

The background of the advertisement features a modern architectural setting. On the left, there is a wall with a complex, perforated metal pattern. To the right, two men are standing in a brightly lit, glass-walled corridor or atrium. One man is wearing a dark suit, and the other is wearing a white lab coat. They appear to be in conversation. The overall color palette is dominated by blues, greys, and metallic tones, conveying a sense of technology and innovation.

**SIEMENS**

# Accelerating the 'health' in Healthcare

How Sustainable Healthcare Technology™ improves quality and efficiency.

[usa.siemens.com/healthcare](http://usa.siemens.com/healthcare)

# Excelling in a changing healthcare environment

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Whether a healthcare executive or clinician, you're faced with raising the quality of patient outcomes while decreasing costs—all while operating in a radically changing environment. In essence, you are operating in a "perfect storm."

At Siemens, we believe that early and accurate diagnosis is a key driver toward the successful transformation of the U.S. healthcare system—particularly as healthcare delivery organizations are charged with caring for higher patient volumes with greater accuracy and efficiency. We aim to empower clinicians with the right diagnostic information they need at the right time, so they can customize care to specific subsets of patients and disease states and thus enable precision medicine.

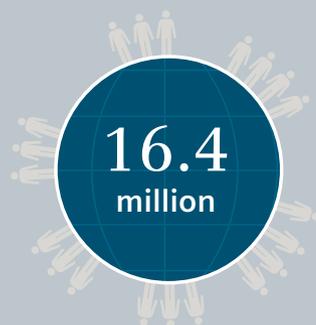
Obtaining the right, actionable information requires forward-reaching solutions. That's why we developed Sustainable Healthcare Technology™, an approach to innovation that supports providers' efforts to reach higher levels of clinical care and better efficiency at reduced costs. Backed by more than 165 years of excellence in innovation, we are uniquely positioned to provide Sustainable Healthcare Technology solutions that help to shape the next generation of healthcare.

# The perfect storm

Increasing U.S. population<sup>1</sup>

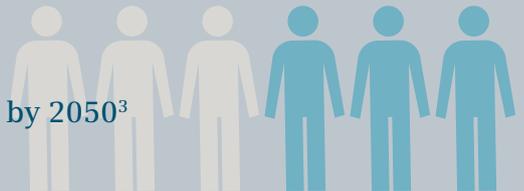


Increasing number of insured as of May 2015<sup>2</sup>

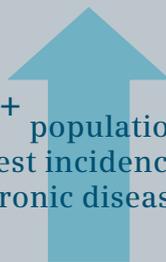


Increasing 65+ population means increased incidence of chronic disease and rising medical costs

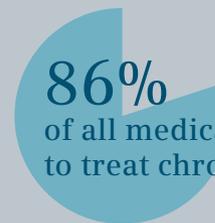
65+ population expected to double by 2050<sup>3</sup>



65+ population highest incidence of chronic disease<sup>3</sup>



86% of all medical costs are used to treat chronic diseases<sup>4</sup>



<sup>1</sup> U.S. Census Bureau: Population Estimates [Internet]. Washington, D.C.: United States Census Bureau; c2015. [cited 2015 June 24]. Available from: [www.census.gov/popest](http://www.census.gov/popest)

<sup>2</sup> ASPE & HHS: Health Insurance Coverage and the Affordable Care Act, Issued May 5, 2015 [Internet]. Washington, D.C.: Office of the Assistant Secretary for Planning and Evaluation (ASPE) and Health & Human Services (HHS); c2015. 2015 May 5 [cited 2015 June 24]. Available from: [http://aspe.hhs.gov/health/reports/2015/uninsured\\_change/ib\\_uninsured\\_change.pdf](http://aspe.hhs.gov/health/reports/2015/uninsured_change/ib_uninsured_change.pdf)

<sup>3</sup> CDC: The State of Aging and Health in America 2013 [Internet]. Atlanta: United States Centers for Disease Control and Prevention; c2013. [cited 2015 June 24]. Available from: <http://www.cdc.gov/aging/pdf/state-aging-health-in-america-2013.pdf>

<sup>4</sup> CDC: The Cost of Chronic Diseases and Health Risk Behaviors [Internet]. Atlanta: United States Centers for Disease Control and Prevention; c2015. 2015 May 18 [cited 2015 June 24] Available from: <http://www.cdc.gov/chronicdisease/overview/>

# Increasing precision in healthcare

With Sustainable Healthcare Technology, Siemens' solutions support more preventative measures, earlier diagnoses, and more effective, efficient therapies across numerous disease states. We have a thorough understanding of the clinical and operational needs of the entire patient care continuum, from prevention and early detection to diagnosis, treatment, and follow-up. And using our extensive experience in science and engineering, we continue to provide new and improved laboratory and imaging capabilities that support novel diagnostic and therapeutic options, particularly in the field of companion diagnostics, which enables clinicians to more specifically identify the best course of treatment for certain subsets of patients and case types.

Consider, for example, our HER2/neu assays, which can assist in the follow-up and monitoring of metastatic breast cancer or our award-winning imaging technologies and applications that deliver maximum image quality at minimum or no dose. With these and other solutions, we are supporting a higher level of efficiency and efficacy in healthcare, which, ultimately, supports greater precision in medicine.

Further, improving the accuracy of diagnoses, which influences clinical treatment decisions, can create significant clinical and economic value for the U.S. healthcare system. Treatment itself can become more personalized with the addition of companion diagnostics.

## The value of precision medicine

In fact, the point on the care continuum that is, perhaps, in greatest need of precision is the first 15 minutes of a medical encounter.

Those first 15 minutes are the pivotal timeframe in which, studies show<sup>1</sup>, up to half of all medical costs are set in motion. Here, medical imaging and laboratory tests are often ordered in an effort to diagnose and/or rule out symptom causation.

Yet, increasing data<sup>1</sup> suggests that a good deal of inefficiency in medicine is due to care that did not need to be delivered, in large part, because the initial diagnostic assumptions were incorrect.

First  
15 minutes



Pivotal timeframe

<sup>1</sup> Harvard Business Review Blog Network, To Cut Health Costs, Focus on the First Minutes of Care [Internet]. Boston, MA: Harvard Business School Publishing; c2014. 2014 January 28 [cited 2015 July 22]. Available from: <https://hbr.org/2014/01/to-cut-health-costs-focus-on-the-first-minutes-of-care/>

# Our customers say it best

For providers who want—and need—to sustainably increase precision in healthcare, reliance on a partner who understands the real-life clinical and operational challenges of healthcare delivery is critical. At Siemens, we are uniquely suited to both

understand and address the challenges our customers face. This is one of the many reasons healthcare executives routinely choose us as their partner to help them meet the needs and challenges of patient care.

*“Siemens has enabled us to be competitive in a very challenging reimbursement market, while continuing to provide exceptional image quality and patient care.”<sup>1</sup>*

## Ranked #1



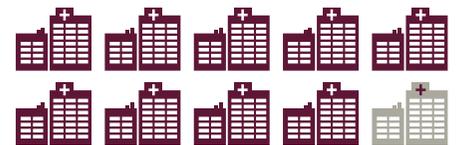
**KLAS® Report ranks Siemens first among U.S. hospital executives for partnership agreements<sup>2</sup>**

## All 15



**2015 Honor Roll hospitals use Siemens solutions<sup>3</sup>**

## 9 out of 10



**Hospitals across America use Siemens solutions<sup>4</sup>**

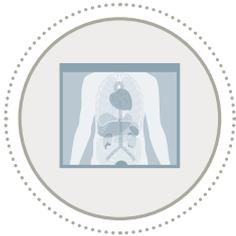
<sup>1</sup> Siemens Healthcare: This One Solution Made the Difference. Faster MRI Exams, Improved Quality, and Increased Throughput at Reno Diagnostic Centers [Internet]. Malvern: Siemens Medical Solutions USA, Inc.; c2015. 2015 September [cited 2015 September 28]. Available from: <http://usa.healthcare.siemens.com/magnetic-resonance-imaging/mri-case-study-reno-diagnostic-imaging-centers>

<sup>2</sup> KLAS®: Medical Imaging 2014, Providers Weigh In On Imaging Partnerships [Internet]. Orem, Utah: KLAS® Research; c2014. 2014 November [cited 2015 June 24]. Available from: [www.klasresearch.com](http://www.klasresearch.com)

<sup>3</sup> U.S. News & World Report: Best Hospitals 2015-16: Overview and Honor Roll [Internet]. Washington, D.C.: U.S. News & World Report; c2015. 2015 July 21 [cited 2015 July 21]. Available from: <http://health.usnews.com/health-news/best-hospitals/articles/2014/07/15/best-hospitals-2015-16-overview-and-honor-roll>

<sup>4</sup> IMS Hospital Database and SAP Installed Base: May 2015. c2015. 2015 May [cited 2015 May 5].

# Delivering solutions across healthcare



## Diagnostic Imaging

Our advanced imaging modalities—from the finest image quality in computed tomography to high-throughput ultrasound to leading-edge PET-CT and MRI scanners—are designed to deliver excellent clinical results while providing patient comfort, ease of use, and efficient operation.



## Advanced Therapies

From leading angiography systems and forward-oriented solutions for electrophysiology to world-class urology and surgical C-arm solutions, our image-based therapy solutions enable patient-centered treatment planning. Our hybrid operating room solutions allow minimally invasive treatment while enabling intelligent use of rooms and resources.



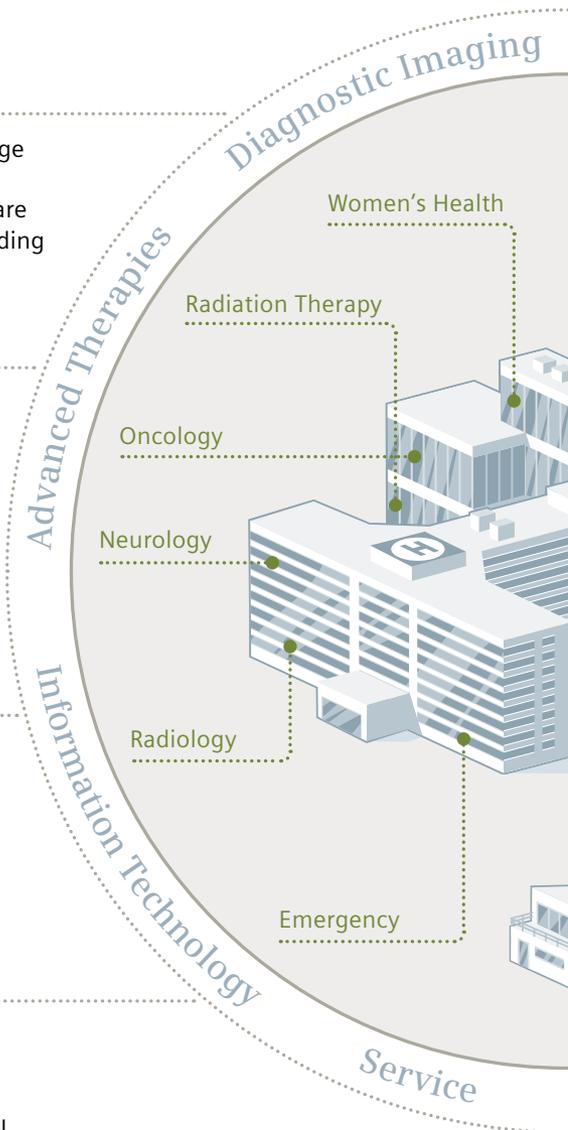
## Healthcare Information Technology

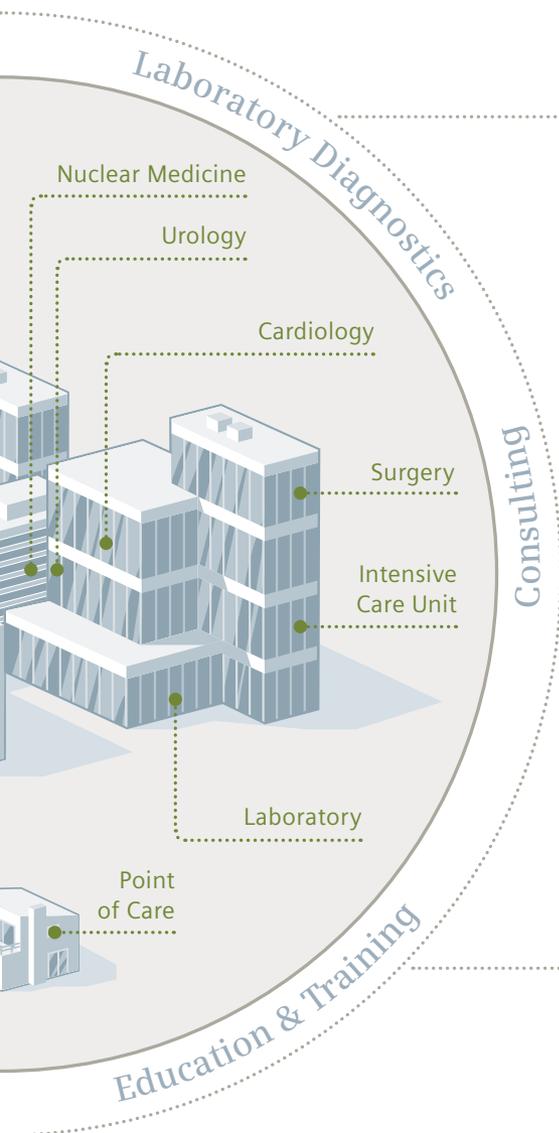
Intelligent and integrated solutions support workflow and manage data to make clinical information accessible and transparent. Ensuring that clinical images and lab results are available when and where they are needed can help improve clinical workflows and accelerate the delivery of healthcare services.



## Service

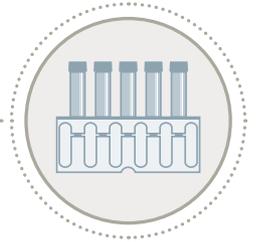
From remote monitoring to onsite technical and clinical support, our service teams offer expertise and support online, over the phone, and onsite, 24 hours a day, 7 days a week to ensure that systems are fully operational and performing efficiently. For us, service means more than fixing what breaks. We offer a total health solution that integrates clinical training and operational consulting to improve system utilization, increase productivity, and enhance patient access to care.





## Laboratory Diagnostics

Timely, accurate test results provide clinicians with vital information required to make informed decisions in the diagnosis, treatment, and monitoring of patients. Our innovative portfolio—from multidisciplinary solutions and broad test menu to lab-transforming automation and data management—enhances operational efficiency and supports improved patient outcomes.



## Consulting

In today's changing healthcare environment, it is important to regularly assess existing operations, maximize technology, and understand current regulatory requirements to efficiently and effectively meet organizational objectives. With a range of consulting options, we can help organizations meet these demands. Based on best practices, guideline adherence, and the latest clinical and scientific knowledge, we help providers with asset planning, enterprise/IDN options, and service consulting to identify effective ways to optimize the quality and value of care.



## Education & Training

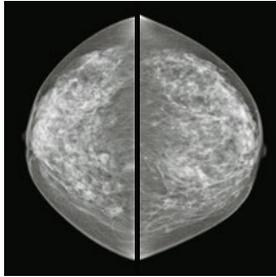
We educate clinical staff to use our products to their full potential. The return on investment for our customers: increased image quality, improved workflows, higher patient throughput, and a broader portfolio of clinical applications.



## Mammography



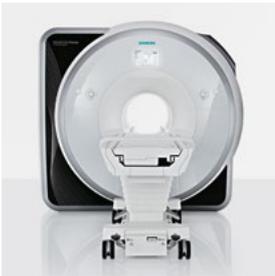
Mammomat® Inspiration Prime



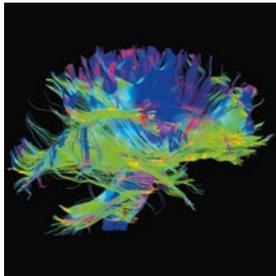
Small structures are clearly depicted in skin line delineation

Mammography provides images of the breast and image guidance for breast biopsies. The most common imaging method used in the detection and diagnosis of breast cancer, mammography—and digital mammography in particular—can be essential for breast health. The addition of breast tomosynthesis, which reconstructs multiple 2D images of the breast into an approximation of a 3D image, can enable detection of tumors that are hidden by overlapping breast tissue and may support more accurate diagnoses and reductions in false-positive findings.

## Magnetic Resonance Imaging



MAGNETOM® Prisma

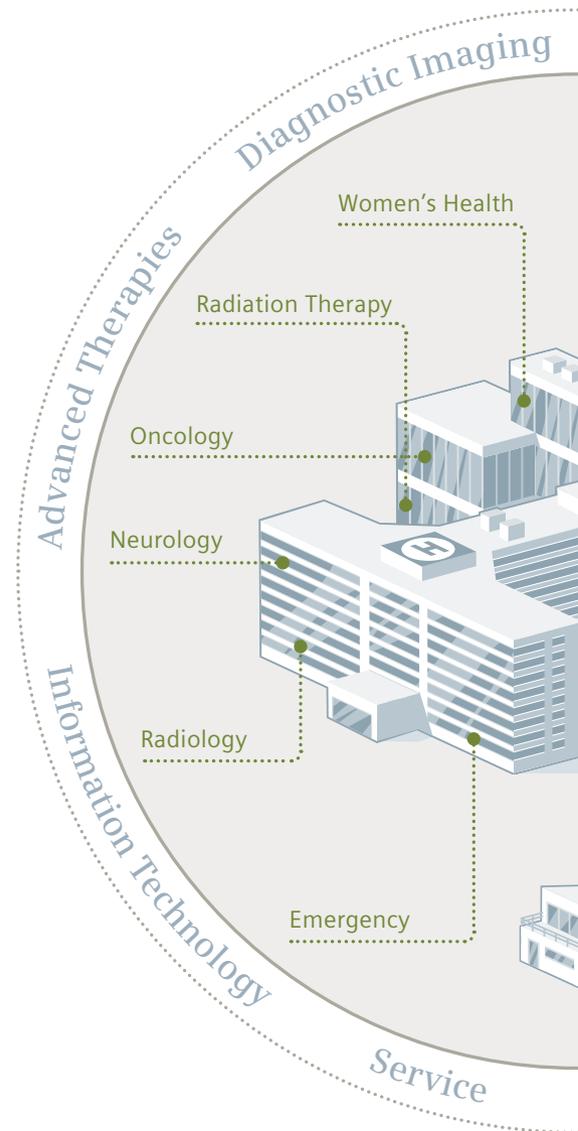


DSI imaging for visualization of fiber crossings in the whole brain

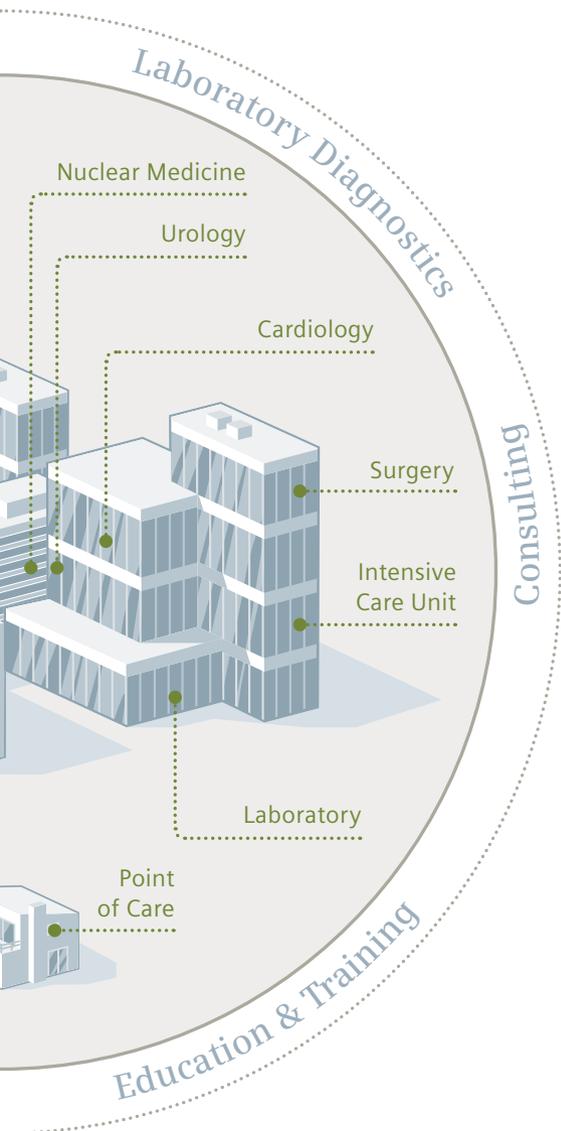
Image rendering courtesy of TrackVis

Magnetic resonance imaging (MRI)<sup>1</sup> provides superb tissue characterization and functional assessment particularly in neurological and musculoskeletal disorders, and in cardiology. It can be applied in all stages of cancer care (e.g., prostate cancer). MRI supports image-guided procedures (e.g., neurosurgery). Free of ionizing radiation, it is often used in pediatric care.

# Clinical focus of our solutions



<sup>1</sup> MR scanning has not been established as safe for imaging fetuses and infants under two years of age. The responsible physician must evaluate the benefits of the MR examination compared to those of other imaging procedures.



## Molecular Imaging



Biograph mCT Flow™<sup>2</sup>



Simple and fast planning for motion management

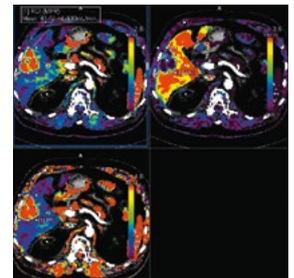
Courtesy of University of Tennessee Knoxville, TN, USA

Molecular imaging provides diagnostic assessment of metabolism and special organ functions (e.g., perfusion) in oncology, cardiology, and neurology. Through its ability to visualize cellular processes, it supports early disease detection and therapy response assessment. Hybrid imaging, PET or SPECT combined with CT or PET with MRI, is growing in adoption as it better localizes and characterizes the region of interest for improved accuracy, specificity, and sensitivity to increase diagnostic confidence.

## Imaging IT



syngo®.via<sup>2,3</sup>



Body perfusion imaging

Imaging IT provides a 3D routine and advanced reading solution to help accelerate workflows across all modalities, and enables early diagnosis and treatment decisions. IT applications facilitate efficient management of today's huge image data sets. The addition of cloud-based network technology enables the harnessing of big data analytics, making information collection and sharing easier, which can help clinicians make prompt, well-informed decisions and collaborate with other professionals worldwide.

<sup>2</sup> These products are not commercially available in all countries.

Due to regulatory reasons, its future availability cannot be guaranteed. Please contact your local Siemens organization for further details.

<sup>3</sup> syngo.via can be used as a stand-alone device or together with a variety of syngo.via-based software options, which are medical devices in their own right.

## Interventional Angiography



Artis Q



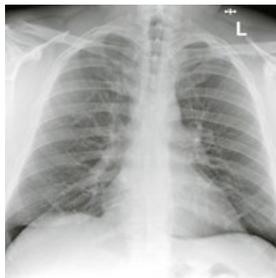
Intracerebral stent with in-stent obstruction

Interventional angiography provides diagnostic visualization and minimally invasive treatment options for cardiovascular and neurovascular diseases as well as cancerous tumors. Image-guided and hybrid procedures are increasing and, with them, the demand for direct 3D imaging, especially in interventional oncology, neurovascular, and cardiothoracic procedures.

## X-ray Imaging



Ysio® Max



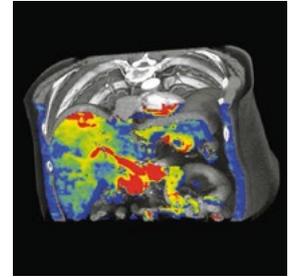
X-ray image of the lung

X-ray imaging provides diagnostic assessment of the skeletal system, lungs, and digestive and urogenital tract. It is an easy-to-use imaging modality with a wide indication range in all healthcare systems globally. Mobile C-arms with new detector technology guide interventional and surgical procedures in cardiac, vascular, and orthopedic surgery.

## Computed Tomography



SOMATOM® Force



Liver metastases with the use of dynamic perfusion imaging

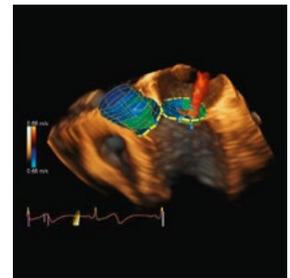
Courtesy of Universitäts-Spital Zuerich  
Zuerich, Switzerland

Computed tomography (CT) provides fast and easy-to-perform high-resolution imaging of all body regions with an approach that enables low-dose imaging that can be conducted with increased standardization across technologists. Providing benefits for oncology, vascular, and cardiac disorders, including stroke, chest pain, and trauma, CT is now poised to make an impact in population health initiatives like lung cancer imaging. In Radiation Oncology, CT is used to define tumor targets and plan the most advanced therapies, enabling truly personalized therapies.

## Ultrasound Imaging



ACUSON SC2000™ system



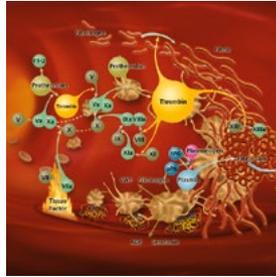
4D imaging of mitral and aortic valves

Ultrasound imaging provides non-invasive diagnostic assessment of tissues, organs, and blood flow. It is portable and broadly used in radiology, cardiology, gynecology, point-of-care environments, and procedure guidance. Ultrasound is the gold standard in monitoring fetal development in prenatal care and further enhanced by 3D and 4D visualization.

## Hemostasis and Hematology Testing



Sysmex®<sup>4</sup> CS-5100<sup>5</sup> Hemostasis System



The Coagulation Cascade

Hemostasis testing helps identify bleeding disorders and assess platelet function (e.g., prior to surgical intervention). Hematology testing performs blood cell counts and differentiates blood cell types and shapes, helping diagnose conditions such as leukemia. Automated hematology systems minimize test interferences that can compromise results.

## Clinical Chemistry and Immunoassay Testing



Aptio® Automation supports timely clinical decision-making



In vitro diagnostics affect 60-70% of all critical clinical decisions

Clinical chemistry and immunoassay testing are essential as an aid in diagnosis and monitoring of a vast number of conditions and disease states, including cardiovascular disease and cancer. With high-performance analyzers, lab automation, and diagnostics IT, hospitals and reference labs can deliver fast and accurate test results to clinicians.

## Molecular Testing



VERSANT® HCV Genotype 2.0 Products (LiPA)<sup>6</sup>



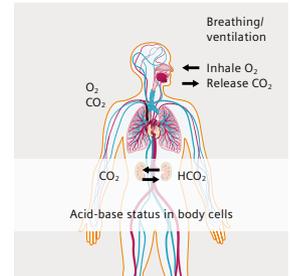
Hepatitis C Virus

Molecular testing enables precise detection of major infectious diseases, such as hepatitis, in addition to monitoring treatment efficacy and selection of targeted, individualized treatment options. Molecular analyzers enable high-quality nucleic acid (DNA and RNA) extraction, sensitive detection, and accurate quantification.

## Point-of-Care Testing



The RAPIDPoint® 500 Blood Gas Analyzer



Oxygenation and gas exchange to blood and cells

Point-of-Care (POC) testing provides actionable results within minutes near the patient's bedside while improving workflow and reducing costs. POC solutions—ranging from acute cardiac care and blood gas to diabetes management and urinalysis—are essential in the emergency room, operating room, ICU, and physician offices.

<sup>4</sup> Sysmex is a trademark of the Sysmex Corporation.

<sup>5</sup> Sysmex® CS-5100 is not available for sale in the U.S. Product availability may vary from country to country and is subject to varying regulatory requirements.

<sup>6</sup> VERSANT is a registered trademark of Siemens Healthcare Diagnostics Inc. CE-marked for IVD use in the EU. For research use only in the U.S.

# Innovating to advance human health



1896

Industrially manufactured X-ray tubes for medical diagnostics



1957

Fully automated discrete chemistry analyzer for whole blood or serum – Technicon AutoAnalyzer



1967

First real-time ultrasound scanner – Viduson



1975

First Siemens computed tomography (CT) scanner – SIRETOM



1983

First Siemens magnetic resonance imaging (MRI) – MAGNETOM®



1998

First track-based laboratory automation system – ADVIA® LabCell® Automation Solution



1999

First intuitive medical IT platform by Siemens – syngo®



2001

The first PET-CT system – Biograph®

Over 165 years





2015

Wide-angle image acquisition breast tomosynthesis – Mammomat® Inspiration with Tomosynthesis



2014

“Free breathing” CT scanning with powerful dual X-ray sources and two detectors – SOMATOM® Force



2012

Wireless transducers for ultrasound – ACUSON® Freestyle



2011

First integrated, simultaneous whole-body MRI and PET system – Biograph® mMR



2009

Multimodality 3D imaging network – syngo®.via



2008

Robotic angiographic system – Artis zeego®



2006

Diagnostic analyzer integrating four technologies in one system – Dimension Vista® System



2005

Dual-source CT – SOMATOM® Definition



2003

Open-bore 1.5 Tesla magnetic resonance imaging (MRI) – MAGNETOM® Espree



# Investing in ongoing innovation

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Siemens Healthcare is synonymous with leading-edge innovation and a pioneering spirit. From the first X-ray tubes to today's advanced digital technologies, Siemens continues to lead the industry.

Despite market challenges, we are maintaining our global R&D investment at the level of previous years, in pursuit of the next generation of technologies across our broad portfolio. Our R&D activities are centered on the real-world challenges of healthcare delivery. We are committed to making healthcare more efficient and more effective.

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R&D spending

€ 1.01 billion

Ratio of R&D expenses as a percentage of revenue

 8.1%

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Inventions per year

 1,687

Patents per working day

 > 4

# We support our customers

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With more than 43,000 employees around the world, we are committed to the health of our customers and their patients. We know that our technologies can help clinicians improve lives, and we are passionate about bringing innovative, sustainable solutions to them.

More than 200,000 patients per hour benefit from information received through Siemens imaging equipment.

And in the laboratory, more than 800 million patients per year receive results from the more than 9 billion Siemens laboratory tests sold worldwide.

In a market as challenging as healthcare, with outcomes riding on the quality and efficacy of healthcare delivery, providers need a team of dedicated professionals who can support them every step of the way. We are that team.

## Helping you effectively and efficiently deliver high-quality patient care

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