

# Intellectual Property Report 2016

(April 2015 to March 2016)

July 2016  
KONICA MINOLTA, INC.

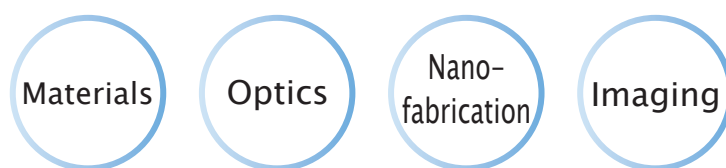
Under our management philosophy, “The Creation of New Value,” Konica Minolta, Inc.<sup>\*1</sup> (“Konica Minolta”) undertakes initiatives for developing increasingly higher added-value businesses, all the while strengthening its capacity for proposing services and solutions to customers on the basis of its Medium Term Business Plan TRANSFORM 2016<sup>\*2</sup>. To achieve the objectives of our management philosophy from the perspective of intellectual property, we have positioned our intellectual property strategy as one of our key management strategies in conjunction with our business and technology strategies, and accordingly promote those three strategies together as a whole.

This document describes Konica Minolta’s activities in the field of intellectual property in fiscal 2015.

## 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 digital X-ray imaging devices developed based on the technologies that it has acquired. Through the continuous development of technology related to these products, Konica Minolta has come to possess a number of core technologies<sup>\*3</sup> in four

fields: materials, optics, nano-fabrication, and imaging. Konica Minolta is currently taking steps to further enhance product functions by capitalizing on and integrating these core technologies under the Medium Term Business Plan TRANSFORM 2016 (see figure at bottom). We are also working to create new businesses that are geared to resolving challenges faced by our customers and society.



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>

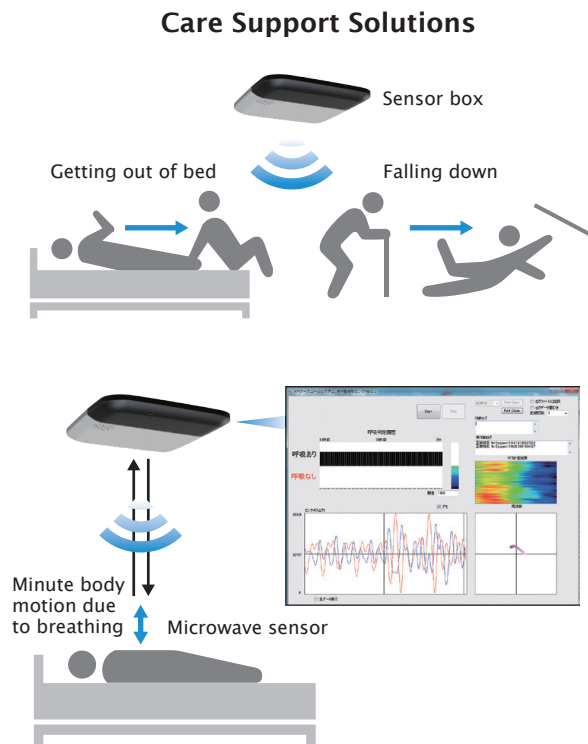
\*2 For information on TRANSFORM, visit our website: [http://www.konicaminolta.com/about/investors/ir\\_library/ar/ar2014/index.html](http://www.konicaminolta.com/about/investors/ir_library/ar/ar2014/index.html)

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

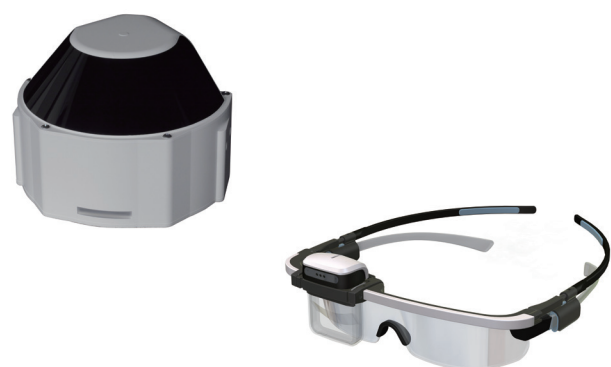
For instance, drawing on technologies in the field of imaging, we have developed the Care Support Solution<sup>\*4</sup> caregiver support system for nursing care facilities, which makes it possible for caregivers, when alerted, to visually check on residents of such facilities using a smartphone display. The Care Support Solution devices are equipped with near-infrared cameras that act as sensors capable of detecting physical movement, such as when a resident wakes up, gets out of bed, falls down or collapses, with such detection drawing on proprietary algorithms for processing video images. In addition to near-infrared cameras, devices are also equipped with microwave sensors capable of detecting breathing and other minute physical movements, so that caregivers are able to monitor residents while the residents are in bed. Providing care to residents requires that nursing care staff members continually move from one place to the other throughout their facilities. Before the advent of the Care Support Solution system, a nursing care staff member would have to physically check on a resident whenever an alert was sounded. With the Care Support Solution, however, caregivers are now able to visually check on residents by viewing a smartphone display, rather than having to physically make on-site visits to locations of individual residents. This results in substantial gains in work-flow efficiencies because staff members are now able to check on residents before paying them a visit, without the need to head to where a resident is located as soon as an alert is sounded, as was previously required.

Drawing on technologies we have cultivated in the field of optics, we have developed 3-D LiDAR<sup>\*5</sup> sensors that detect people and objects situated in three-dimensional space using laser beams to seamlessly scan given locations. Given that our 3-D LiDAR sensors are capable of precisely detecting sizes and shapes of objects upon instantly scanning an extensive physical area, it is likely that they will eventually be used across a range of applications, such as those involving surveillance cameras and driverless vehicles. Also, we have developed a wearable device in the form of eye glasses, dubbed the Wearable Communicator (WCc)<sup>\*5</sup>, which combines technologies in the field of optics with information and communications technologies (ICT). The WCc glasses provide the wearer with digital information overlapped onto the real-world environment seen through the glasses, which are small and lightweight thanks to our proprietary holographic optical technology. We also intend to apply products such

as our 3-D LiDAR sensors and WCc glasses to uses in digital manufacturing<sup>\*6</sup> which offers new solutions for production based on information and communications technology (ICT) and Internet of Things (IoT) concepts, thereby promoting commercialization in that regard.



**3-D LiDAR (left) and WCc (right)**



\*4 For detailed information on the Care Support Solution, visit our website:  
[http://www.konicaminolta.com/about/research/future/care\\_support/index.html](http://www.konicaminolta.com/about/research/future/care_support/index.html)

\*5 For detailed information on 3-D LiDAR and WCc (Wearable Communicator), visit our website:  
<http://www.konicaminolta.com/about/research/future/index.html>

\*6 For detailed information on Digital Manufacturing, visit our website:  
[http://www.konicaminolta.com/about/releases/2016/0414\\_01\\_01.html](http://www.konicaminolta.com/about/releases/2016/0414_01_01.html)