratio as well as the world's first 34-inch 1900R IPS Black monitor product. For gaming display products, we developed the world's first 24.5-inch 480Hz FHD gaming monitor display that applies high-performance oxide-TFT, and we produced the world's first 27-inch and 45-inch gaming display panel applying META OLED technology. For automotive display products, we produced the world's first 12.3-inch automotive co-driver display panel that applies double LGP control technology as well as the world's first 12.3-inch automotive cluster display panel that applies glassless 3D technology.
- In 2023, we developed the world's first medium-sized transparent WOLED display product (30-inch HD) with a transparency rate of 45% and luminance of 600/200 nit. In addition, we produced the world's first 17-inch foldable pen touch notebook display panel applying the tandem OLED technology. For gaming display products, we developed the world's first 34-inch and 39-inch ultra-wide, full-size 240Hz gaming monitor display product that applies high-speed, fast response time, high-luminance and curved OLED technology.

As the product life cycle of display panels using certain of the existing TFT-LCD technology is approaching maturity, we plan to continue to focus on OLED and other newer display technologies, while also exploring new growth opportunities in the application of display panels, such as automotive displays and life displays. Life displays include gaming displays and transparent displays, among others.

In order to maintain our position as one of the industry's technology leaders, we believe it is important not only to increase direct spending on research and development, but also to manage our research and development capability effectively in order to successfully implement our long-term strategy. In connection with our efforts to enhance our research and development capability with respect to next-generation display technologies, we opened the R&D Center in Paju, Korea in April 2012. In addition, we have further expanded our research and development resources by allocating some of our research and development personnel to the newly-opened LG Science Park, which is located in western Seoul and commenced its operations in December 2017. LG Science Park accommodates researchers from various LG Group-affiliated companies with expertise in a broad range of disciplines, including electronics, chemistry, nanotechnology, display, fabrication, life sciences and new materials, to focus on developing and testing innovative new technologies.

We complement our in-house research and development capability through collaborations with universities and other third parties. For example, we provide project-based funding to both domestic and overseas universities as a means to recruit promising engineering students and to research and develop new technologies. As part of our such efforts, we have established cooperation centers within various universities, including Seoul National University and Korea Advanced Institute of Science and Technology, in order to promote the research and development of various technologies for use in future display panels. In 2021 and 2022, we entered into agreements with Yonsei University, Hanyang University and Sungkyunkwan University to establish a "Display Fusion Engineering Department" at each of these universities that offers specialized classes in technical fields such as electronics, electricity, physics, chemistry and materials with the aim to cultivate next-generation talents. We also enter into joint research and development agreements from time to time with third parties for the development of technologies in next-generation display fields. In addition, we belong to several display industry consortia, and we receive annual government funding to support our research and development efforts.

While we primarily rely on our own capacity for the development of new technologies in the display panel design and manufacturing process, we rely on third parties for certain key technologies to enhance our technology leadership, as further described in "–Intellectual Property" below.

Intellectual Property

Overview

Our business has benefited from our patent portfolio, which includes patents for display technologies, manufacturing processes, products and applications related to the production of TFT-LCD and OLED panels. We hold a large number of patents in Korea and in other countries, including in the United States, China, Japan, Germany, France, Great Britain, Taiwan, India and Vietnam. These patents will expire at various dates upon the expiration of their respective terms ranging from 2024 to 2043. In March 2014, we formed Unified Innovative Technology, LLC in the United States, a limited liability company solely owned by us for the purpose of patent portfolio management.

As part of our ongoing efforts to prevent infringements on our intellectual property rights and to keep abreast of critical technology developments by our competitors, we closely monitor patent applications in Korea and various other countries in which we sold our products. We intend to continue to file patent applications, where appropriate, to protect our proprietary technologies. We also enter into confidentiality agreements with each of our employees and consultants upon the commencement of an employment or consulting relationship. These agreements generally provide that all inventions, ideas, discoveries, improvements and copyrightable material made or conceived by the individual arising out of the employment or consulting relationship and all confidential information developed or made known to the individual during the term of the relationship are our exclusive property. In addition, we have increased our efforts to safeguard our propriety information by engaging in in-house information protection awareness activities with our employees.

License Agreements

We enter into license or cross-license agreements from time to time with third parties with respect to various device and process technologies to complement our in-house research and development. We engage in regular discussions with third parties to identify potential areas for additional licensing of key technologies.

Expenses relating to our license fees and royalty payments under existing license agreements were ₩150 billion in 2021, ₩152 billion in 2022 and ₩146 billion (US\$113 million) in 2023 representing 7.1%, 6.3% and 6.1% of our research and development related expenditures in 2021, 2022 and 2023, respectively. We recognized royalty income in the amount of ₩14 billion in 2021, ₩12 billion in 2022 and ₩16 billion (US\$13 million) in 2023. The following are examples of license agreements we have entered into:

- We have a license agreement with each of Columbia University, Penn State University, Honeywell International, Honeywell Intellectual Properties, Plasma Physics Corporation and Fergason Patent Properties. Each license agreement provides for a non-exclusive license under certain patents relating to TFT-LCD technologies.
- We have a license agreement with Universal Display Corporation for a non-exclusive license under certain patents relating to OLED technologies.
- We have a license agreement with Semiconductor Energy Laboratory for a non-exclusive license under certain patents relating to TFT-LCD and OLED technologies.
- We have a cross-license agreement with each of Hitachi, HannStar and Hydis for a non-exclusive license under certain patents relating to display technologies.
- We have separate cross-license agreements with each of NEC and AU Optronics in connection with the settlement of certain patent infringement lawsuits. Under the agreements, each party grants the other party a license under certain patents relating to TFT-LCD technologies.
- We are licensed to use certain patents for our TFT-LCD products pursuant to a cross-license agreement between Philips Electronics and Toshiba Corporation.

In addition to the above, we have also entered into license or cross-license agreements with other third parties in the course of our business operations in connection with certain patents, which such third parties own or control.

As well as licensing key technologies from third parties, we aim to benefit from our own patents and other intellectual property rights by granting licenses to third parties from time to time in return for royalty payments. We have also entered into certain patent purchase and license agreements with third parties, where we receive a portion of the license payments.