

Leveraging IT to drive change in testing patients

Konica Minolta transforms healthcare with Dell Technologies supporting the development of a dynamic imaging system for medical examinations

“DDR was developed with Dell Technologies—a pivotal part of our solution.”

Kiyotaka Fujii
President at Global Healthcare
Konica Minolta



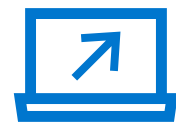
Business needs

Konica Minolta continues expanding its healthcare business, bringing its expertise in digital imagery to hospitals and clinics worldwide. The company created its Dynamic Digital Radiography product and needed to work with an IT partner whose computer and storage solutions could ensure fast and reliable processing and storage for image data from medical examinations.



Business results

- Improves accuracy of diagnosing pulmonary conditions
- Allows less intrusive examinations of patients
- Gives medical professionals a clearer idea of how illness affects patients
- Reduces the cost of examinations compared with scanning processes such as magnetic resonance image (MRI)



IT transformation

As Konica Minolta's healthcare business develops, the company is using Dell Technologies to empower healthcare professionals with dynamic digital imaging that allows less intrusive, more accurate diagnoses for patients and a new level of precision in treatments that can ensure the right patients get the right medicine at the right time.

Konica Minolta, headquartered in Tokyo, is a multinational company, operating in 150 countries and employing 44,000 personnel. Established in 1873, the company originally focused on camera optics and photographic film but over time broadened its portfolio to include business printing systems, measuring equipment and performance materials.

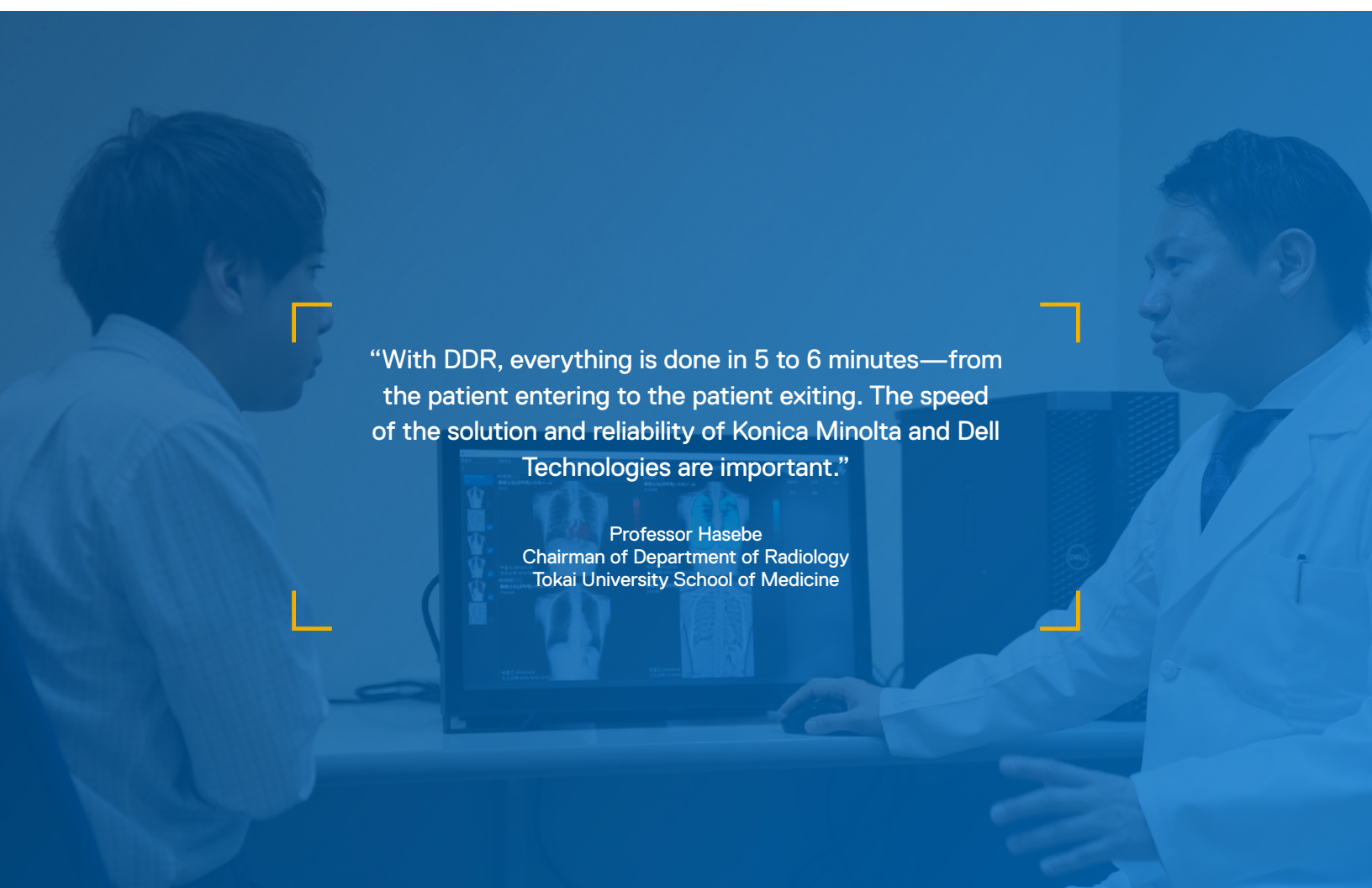
Today, Konica Minolta is focusing on healthcare. It has acquired two companies Ambry Genetics and Invicro. Invicro provides imaging services to the pharmaceutical and biotechnology industry from early phase discovery to late-phase clinical trials. With Ambry Genetics, Konica Minolta has gained a pioneer in genetic testing, whose genetic testing solutions are used in fields such as oncology, cardiology, pulmonology, and neurology.

Given the potential of digital technologies to improve imaging and testing services, Konica Minolta is looking to integrate Internet of Things (IoT), machine learning (ML) and artificial intelligence (AI) across its solutions. Shoei Yamana, president of Konica Minolta, says the company's philosophy is to leverage IT and data to address a wide variety of customer needs.

Expanding its healthcare business

The company is bringing the latest in digital imaging to hospitals and clinics worldwide with Dell Technologies to support data-driven diagnostics. Kiyotaka Fujii, president of Global Healthcare at Konica Minolta, says, "Doctors once made medical decisions based on judgement; now data guides them. We share the same vision as Dell Technologies of improving lives using digital solutions."

Konica Minolta and Dell Technologies are using digitized patient data to help healthcare providers deliver precision medicine. In essence, precision medicine is about customizing treatments: giving the right patients the right medicines in the right doses. Great news for increasing rates of patient recovery and for healthcare providers, as Mr Fujii explains, "About 30 percent of healthcare expenditure [on treatments] in all major countries is not used effectively."



"With DDR, everything is done in 5 to 6 minutes—from the patient entering to the patient exiting. The speed of the solution and reliability of Konica Minolta and Dell Technologies are important."

Professor Hasebe
Chairman of Department of Radiology
Tokai University School of Medicine

Enhance healthcare provider capabilities

Konica Minolta has developed a dynamic imaging system, known as Dynamic Digital Radiography (DDR) with Dell Technologies compute and storage solutions. Instead of taking a single digital image, such as in a standard X-ray, DDR takes a series of images at high speed and low radiation, creating a cine loop so clinicians can see the dynamic motion of a patient's anatomical structure. The images' data is then processed and algorithms reveal, for example, how veins are contracting and expanding as blood flows around the body. Once processing is completed, the data is then stored, allowing clinicians to precisely analyze and re-analyze the interactions between organs, muscles, nerves and bones for highly accurate diagnoses. "DDR was developed with Dell Technologies—a pivotal part of our solution," says Fujii.

Ensuring more effective detection

DDR is already helping healthcare professionals in countries such as Japan and the United States deliver more patient-centric services. At Tokai University School of Medicine in Tokyo, DDR is helping to diagnose patients alongside well-established magnetic resonance image (MRI) and computed tomography (CT) scanning machines. Unlike MRI and CT scans, however, DDR doesn't require patients to lie down, which changes the shape of the body, potentially impacting diagnosis. Professor Hasebe, chairman of the department of radiology at Tokai University School of Medicine adds, "DDR reduces the burden on patients. What's more, MRI or CT systems need to be installed in a protected room [because of radiation] while DDR can be installed in a general X-ray room."

DDR technology is also simpler to use, requiring no specialist technical knowledge and is quicker compared with MRI and CT. "With DDR, everything is done in 5 to 6 minutes—from the patient entering to the patient exiting. The speed of the solution and reliability of Konica Minolta and Dell Technologies are important," says Prof. Hasebe.

"The feedback from clinicians on DDR has been phenomenal."

Kiyotaka Fujii
President at Global Healthcare
Konica Minolta

Improving early detection and hospital workflows

DDR is also helping clinicians detect healthcare problems earlier. Comments Fujii, “The feedback from clinicians on DDR has been phenomenal. DDR changes the diagnostic pathway because we can detect pulmonary problems, for example, much earlier. Remember, clinicians are often dealing with many patients a day, so they don’t have the luxury of time to make a diagnosis. DDR not only improves detection but also helps the workflow of busy hospitals.”

A patient-centric organization

By evolving into a healthcare business, Konica Minolta is moving beyond its traditional status as a business-to-business company. The company is transforming to a business-to-business-to-patient model, placing more emphasis on the customer experience than ever before. Says Fujii, “At Konica Minolta, our healthcare themes are precision and prevention because we understand how early detection of an illness is vital to helping patients. We are a truly a patient-centric business.”



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