



KONICA MINOLTA

Intellectual Property Report 2015



Giving Shape to Ideas

Intellectual Property Report 2015

(April 2014 to March 2015)

July 2015

KONICA MINOLTA, INC.

Under our management philosophy, “The Creation of New Value,” Konica Minolta, Inc.*¹ (“Konica Minolta”) began implementing the new Medium Term Business Plan TRANSFORM 2016*² in fiscal 2014. Accordingly, we have been promoting a shift in our business model and taking on initiatives for developing increasingly higher added-value business, all the while remaining close to our customers. With respect to our vision five years ahead, the plan outlines goals that involve creating a vertical service business capable of providing comprehensive solutions (devices and services) from the customer’s perspective as well as high-performance materials business offering materials that only Konica Minolta can provide by leveraging our proprietary materials technologies.

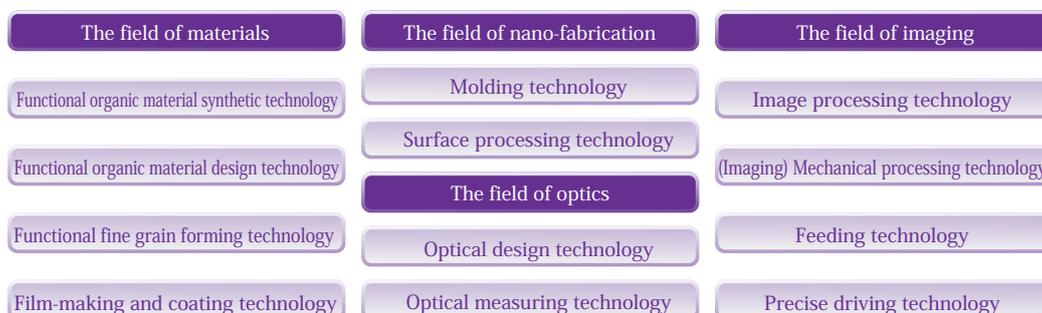
In working to achieve these goals in line with our management philosophy, we have positioned our intellectual property strategy as one of our three key management strategies, which also include our business and technology strategies, in order to support our business activities from the perspective of intellectual property.

This document describes Konica Minolta’s activities in the field of intellectual property in fiscal 2014.

1. Core Technologies and Business Model

For an extended period of some 140 years since its foundation, Konica Minolta has provided attractive products such as photographic films and cameras as well as multifunction peripherals (MFP) and X-ray imaging devices developed based on the technologies that it has acquired. Through the continuous development of technology relating to these products, Konica Minolta has come to possess a number of core technologies*³ in four fields: materials, nano-fabrication, imaging, and optics. By capitalizing on and integrating these core technologies, Konica Minolta pursues further enhancement of product functions and the creation of new business (see figure at bottom).

Four Technology Fields and Core Technologies



Leveraging our core technologies to create sophisticated products and new businesses



*1 For a company overview, visit our website: <http://www.konicaminolta.com/about/corporate/outline.html>

*2 For TRANSFORM 2016, visit our website: http://www.konicaminolta.com/about/investors/ir_library/ar/ar2014/index.html

*3 For detailed information of our core technologies, visit our website: <http://www.konicaminolta.com/about/investors/why/index.html>

As one example of these efforts, we have come up with emulsion polymerized toners that replace conventional pulverized toners, as a result of toner development initiatives drawing on our technologies in the field of materials built up in the course of developing photographic films. Compared with pulverized toners, emulsion polymerized toners have smaller and more uniform particles that make higher definition images possible. Moreover, emulsion polymerized toners fuse to paper at lower temperatures due to properties that include more efficient heat conductivity and water solubility, thereby also contributing to more energy-efficient MFPs. Our emulsion polymerized toners are also being used in MFPs as well as digital printing systems*⁴ where the properties just noted help enable high-quality printouts and lower energy consumption during continuous printer operation.

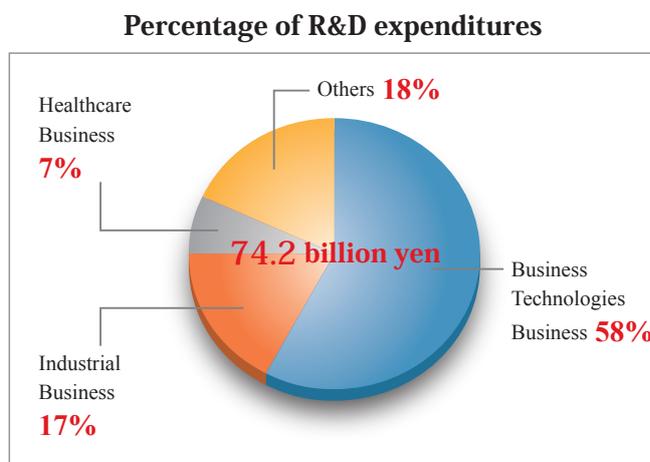
We have also developed flexible organic light-emitting diode (OLED) lighting panels by bringing our technologies in the field of materials built up in the course of developing photographic films together with our technologies in the field of optics accumulated in the course of developing photographic lenses. Our flexible OLED lighting panels are capable of uniformly emitting light across the entire panel surface area, even when the panel is curved or bent. This will enable completely new product designs and applications never before possible with conventional lighting.

In this way, Konica Minolta is using its various core technologies acquired through the development of products for the Creation of New Value that we seek.

2. Research and Development Segment and R&D Cost

Konica Minolta is developing three primary areas of business — the Business Technologies Business, Industrial Business and Healthcare Business — and is actively engaging in R&D initiatives geared toward expansion in these areas and creation of new businesses.

Under our investment plan for achieving objectives set forth in TRANSFORM 2016, we have earmarked a cumulative total of ¥240 billion for R&D expenses over the three years from 2014 to 2016, with such outlays in fiscal 2014 amounting to ¥74.2 billion for a 6.7% increase compared with the previous fiscal year. Looking at the breakdown of R&D expense per area of business in fiscal 2014, our mainstay Business Technologies Business accounted for the largest share of those funds at 58% of overall R&D expenditure (see right graph). In the Business Technologies Business, we are aggressively investing in R&D initiatives mainly to enhance technologies that coexist with cloud and mobile applications, and have accordingly increased the amount of investment by 8.6% compared with the previous fiscal year. In the Healthcare Business, we are promoting R&D in technologies that will differentiate us from our competitors, with a focus on cassette-type digital X-ray systems and diagnostic ultrasound systems. As a result, we significantly increased R&D investment in the Healthcare Business by 36.8% compared with the previous fiscal year.



*4 For detailed information on our digital printing systems, visit our website:
<http://www.biz.konicaminolta.com/production/index.html>

3. Status of Patent Applications, Securing Intellectual Property Rights, and Patent Portfolio

The number of published Japanese patent applications filed by Konica Minolta in fiscal 2014 was 2,375^{*5} (see graph at top right). Our mainstay Business Technologies Business accounts for 52% of the total number of published Japanese patent applications filed by Konica Minolta. Carrying on from the previous fiscal year, we have been actively filing patent applications, with those of the Industrial Business primarily involving organic light-emitting diode (OLED) lighting and those of the Healthcare Business primarily involving cassette-type digital X-ray systems and diagnostic ultrasound systems.

Our overseas sales accounted for 79.9% of Konica Minolta's net sales (see middle-right graph). We also have numerous overseas sales and production sites. Accordingly, Konica Minolta actively files patent applications worldwide to cover important markets and countries where production takes place, thereby providing support in terms of intellectual property in the company's pursuit of global business opportunities. Specifically, we are aggressively retaining our initiatives to file for patents in the key U.S. market, while also bolstering our efforts to submit patent applications in China, which is becoming increasingly important not only as a manufacturing location but also as a market for goods.

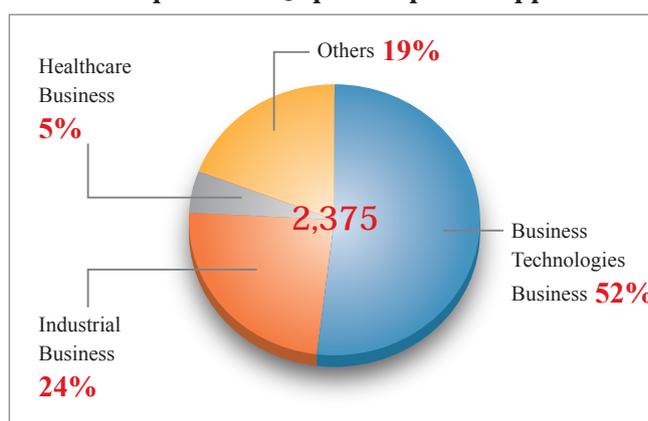
As a result, the number of patent registrations and patents held in the United States and China as well as in Japan is rising steadily.

Konica Minolta registered 1,545 patents in Japan in fiscal 2014. Based on information from the "Patent Office Annual Report 2015 Edition" issued by the Japan Patent Office, Konica Minolta's rank in fiscal 2014 was 16th, the same as in fiscal 2013. As of the end of fiscal 2014, Konica Minolta held 12,254 patents, an increase of approximately 1.2 times compared to fiscal 2012 (see graph at bottom right).

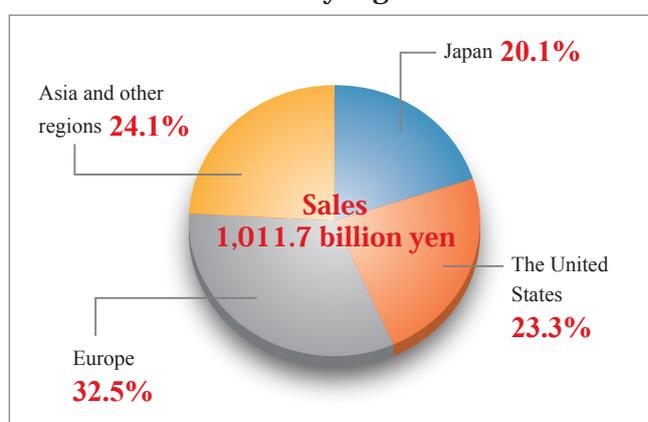
Konica Minolta registered 694 patents in the United States in fiscal 2014, ranking 20th^{*6} among Japanese companies. The number of patents held in the United States was 6,807, which is approximately 1.1 times more than in fiscal 2012 (see graph at bottom right).

In addition, 184 patents were newly registered in China in fiscal 2014. That brought the number of Konica Minolta's patents in China to 901, for a 1.6-fold increase in comparison with fiscal 2012, due to the company's strategic intellectual property initiatives (see right-bottom graph).

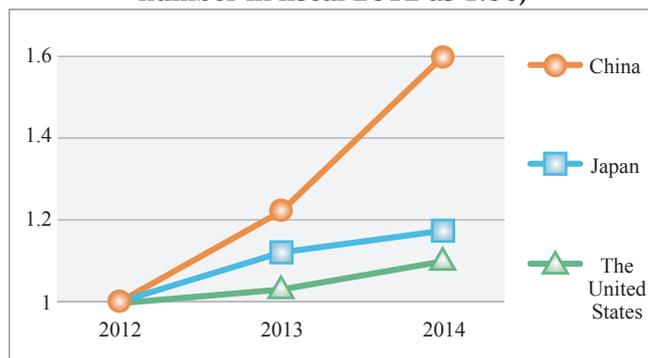
Number of published Japanese patent applications



Sales by region



Change in the number of patent rights held in Japan, the U.S. and China. (based on the number in fiscal 2012 as 1.00)

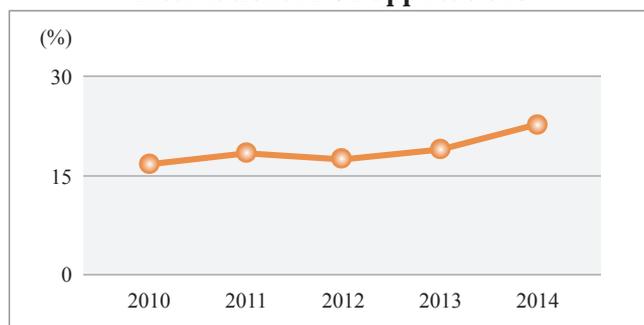


*5 This includes the number of published PCT applications from operations in Japan.

*6 The rank is estimated from the data in Intellectual Property Owners Association (Top 300 Patent Owners).

Moreover, Konica Minolta is making aggressive use of the PCT patent application scheme in business fields undergoing rapid technological change. In so doing, we are able to select countries that we deem suitable for filing patent applications on the basis of factors such as the business environment and technological trends during the phase up until the point where we transition to filing a patent application for an individual country. Of the total number of published Japanese patent applications filed by Konica Minolta in fiscal 2014, 23% were published PCT applications, and that ratio has remained at not less than 15% over the fiscal years 2010 to 2014 (see the right graph).

Percentage of the number of published international PCT applications



4. Organization to Support Intellectual Property Activities

(1) Role of the Intellectual Property Center

On the basis of our intellectual property policy stating that, “we are committed to actively promoting efforts geared toward creating, protecting and making effective use of intellectual property, and we respect the valid intellectual property rights of third parties in the course of engaging in business activities,” Konica Minolta formulates intellectual property strategies for each of its areas of business, while its business divisions and the Intellectual Property Center work together in implementing those strategies.

The Intellectual Property Center is under the direct authority of the President and assumes responsibility for overall administration and implementation of intellectual property initiatives that include formulating Group-wide intellectual property strategy, invention discovery activities, patent application and rights acquisition activities and addressing issues involving intellectual property rights of other companies.

To such ends, the Intellectual Property Center provides support for enabling “The Creation of New Value,” our management philosophy, from an intellectual property perspective by establishing bases for carrying out such activities at respective development sites, maintaining close communications with developers, gathering information about on-site needs and introducing various measures in a timely manner (see illustration below). More specifically, the Intellectual Property Center promotes sharing of information and knowledge with respective development divisions on a daily basis so that we can better identify various inventive technologies that are being conceived and then establish rights underpinning business and development activities. With respect to the process of establishing rights, the Intellectual Property Center works with patent firms in Japan and overseas in taking on tasks involving patent application and rights acquisition. It also regularly holds seminars to brief patent firms on matters having to do with Konica Minolta’s business, technology and intellectual property strategies, thereby helping to create an environment where such firms are able to take a proactive approach in supporting us in our activities that involve intellectual property. Furthermore, the Intellectual Property Center is committed to elevating patent quality and acquiring patents that contribute to business operations, while sharing information on sound patent standards that are in line with Konica Minolta’s aims and engaging in exchanges of opinion regarding results of quality evaluations of patent application specification and response documents prepared by patent firms.

The Intellectual Property Center also has sites in the U.S. and China, which work in conjunction with operations in Japan in providing support involving intellectual property to locally based development activities (see illustration below).

Activity bases in Japan



Overseas activity bases



*Base of intellectual property activities

(2) Education Framework

The Intellectual Property Center organizes education and training programs for developers on issues involving intellectual property that are essential to our development activities, in areas that include intellectual property basics, understanding inventions and interpreting the wording of patent application specifications and conducting prior art searches. More specifically, basic training on intellectual property is provided to developers during their first year of employment, along with numerous training courses on intellectual property through Konica Minolta College, which acts as a company-wide educational system offering employees the option of taking multiple courses to enhance their skills. These types of educational programs are not limited to Japan, but are also provided to overseas developers. At the development site in China, for example, we implement and operate programs on intellectual property basics for local developers. Starting in fiscal 2014, educational programs were launched on topics that include techniques for developing ideas, with the aim of further increasing the quality of patent applications.

Meanwhile, training of Intellectual Property Center staff members is also of great importance to us. As such, we actively develop the capabilities of such employees by offering on-the-job development (OJD) and in-house study groups, and also by having them take part in training programs outside the company where they learn about legal systems and practices related to patents in different countries. We also put a great deal of effort into professional development through well-planned initiatives that include assigning employees to overseas law firms and sending them to universities in the U.S. and China as international students, all with the aim of ensuring that our employees are capable of playing an active role in the realm of global intellectual property.

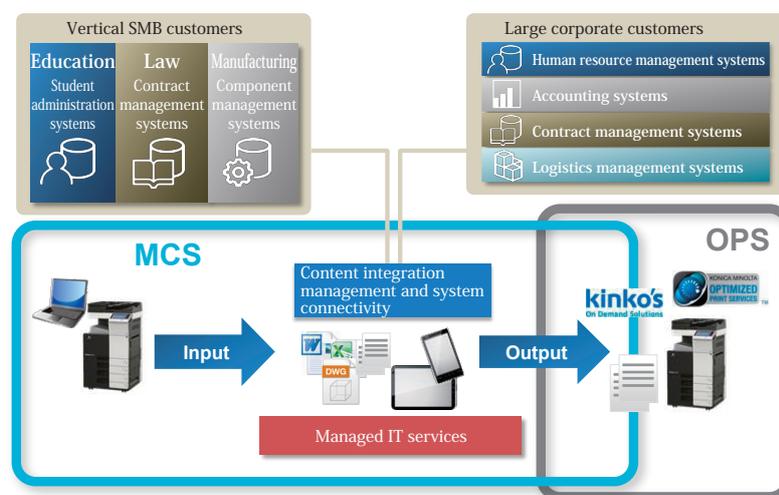
5. Intellectual Property Underpinning Individual Businesses

(1) Business Technologies Business

The Business Technologies Business domain consists of the office services business with MFP as the core product and the commercial and industrial printing business, which handles digital printing systems used in the Commercial Printer business and Centralized Reprographic Department.

In the office services business, our development efforts are geared toward increasing speed and quality of MFPs and other functional improvements, and are also pursued with the aim of proposing solutions enabling total optimization of customer office environments by combining our MFPs with our ICT (information communication technology) services. This is particularly the case with respect to our initiatives in developing technologies relevant to our Managed Content Services (MCS)^{*7} which involve delving into a customer's business processes and providing them with systems that enable integrated management of content and devices for input and output of such content, and also relevant to our Optimized Print Services (OPS)^{*8} where we provide ideal set-ups with multiple MFPs and printers tailored to customer needs (see illustration below).

Managed Content Services (MCS) & Optimized Print Services (OPS)



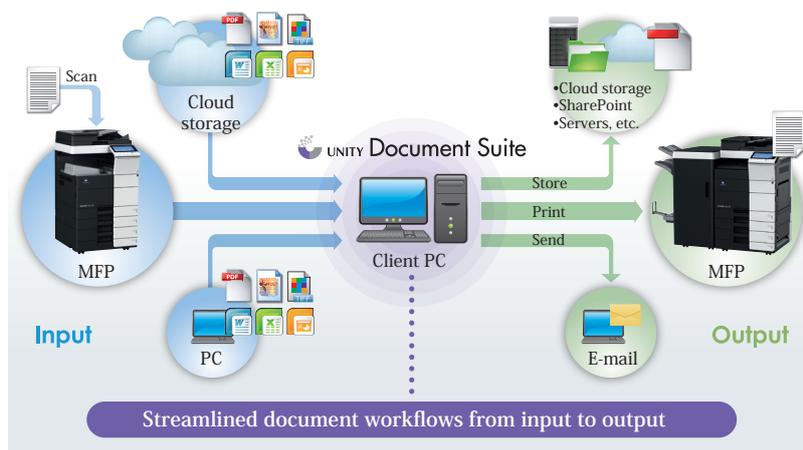
*7 For MCS, visit our website: http://www.konicaminolta.com/about/releases/2014/1003_02_01.html

*8 For OPS, visit our website: <http://www.biz.konicaminolta.com/services/ops/index.html>

For example, with respect to technology relevant to our MCS offerings, we have developed the Unity Document Suite software^{*9} package, which links to MFP scanning functions and cloud services so that users can coordinate their paper and electronic documents and other such content, thereby enabling central management of such data. This results in more streamlined document workflows up to the content input and output stages (see illustration below).

We have taken a strategic approach in filing patent applications on a worldwide basis in the field of solutions-related technologies that combine MFPs and ICT services in this manner. As such, we have steadily amassed patent assets to the point where our published patent applications in the solutions-related technology field numbered over 1,000 as of the end of fiscal 2014.

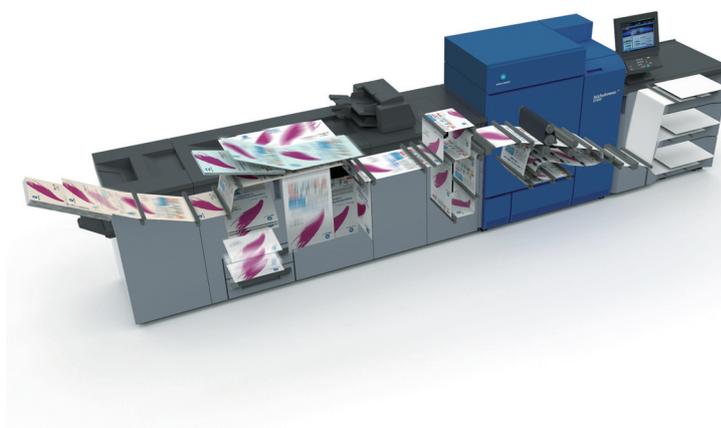
Utility Document Suite system configuration



Moreover, we have been developing products in the commercial and industrial printing business with the aim of bringing about further improvement with respect to image stability, capacity for handling a diverse variety of paper types, and productivity during continuous printer operation. These efforts underpinned our fiscal 2014 launch of the bizhub PRESS C1100 series^{*10} top-of-the-line color digital printing systems tailored to the commercial printing market (see photo below). Having earned high marks for its capabilities in that regard, the bizhub PRESS C1100 series was recognized with the Production Printer 2015 PRO Award^{*11} from independent test lab Buyers Laboratory LLC. for having demonstrated the best performance in the commercial and industrial printing business realm. This marks the third consecutive year that the bizhub PRESS series has won this award.

As of March 31, 2014, Konica Minolta held over 1,800 patents related to the commercial and industrial printing business as a result of efforts focusing on filing patent applications with respect to technologies relevant to such product development efforts.

bizhub PRESS C1100



*9 For detailed information on the Unity Document Suite, visit our website:
<http://www.biz.konicaminolta.com/solutions/uds/index.html>

*10 For detailed information on our release of the bizhub PRESS C1100 series, visit our website:
http://www.biz.konicaminolta.com/production/c1100_c1085/index.html

*11 For detailed information on the Production Printer 2015 PRO Awards, visit our website:
http://www.konicaminolta.com/about/releases/2014/1118_01_01.html

(2) Industrial Business

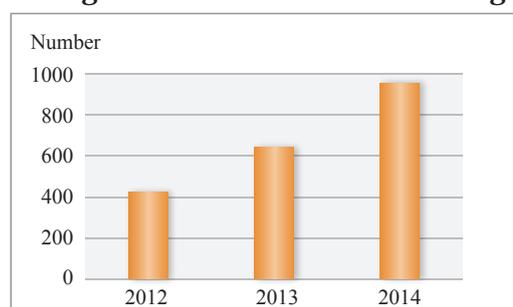
In the Industrial Business, we launched sales of organic light-emitting diode (OLED) lighting panels that hold great promise as a next-generation lighting source, given unique features unavailable in conventional lighting in terms of these panels providing a thin, lightweight and flexible source of surface lighting. In February 2015, brilliant OLED tulips created using some 15,000 OLED lighting panels were used to provide outdoor illumination at the Tulip Festival*¹² held at the Huis Ten Bosch theme park in Sasebo, Nagasaki Prefecture (see photo at right). A Konica Minolta factory that began operating in autumn of 2014 became the first facility in the world to mass-produce these OLED lighting panels. The factory boasts very high standards of productivity due to its use of a roll-to-roll manufacturing method whereby a continuous coating layer is formed on a long sheet of film as it is wound from one roll to another.

We have already filed numerous patent applications in the technological field of OLED lighting, and accordingly have over 1,900 published patent applications in that domain worldwide as of the end of fiscal 2014. We are now focusing on obtaining intellectual property rights with respect to patent applications that we have filed in order to better support the launch of OLED business drawing on those patent applications. As a result, the number of patents held is also increasing steadily, surpassing 950 as of the end of fiscal 2014 (see right graph).

Illuminated OLED tulips



Changes in Worldwide Patent Holdings



(3) Healthcare Business

In the Healthcare Business, we launched sales of our SONIMAGE HS1*¹³ diagnostic ultrasound system, which enables medical professionals to monitor images in real time while reducing physical strain experienced by patients undergoing treatment (see photo at right). The SONIMAGE HS1 diagnostic ultrasound system is the first product that we have developed in-house following our ultrasound equipment business integration with Panasonic Healthcare. With ultrasound probes, we are making use of our proprietary acoustic materials and also applying image processing technologies we have developed in the X-ray imaging domain. This is ensuring robust backup support for physicians in diagnosing medical conditions by providing them with much clearer visual images of tissue morphology and clear delineation of the fibrous structures of muscle and nerve bundles that are dozens to hundreds of microns in diameter.

As of the end of fiscal 2014, we have published over 1,200 patent applications worldwide in the field of ultrasound imaging technology, which includes those just described.

SONIMAGE HS1



*12 For detailed information on the Tulip Festival, visit our website: http://www.konicaminolta.jp/about/release/2014/1226_01_01.html (Japanese)

*13 For further information on the SONIMAGE HS1, visit our website: <http://www.konicaminolta.com/medicalusa/product/sonimage-hs1/>

6. Maintaining and Enhancing Brand Value

We fully recognize the considerable importance of Konica Minolta's brands in the course of promoting our business, and are aggressively pushing forward to maintain and enhance the value of those brands.

Further, we aim to protect Konica Minolta's brands and have accordingly filed applications for trademarks and otherwise taken steps to secure our intellectual property rights in approximately 200 countries, and have registered roughly 3,100 trademarks worldwide.

Moreover, we also regard product design as a key element in our efforts to maintain and enhance brand value. In Japan, Konica Minolta won the Japan Institute of Design Promotion's (JDP) Good Design Award 2014^{*14} for our SONIMAGE HS1 diagnostic ultrasound system, bizhub PRESS C1100/C1085 digital printing system, and bizhub C3850 A4 color MFP (see photo below).

Outside Japan, our A3 color bizhub C554e/C454e/C364e/C284e/C224e MFPs won the China Red Star Design Award 2014^{*15}. The same bizhub series of products have gained global recognition for design excellence, with this being its third award after also having been recognized with the Good Design Award 2013 in Japan and the Red Dot Design Award 2014 in Germany.

We also file design applications and pursue efforts to acquire intellectual property rights with respect to such product designs, in view of brand value considerations as well as the need to address the threat of counterfeit goods. As such, we now have approximately 320 designs registered worldwide.

Products recognized with the Good Design Award



7. Conclusion

At Konica Minolta, we fully recognize that our intellectual property constitutes one of our most important business resources, and accordingly engage in initiatives involving our intellectual property on a daily basis. We will continue to aggressively promote efforts to ensure proper creation, protection and effective use of our intellectual property, thereby providing support for enabling "The Creation of New Value," our management philosophy, from an intellectual property perspective.

Information included in this report with regard to the future prospects of Konica Minolta is provided as forecasts based on the business environment at the time of writing. Such information is subject to change according to changes in the business environment.

KMIPR20150101

*14 For detailed information on the Good Design Award, visit our website:

http://www.konicaminolta.com/about/releases/2014/1017_02_01.html

*15 For detailed information on the China Red Star Design Award, visit our website:

http://www.konicaminolta.com/about/releases/2014/1219_01_01.html

- bizhub, bizhub PRESS, and Optimized Print Services logos, and Unity Document Suite, SONIMAGE, Giving Shape to Ideas, and KONICA MINOLTA logos and symbols are the trademarks or registered trademarks of Konica Minolta.
- Other brand names and product descriptions are the trademarks or registered trademarks of their respective companies.



KONICA MINOLTA

KONICA MINOLTA, INC.

192-8505

2970 Ishikawa-machi, Hachioji-shi, Tokyo

Intellectual Property Center