

# 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**.<sup>1</sup>

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.<sup>2</sup>

More than **110 million radiological examinations** are performed annually worldwide.<sup>3</sup>

## Informing Clinical Decisions throughout the Continuum of Care

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



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.<sup>5,6</sup> 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**.<sup>7,8,9</sup>

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

## Improving Decision Making with Contrast-Enhanced Image Acquisition



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

**Different types of contrast media** can be classified according to the radiological examination for which they're used.<sup>11</sup>



**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



Used by medical imaging  
in more than

**140 countries**

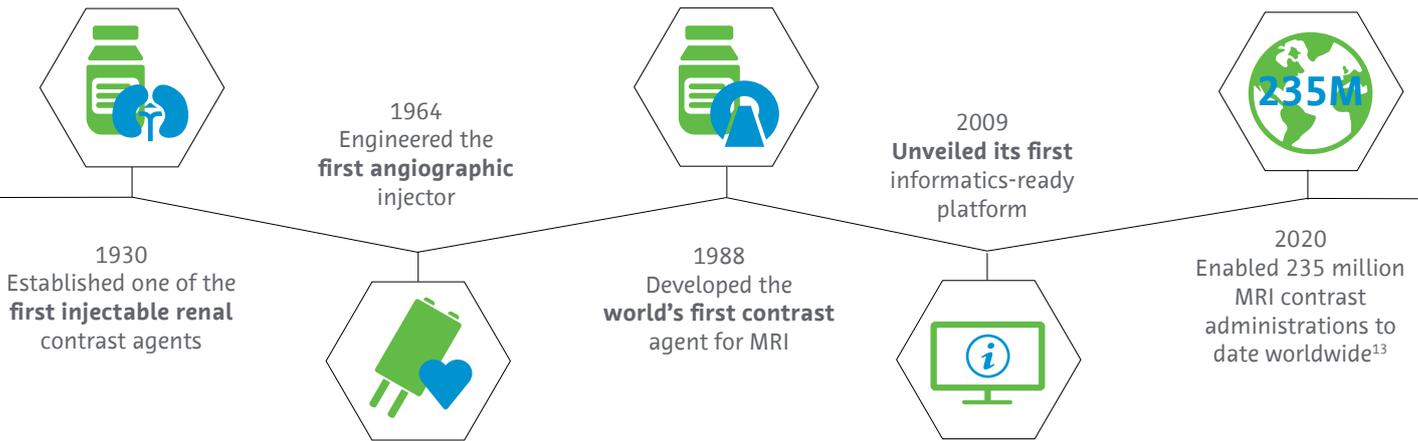


**275 million doses**<sup>12</sup>

of Bayer's X-ray & CT contrast agent administered to date  
**worldwide**

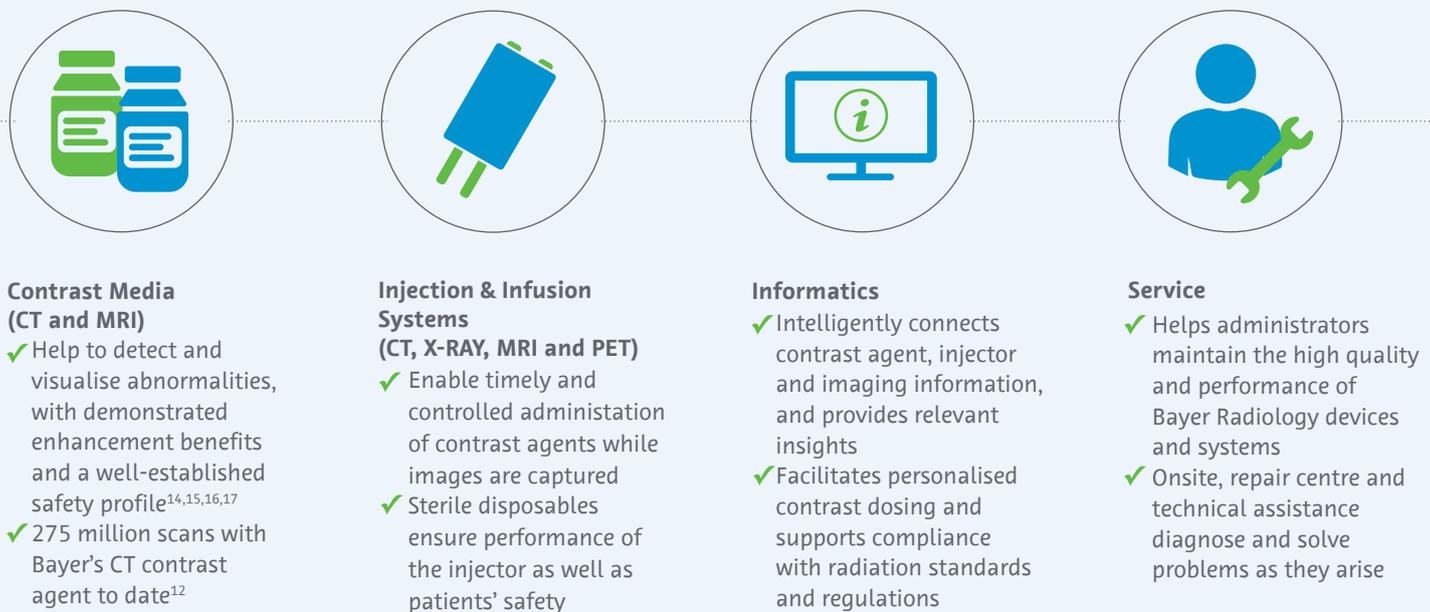
## Continuously Evolving Innovative Patient Care

For approximately 100 years, Bayer has **developed products and services** to enhance medical imaging. Today, Bayer continues to **support** 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:



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/](http://www.who.int/diagnostic_imaging/en/) 5. Multiple sclerosis – diagnosis. <https://www.ms.org.au/what-is-multiple-sclerosis/newly-diagnosed/how-is-multiple-sclerosis-diagnosed.aspx> 6. Liver cancer – diagnosis. <https://www.canceraustralia.gov.au/affected-cancer/cancer-types/liver-cancer/how-liver-cancer-diagnosed> 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](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. Bayer internal correspondence dated 22-July-2020. REF-ULT-AU-0033 13. Bayer internal correspondence dated 28-January-2021. REF-M\_GAD-AU-0001 14. Palkowitsch, P. et al. Acta Radiol. 2014; 55(6):707-714. 15. Tombach, B. et al. Eur Radiol. 2008; 18:2610-2619. 16. Hammerstingl, R. et al. Eur Radiol. 2008; 18:457-467. 17. Knopp, MV. et al. Invest Radiol. 2006; 41:491-499.

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