

Bayer Radiology: Clear Direction from Diagnosis to Care



The Importance of Medical Imaging



The Doctor's Doctor

Medical imaging represents a branch of medicine that uses imaging technology to reveal structures inside the body. Types of radiological examination include **computed tomography (CT)**, **positron emission tomography (PET)**, **magnetic resonance imaging (MRI)** and **X-ray**.¹

It helps to **inform doctors' decisions** and **improves the quality of patient care**; radiologists provide accurate, objective diagnoses to referring physicians based on the images that they capture.²

More than **110 million radiological examinations** are performed annually worldwide.³

Informing Clinical Decisions throughout the Continuum of Care

Medical imaging is used in **different settings** and across various levels of healthcare.⁴ It enables radiologists to:¹



Diagnose illnesses and assess patients for therapy



Monitor disease progression or a patient's response to treatment



Detect other illnesses

Patients can be screened for a **variety of diseases**, such as multiple sclerosis and cancer.^{5,6} It is also crucial in **emergency settings**, such as when a patient is admitted with suspected pulmonary embolism (PE), or stroke, as medical imaging capabilities are required to reach a **timely diagnosis**.^{7,8,9}

Medical imaging can **improve outcomes** for patients, physicians and institutions as it accelerates the recommendation of provision of treatment, reduces hospital stays and offers major cost savings.¹⁰



Improving Decision Making with Contrast-Enhanced Image Acquisition

Medical images require a **high level of detail and contrast** to enable accurate decisions to be made.²

Contrast media are used to improve the quality of images by making certain organs, blood vessels and tissue types stand out. They allow radiologists to better visualize inner parts of the body, **enhancing detection, characterization and monitoring of diseases**. This can be crucial in addressing certain diagnostic questions that often may not be as accurately answered without the use of contrast media.¹¹

Different types of contrast medium can be classified according to the radiological examination for which they're used.¹¹



X-ray and CT predominantly use iodine-based contrast agents



MRI uses gadolinium-based contrast agents



Ultrasound uses microbubble contrast agents

Bayer Radiology Fast Facts



Heritage in radiology spanning approximately **100 years**

Comprehensive offering

enhancing medical imaging:



Contrast media



Injection & infusion systems



Informatics



Service



Strengthening diagnostic confidence in more than **140 countries**

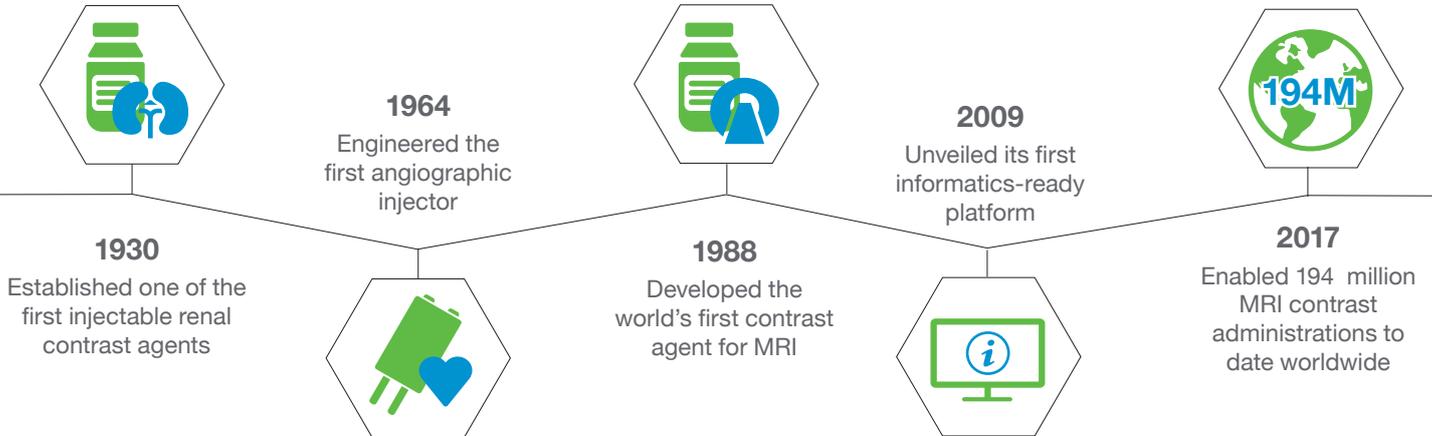


194 million doses of Bayer's MRI contrast agents administered to date **worldwide**

Bayer Radiology: From Pioneer to Preferred Partner

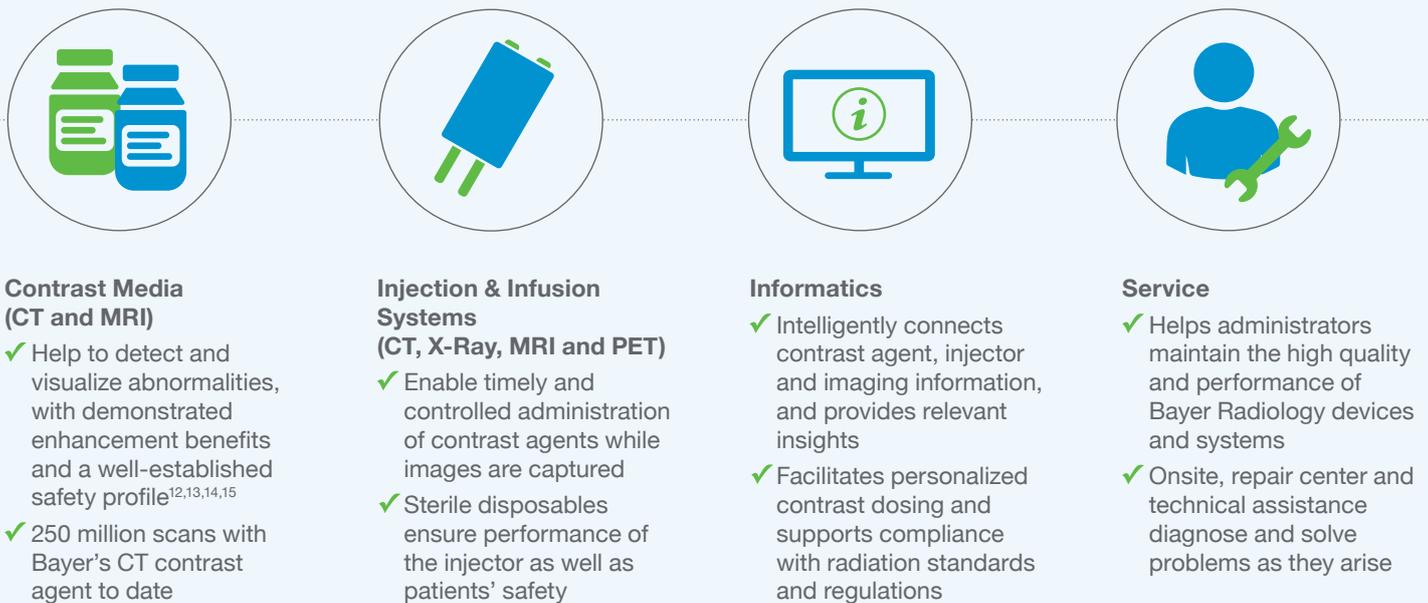
Continuously Evolving Innovative Patient Care

For approximately 100 years, Bayer has **pioneered products and services** to enhance medical imaging. Today, Bayer continues to be a **preferred partner** to radiologists and other physicians as they work to provide the best care for patients.



Enhancing Medical Imaging along the Radiology Workflow

Bayer provides radiologists with a **portfolio of products** that enhance medical imaging and facilitate greater efficiency:



Strengthening Diagnostic Confidence on the Path to Better Health

In an evolving and technology-driven specialism, Bayer continuously strives to **meet the challenges** of today's radiology practice by **leading the evolution** of medical imaging enhancement.



1. Imaging and Radiology. Medline Plus. <https://medlineplus.gov/ency/article/007451.htm> 2. McCall, I. on behalf of the European Society of Radiology. The Future Role of Radiology in Healthcare. Insights Imaging. 2010 Jan; 1(1):2-11. 3. Beckett, K. et al. Safe Use of Contrast Media: What the Radiologist Needs to Know. RadioGraphics. 2015 Oct; 35(6): 1738-1750. 4. Diagnostic Imaging. World Health Organisation. http://www.who.int/diagnostic_imaging/en/ 5. Multiple sclerosis – diagnosis. NHS. <http://www.nhs.uk/Conditions/Multiple-sclerosis/Pages/Diagnosis.aspx> 6. Liver cancer – diagnosis. NHS. <http://www.nhs.uk/Conditions/Cancer-of-the-liver/Pages/Diagnosis.aspx> 7. Mielle, V. et al. The management of emergency radiology: Key facts. European Journal of Radiology. 2006; 59:311-314. 8. Alberts, M. J. et al. Recommendations for the establishment of primary stroke centers. JAMA. 2000; 283(23):3102-3109. 9. Stein, P. D. et al. Multidetector computed tomography for acute pulmonary embolism. New England Journal of Medicine. 2006; 354(22):2317-2327. 10. How the next Government can improve diagnosis and outcomes for patients. The Royal College of Radiologists. https://www.rcr.ac.uk/sites/default/files/RCR%2815%292_CR_govtbrief.pdf 11. Contrast Materials. Radiologyinfo.org. <https://www.radiologyinfo.org/en/info.cfm?pg=safety-contrast> 12. Palkowitsch, P. et al. Acta Radiol. 2014; 55(6):707-714. 13. Tombach, B. et al. Eur Radiol. 2008; 18:2610-2619. 14. Hammerstingl, R. et al. Eur Radiol. 2008; 18:457-467. 15. Knopp, MV. et al. Invest Radiol. 2006; 41:491-499.