Transforming Healthcare

The Future of Medical Imaging Technology

Whitepaper

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Transforming Healthcare: The future of medical imaging technology

Executive summary

The global medical imaging market is undergoing a transformation driven by technological advances in capture devices, intelligent analysis systems, power management and communication networks. Valued at $41.6 billion in 2024, the market is projected to grow at a CAGR of 4.95% from 2025 to 2030, reflecting the increasing demand for safer, efficient, accurate and minimally invasive diagnostic solutions.

Socio-economic trends (ageing population, increasing prevalence/ incidence of diseases that require medical procedures, rising healthcare expenses, rising middle-class in emerging countries), legal and commercial as well as technological advancements are fuelling this demand. The diagnostic imaging equipment segment is particularly prevalent in the global market, with North America accounting for 42% of total adoption thanks to its advanced healthcare infrastructure and early technology integration. Meanwhile, emerging markets are also accelerating investments in next-generation imaging solutions, particularly in response to rising oncology and cardiovascular disease cases.

According to the International Agency for Research on Cancer (IARC), new cancer cases worldwide are expected to rise to 28.4 million by 2040, and the World Health Organisation reports that cardiovascular diseases remain the leading cause of death globally, responsible for 17.9 million lives each year. These figures underscore the critical role of advanced imaging technologies in the early detection, diagnosis and treatment of some of these life-threatening conditions.

Among the most significant disruptors in medical imaging is AI. This segment is expected to grow at a CAGR of 24.5% through 2030 in Europe, far surpassing overall market growth. The surge in AI adoption is being driven by the demand for automated image analysis, improved diagnostic accuracy and the shift towards precision medicine.

Medical imaging has long since been the cornerstone of modern healthcare, evolving from the discovery of X-rays in 1895 to today's cutting-edge imaging systems that provide real-time, high-resolution insights without invasive procedures. As technological advancements accelerate, industry experts foresee a future where imaging becomes even more integrated into diagnosis and treatment.

Tehzeeb Gunja, Director of Marketing at Omnivision, highlights a minimally invasive future, stating: "Natural Orifice Transluminal Endoscopic Surgery (NOTES) based endoscopic procedures will increase exponentially, as we move towards minimally invasive procedures."

Dr Gerhard Holst, Senior Imaging Product and Application Scientist at Excelitas PCO, points to the growing potential of infrared imaging, explaining: "We are in a phase where people are increasingly exploring infrared's role in medical imaging."

Ben Tucker, Director of Product Management at Digi, emphasises the important role of data automation, commenting: "Critical care systems, by their nature, require data flows to be reliable, secure and centrally managed."

This whitepaper serves as a resource for healthcare and medical technology professionals, offering insights into the latest breakthroughs, challenges and opportunities shaping the future of medical imaging technology. As the industry moves toward more intelligent, efficient and patient-centric imaging solutions, the innovations explored here will play a vital role in transforming healthcare as we know it.

Chapter 1
Next-generation image capture

The evolution of medical imaging capture technology is transforming how we visualise the human body. Breakthroughs in ultra-small imagers, materials science and computational power and a deeper understanding of human physiology are driving this shift, enabling unprecedented levels of clarity, depth and diagnostic precision.

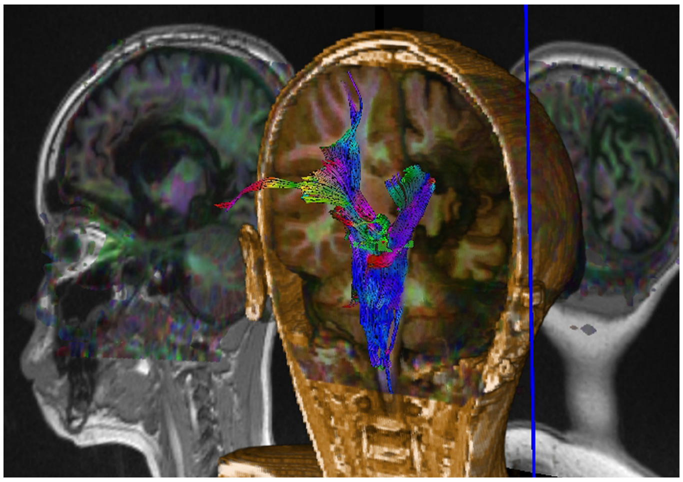
Advanced sensor technology

Imagine trying to see through foggy glass–this is how traditional medical imaging often functions when penetrating human tissue. New-generation sensor technologies are clearing that fog, offering significantly more detailed imaging than ever before. A major challenge in medical imaging has always been the trade-off between penetration depth and resolution, especially when imaging solid organs and thick or heterogeneous tissues, for example. The development of shortwave infrared imaging is addressing this limitation. As Dr Holst explains: "The shortwave infrared range opens up the spectral range from 900 to 1700 nanometres. In that range, animal and human tissue absorbs less and scatters more, providing clearer visibility into biological structures and processes."

This advancement allows for greater contrast and enhanced detail in deep tissue imaging, with significant implications for oncology, neurology and cardiovascular diagnostics.

The rapid evolution of sensor technology is being driven not only by technical innovation, but also by increased commercial adoption. Dr Holst highlights a shift: "Five years ago, InGaAs-based (indium gallium arsenide) cameras were expensive and lacked performance. In the past three years, major manufacturers like Sony have entered the InGaAs market, increasing availability and forcing other manufacturers to develop better sensors."

Increased competition and accessibility are accelerating the integration of advanced sensors into clinical applications, making high-performance imaging more cost-effective and widely available. Medical imaging is evolving beyond simple visualisation. New sensors now combine multiple spectral ranges for enhanced diagnostic capabilities. Omnivision's Tehzeeb Gunja explains how multispectral imaging is opening new frontiers in cancer detection: "We have special sensors that capture RGB (red, green and blue) along with near-infrared wavelengths on the same image sensor. Near-infrared penetrates deeper into the tissue, making it an effective tool for detecting cancerous cells."



3D imaging innovation

The shift from two-dimensional (2D) to three-dimensional (3D) imaging is also having a significant impact on diagnostic accuracy and surgical precision. Dr Holst explains: "The shift from 2D to 3D in pathology would be very interesting. Currently, many surgeons only analyse tissue in thin slices, viewing tumours from a single plane. With 3D imaging, they could assess the tumour's full spatial extension, providing much more valuable information for diagnosis and treatment planning."

Despite its promise, implementing 3D imaging at a clinical level comes with notable technical and operational challenges. Dr Holst continues, "The systems require special signals to synchronise cameras so that they expose simultaneously. Additionally, they must account for production variations - one lens could be slightly more tilted than another when mounted. These inconsistencies need to be corrected not just during production, but also throughout the manufacturing process to ensure accurate imaging."

Portable imaging solutions

The miniaturisation of imaging technology has transformed healthcare delivery, making diagnostic tools more accessible beyond traditional hospital settings. As Kelly Wang, Business Development Manager at Avalue, notes: "During COVID, a lot of portable medical devices became very popular. Now, after COVID, we still use this kind of technology. It's expanding beyond hospitals - whether in clinics, healthcare centres or elderly care homes, more patients can now access diagnosis services through portable technology."

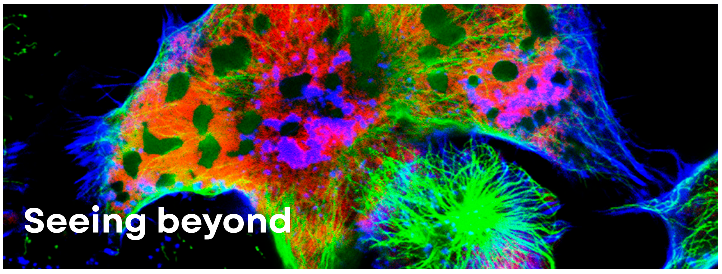
These advancements are particularly valuable in extending healthcare access and point of care abilities. Portable equipment like mini-X-rays, handheld ultrasounds and mobile MRI units enable faster, more convenient diagnosis. As Ben Tucker observes: "When clinicians can see patients closer to where they are, it reduces the need to bring everyone into a centralised facility.

With highly trained professionals in demand, remote clinics that capture and integrate diagnostic data into centralised systems ensure consistent, high-quality decision-making, regardless of location."

Image quality in the next generation

Ensuring consistent image quality across different devices and settings remains a key challenge, which is why the industry needs to adhere to strict standards for image quality and interoperability. Avalue's Kelly Wang emphasises the importance of compliance: "When imaging equipment needs approval from the CE MDR or the US Food and Drug Association (FDA), it must comply with DICOM (Digital Imaging and Communications in Medicine) standards." The DICOM standard is a technical standard for the digital storage and transmission of medical images and related information. It defines standardised file formats, networking protocols, security measures and interoperability guidelines for storing, transferring and managing medical images across different platforms. Wang continues: "Since image quality can vary between devices, calibration and preset adjustments are required to meet these standards."

Advanced processing techniques are enabling new capabilities in image enhancement such as digital staining, which applies AI-driven computational techniques to highlight specific structures or features in grayscale or unstained biological images, without physically changing the sample. Dr Holst describes the development: "With proper image processing, you can generate digital staining instead of real staining, which is faster and, if the AI is properly trained, can provide even better and more reliable results."



Medical imaging continues to advance with emerging technologies such as light sheet microscopy and hyperspectral imaging. Dr Holst highlights the advantages of light sheet microscopy, a technique that minimises sample damage and enhances image clarity, "You create a very thin line of light that passes through the sample and then focus that light perpendicular to it. This method reduces phototoxicity, meaning less photodamage and reduced bleaching."

Another promising area is hyperspectral imaging. Tehzeeb Gunja explains its potential: "Instead of looking at just the RGB channels, you can analyse 20-30 different colour subchannels using hyperspectral / multispectral imaging. Since human tissue and fluids absorb light at different depths, shining light at different frequencies allows for deeper penetration, revealing different tissue and vascular structures layer by layer." By utilising these technological approaches with state-of-the-art image processing, clinicians can gain deeper insights into underlying health conditions, leading to more accurate and efficient diagnoses.

Chapter 2
Intelligent processing

Advanced computational systems are transforming how medical images are analysed and interpreted. Deep learning algorithms have demonstrated high accuracy in radiology, often matching or surpassing human specialists in detecting breast cancer through mammograms and lung nodules from CT scans. These AI-driven systems can process and analyse thousands of images within minutes, identifying subtle patterns and anomalies that might otherwise go unnoticed.

Recent developments in computer vision have also enabled real-time analysis during procedures, with augmented reality overlays highlighting suspicious regions during endoscopies and surgical interventions. Meanwhile, integrating multimodal imaging - combining data from MRI, PET scans etc, has further enhanced diagnostic precision. These developments allow AI systems to generate comprehensive 3D visualisations, helping clinicians better understand complex anatomical relationships and plan interventions with greater accuracy and safety.

Enhanced processing capabilities

Improvements in processing technology have led to significant gains in diagnostic accuracy. Dr Holst notes: "If you use spectral readouts, you can store vast amounts of data and access them with a machine learning programme much faster than relying on human memory." This capability is particularly valuable in complex diagnostic scenarios where multiple data points must be analysed simultaneously and efficiently.

Modern systems can process and integrate diverse data sources, including genomic sequences, longitudinal patient records and medical imaging data, enabling more comprehensive diagnostic insights. The ability to rapidly cross-reference vast medical literature and case study databases has transformed clinician decision-making, allowing them to leverage collective medical knowledge in real time.

Machine learning algorithms can now detect subtle correlations between seemingly unrelated symptoms and test results, highlighting potential diagnoses that might be overlooked. This computational power has also advanced predictive analytics, enabling systems to forecast disease progression and treatment outcomes based on patterns identified across large patient populations. As a result, medical interventions are becoming more personalised and proactive.

Clinical integration and workflow enhancement

Successfully integrating AI into clinical workflows requires careful alignment with existing practices and protocols. Tehzeeb Gunja highlights how AI can support surgeons without disrupting procedures: "Even experienced surgeons only partially capture the polyps or tumours they see. You could have an algorithm analyse the image alongside the surgeon and then point out different aspects of the anatomy that might otherwise be missed."

Integration must also consider the varying needs of different medical specialities. "We still emphasise more on 'edge AI' because our panel PC or box PC is near the medical imaging equipment, not actually inside of it," explains Kelly Wang. "This setup enables automatic interpretations for quick diagnoses."

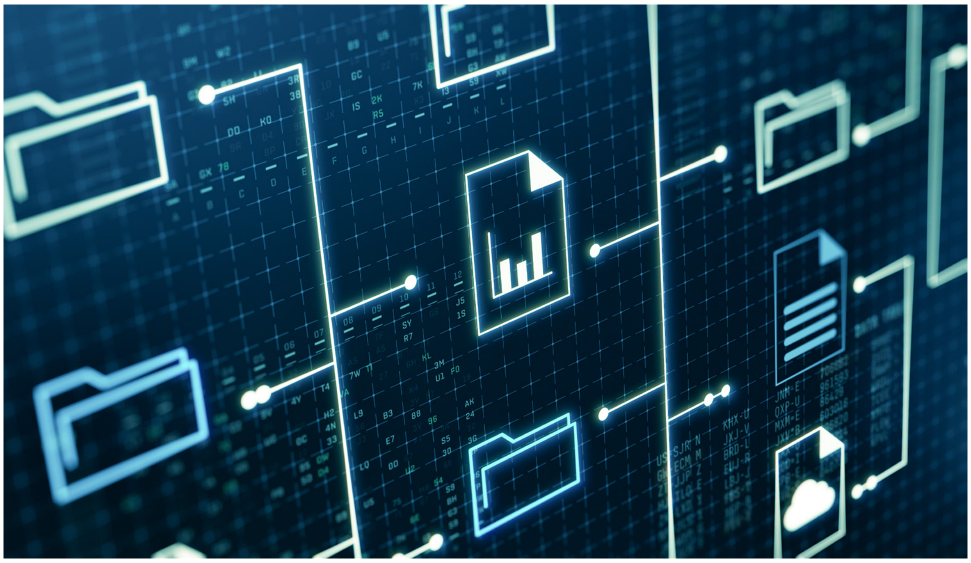
A key factor in AI integration is maintaining its role as an augmentation tool rather than a replacement for human expertise. Gunja reinforces this point: "AI is augmenting; it is helping the surgeon do their job more efficaciously rather than replacing their expertise." By enhancing clinical workflows and providing additional insights, AI enables healthcare professionals to make more informed decisions whilst maintaining their central role in patient care.

What about quality standardisation?

As AI becomes more integrated into clinical workflows, ensuring consistency, reliability and regulatory compliance is critical. While AI can enhance decision-making, it must be trained effectively to maintain high diagnostic accuracy. Dr Holst explains the challenge: "You can always create nice-looking images with technology, but you have to train these AI networks. They can be very effective at detecting patterns, but you need to provide factual data for the network to learn from." This also raises important questions about AI's limitations, particularly with novel or unusual cases, as Holst emphasises: "How do they deal with unknown structures? Will they find anything? Can they find anything?"

These concerns have driven the development of comprehensive regulatory frameworks. Kelly Wang explains the evolution of these regulations: "Previously, AI software in the CE MDR and U.S Food and Drug Association (FDA) had no formal regulations or testing standards, but now standards are in place."

This shift reflects the growing recognition of AI's role in healthcare and the need for rigorous validation. As Wang notes: "For medical device device registration, the US and Canada follow the Canadian Medical Devices Regulations (CMDR), while in the UK, we have the United Kingdom Accreditation Service (UKAS). This is especially important in clinical environments to ensure consistent quality and diagnostic accuracy."



As AI continues to support clinicians in workflow optimisation and decision-making, maintaining regulatory oversight is essential to ensure trust and reliability. Wang acknowledges ongoing concerns about AI-generated results: "People are still afraid that if the resulting outputs are incorrect, it could cause serious problems. That's why medical regulations must test and approve any new technology in clinical trials to prove that it truly benefits patients."

Real-time processing and decision support

Modern imaging systems increasingly incorporate real time processing capabilities to enable faster, more accurate diagnoses and interventions. Frame rates have significantly improved, enhancing image smoothness and clarity. Tehzeeb Gunja explains, "Instead of taking 15 or 30 frames per second, we're now capturing 60 frames per second. The image is no longer jagged - it's extremely smooth. The surgeon can also rapidly move around inside the body, while maintaining a clear image." This enhancement is crucial during delicate procedures where visual clarity and seamless motion are essential for surgical precision.

Latency is another critical technical consideration in real-time imaging. As Tehzeeb Gunja emphasises: "From the time something happens inside the body, at the tip of the endoscope, to the time the surgeon sees it on the monitor, should never be more than 150 milliseconds." Any significant delay between action and visual feedback could compromise surgical precision, particularly during precise procedures where hand-eye coordination is crucial. Beyond improving image quality, these systems also provide valuable decision support functionality through advanced processing capabilities. Wang notes, "For some complex data, human diagnosis takes a long time, but with AI, efficiency is significantly improved. The time to diagnosis is shorter and accuracy is also higher."

Data management and analysis

As real-time processing and AI-driven decision support become more integral to medical imaging, managing the vast amounts of high-resolution imaging data presents a growing challenge. Dr Holst notes, "As cameras improve in quality, we will run into a future storage problem because of how much data they will create. How do you store that data? How can you make the data accessible and prevent AI from making fake results?"

These challenges are being addressed through advanced data management systems and regulatory protocols. Wang explains, "AI is still limited in some ways. This ensures the patient's safety and the accurate diagnosis result."

The integration of intelligent processing in medical imaging continues to balance efficiency and accuracy with the fundamental requirement for clinical safety and reliability. As these systems become more sophisticated, their role in supporting clinical decision-making will likely expand, whilst ensuring experienced healthcare professionals maintain essential oversight to uphold quality standards.

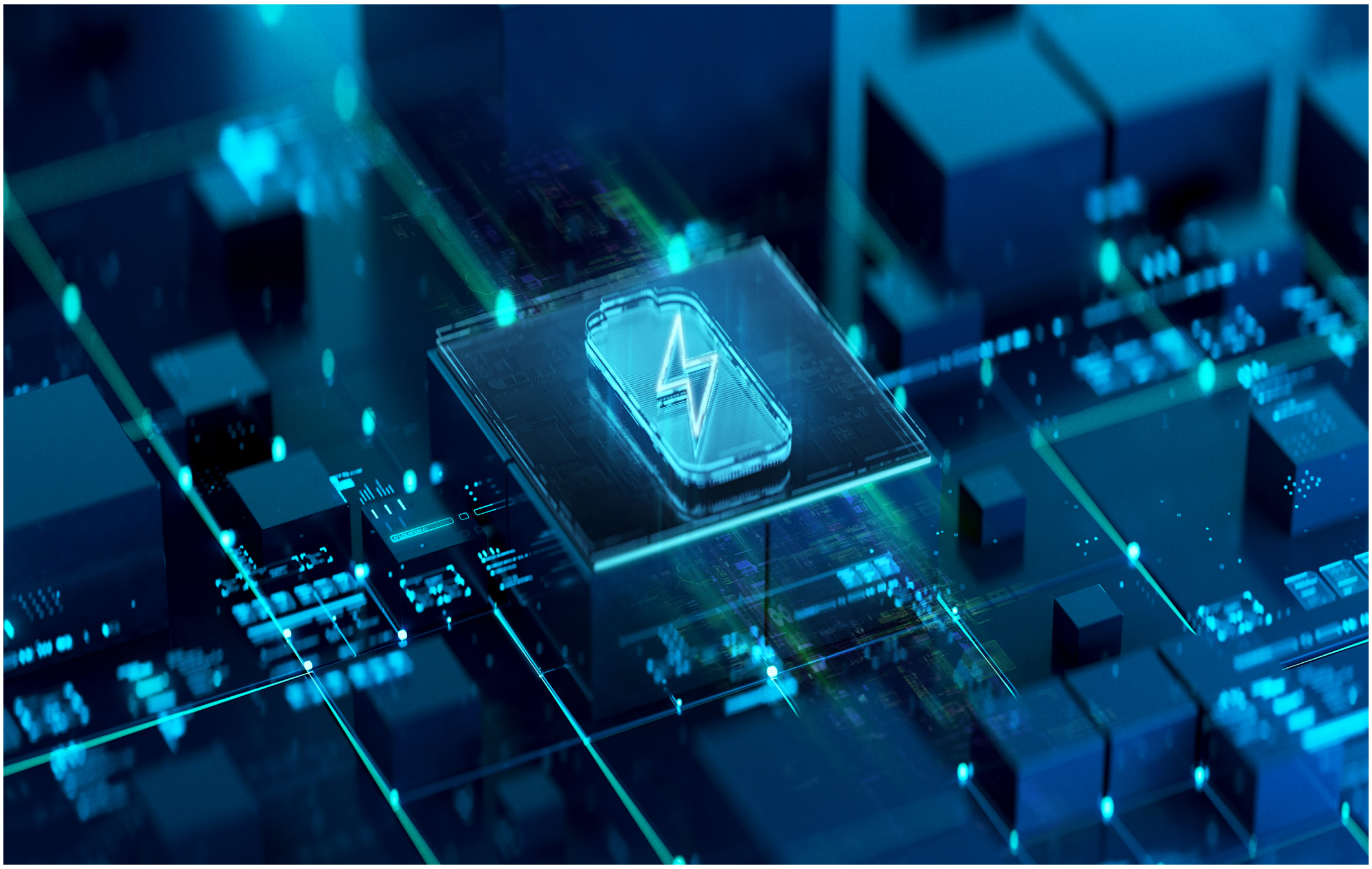
Future developments and challenges

As with any advancing technology, there remains caution around the extent to which AI should be integrated into clinical practice. Dr Holst warns of the potential risks: "If clinicians or medical professionals become too reliant on AI and lack their own experience to draw from, it could be, in my opinion, a little bit risky or dangerous."

However, the benefits are undeniable. As Wang points out: "For a lot of young doctors or general surgeons especially, it really helps them to make a lot of critical diagnoses."

This suggests a future where AI-enhanced imaging becomes an indispensable tool for clinicians - particularly as new generations of healthcare providers enter the field.

Chapter 3
Power management



The energy demands of modern medical imaging systems present a complex challenge for healthcare facilities and manufacturers. As Dr Holst explains, “If you want to have image sensors with higher resolution and a higher frame rate, yet still see large enough pixels, then you need more power.” This relationship between imaging capability and power consumption creates significant design challenges, particularly for devices being used in patient-proximate environments.

The introduction of AI and advanced processing capabilities have further increased energy demands. Dr Holst comments: “More AI will require a lot of power,” adding that some applications require “a large computer, which could be calculating for two days,” to process complex imaging data. Managing this increased power requirement is critical, especially in clinical settings where heat generation and energy efficiency must be carefully controlled.

Heat management is particularly crucial in medical imaging devices. Tehzeeb Gunja emphasises: “There are strict limits to heat generated by medical devices within the body. This limit is around 50° on the surface of the medical device, beyond which there is danger of causing burns to the patient from within." This creates a delicate balance between processing power and patient safety, driving innovations in energy-efficient technologies and thermal management solutions.

Power management innovations

The industry is responding to these challenges through more efficient semiconductor designs to optimise processing algorithms. These developments aim to provide advanced imaging capabilities whilst managing power consumption and heat generation effectively. Modern imaging systems now use low power pixels and employ sophisticated power cycling approaches that adjust energy consumption based on usage patterns. This adaptive power management optimises energy use during active and standby periods.

Innovation at component level has also yielded significant efficiency improvements. Dr Holst notes, "We have cameras that can do photon counting. We have already reached readout noise values of less than 0.3 electrons, which is very low." These advances help reduce overall power consumption while maintaining or improving performance.

Temperature control is another critical aspect of power management. Dr Holst explains: "We are used to making electrically cooled or thermally stabilised cameras. We always have to improve how to remove additional waste energy. Thermal management is a very important parameter in modern imaging systems." These solutions ensure optimal operating temperatures while maintaining energy efficiency.

Sustainable design approaches

The medical imaging industry is increasingly prioritising sustainable design practices, starting at the product development stage. "We are used to making products that have a long-life span," notes Dr Holst, highlighting how durability contributes to sustainability. This reduces the need for frequent replacements, minimising environmental impact.

Modern sensor technology also emphasises energy efficiency. Tehzeeb Gunja points out that, "Current consumption is extremely important. Latest low-power pixel technology produces a minimal amount of heat, therefore causing less patient discomfort." By reducing both energy consumption and heat output, these innovations improve patient experience, while also supporting environmental sustainability.

Advanced cooling systems are being developed to manage temperature with minimal environmental impact. As Dr Holst explains: "Currently, we have to enclose the image sensors and fill this space with dry nitrogen or argon to prevent humidity from coming in." Newer systems are being designed to maintain optimal operating conditions while minimising energy waste and environmental impact.

Carbon footprint reduction

Efforts to reduce the carbon footprint of medical imaging include innovations in both hardware and software. New system architectures are being developed to reduce processing overhead whilst maintaining performance. As Wang notes: "For our hardware to meet the ESG trend, there will be very clear rules about how you enforce green design. This ensures that energy efficiency and recycling are considered alongside system sustainability requirements."

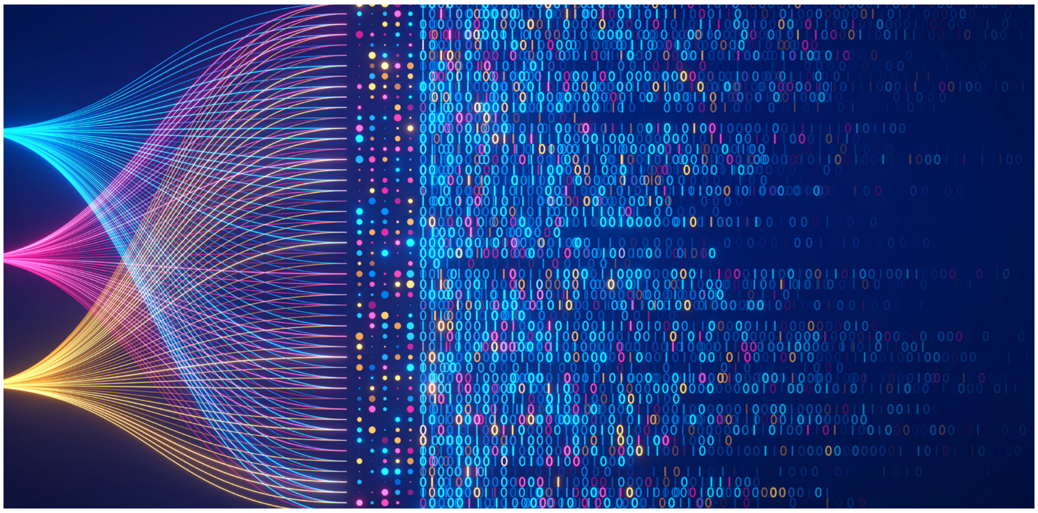
Modern systems also incorporate intelligent power distribution, ensuring optimal energy utilisation across all components. This includes adaptive power management that allows systems to adjust to varying workloads and usage patterns, reducing waste while improving efficiency. Additionally, healthcare facilities are increasingly looking to integrate renewable energy sources into their power infrastructure to offset imaging systems' energy demands. This includes on-site generation and renewable energy purchasing programmes, further supporting sustainability in medical imaging.

Chapter 4
Communication systems

The effective transmission and sharing of medical imaging data is a critical component of modern healthcare delivery. The scale of this challenge is significant, with the AHA reporting that healthcare data is growing at 47% per year, with 90% of the total data coming from medical imaging alone.

As Digi's Ben Tucker explains, ensuring reliable and efficient data transmission is essential. "There's a need to automate the process of gathering data. Critical systems, including care systems, need to be able to handle data with reliability, integrity, authentication, stability and scale."

The evolution of imaging technology has dramatically increased data transmission requirements. Kelly Wang highlights how real time connectivity is transforming clinical workflows: "Once images are taken, sending them in real-time to the Picture Archiving and Communication System (PACS) server facilitates data exchange between departments. Doctors can get real-time checks, make quick decisions and consult with specialists in minutes."



Standards and interoperability in communications

Interoperability is fundamental to seamless healthcare communications, ensuring that medical devices, hospital systems and analytics platforms exchange data efficiently. Tucker describes the infrastructure: "The data is almost always going to go from a medical device through our equipment to a system already on the hospital network. That is where the analytics will take place." With ever-growing datasets, systems must balance reliability and security while maintaining high-bandwidth capabilities.

Tucker continues, "You need to make sure that decisions are being made consistently, cognisant of the best available information." This requires robust communication systems that can handle high-bandwidth data transfer while maintaining data integrity. "The more data you exchange, the more you will need higher bandwidth and a stable internet connection for seamless interaction," Dr Holst emphasises.

Security is another essential factor. Tucker explains how network security layers protect healthcare systems: "We're providing the network security layer. It's much easier to check the status of our device on our end and ensure it's up to date so that any device you connect to is secure and maintainable." This standardised security approach helps manage the complexity of healthcare networks whilst ensuring consistent performance.

Remote access capabilities also play a crucial role in enhancing healthcare efficiency. As Tucker points out, "If you need to make a change to the equipment, you can either send a technician out onto the floor or, if appropriate, access the equipment remotely without having to enter a quarantine area." However, this must be balanced with robust security measures to protect sensitive medical data. Tucker explains further, "If somebody makes configuration locally, how do you know that it's correct? Whereas, if it's done through a central system, you have a more appropriate way of logging and tracking it." This centralised approach helps maintain consistency and quality of care across distributed healthcare environments.

Protecting data across the board

The rise in healthcare data breaches has made security a top priority. In the U.S., the Department of Health and Human Services breach portal reported 39 major healthcare data breaches in January 2024 alone, affecting 1,045,947 individuals. These incidents specifically impacted healthcare providers, health plans and business associates.

In the UK, the Information Commissioner's Office (ICO) quarterly report recorded 4,362 data security incidents in the first three quarters of 2024, highlighting an increasing quarterly trend. The most common types included unauthorised access (764 cases), emails sent to incorrect recipients (613 cases) and hardware/software misconfigurations (403 cases).

Ensuring data security in healthcare communications requires a layered approach. Wang explains how regulatory changes are strengthening protections: "For cybersecurity now, they've enforced a lot of new rules. Even for our hardware, there will be clear requirements for security design, such as Trusted Platform Module (TPM), port guard and security patches." This comprehensive security approach helps protect sensitive patient data throughout the transmission process.

Tucker adds that data separation further enhances security: "We don't typically keep any personally identifiable information (PII) data. There may be data that pertains to a particular patient, but it's not associated with that patient. It's abstract medical data." By separating clinical and personal data, healthcare providers add an extra layer of protection against potential breaches.

The future of healthcare communications

Expanding healthcare access through more efficient communication systems is a growing priority. Tucker explains: "The deeper within the hospital system you are, the more time and expense is required to provide patient access to care. If it is possible to provide service at the surgery or small clinic, or at a tertiary site, that is usually simpler, faster and less expensive."

Wearables and 5G-connected devices are accelerating this shift. Technologies such as real time glucose monitors, biosensors and AI-powered virtual assistants are improving remote patient monitoring, reducing hospital queues and triaging patients based on their symptoms before they even reach a healthcare facility.

Tucker notes: "Being able to deliver critical data securely across networks and facilities - those are the kinds of problems that technology helps solve."

Communications in the clinical workflow

The impact of advanced communication systems on clinical efficiency has been profound. Tucker comments: "Simply put, clinicians are very busy people. The less time they have to spend in elevators or walking up and down halls to find the people they need, the faster they can focus on what matters."

These improvements in communication efficiency have a direct impact on patient care. Kelly Wang highlights: "Due to this technology, all decisions can now be made much more quickly compared to before."

As communication technology continues to evolve, its role in healthcare delivery is becoming increasingly critical. By integrating high-bandwidth, secure and interoperable communication systems, healthcare providers can deliver more coordinated, efficient and secure patient care, ensuring data privacy and reliability remain at the forefront.

Final Thoughts

Medical imaging is at an inflection point, where advances in sensor technology, artificial intelligence, power management and communication systems are converging to transform healthcare delivery. From enhanced diagnostic capabilities to integrated treatment solutions, these innovations are reshaping how healthcare providers visualise, understand and treat disease.

Dr Holst emphasises: "Light sheet microscopy will have more to give. In terms of light impact and stress for the sample, that is the gentlest method. You can observe and follow cell differentiation; you can see how an embryo grows and how cells develop." This advancement exemplifies the field's movement toward more precise, less invasive imaging techniques.

The future also promises deeper insights at the cellular level, expanding beyond gross anatomical structures as Gunja notes: "Today, we only visualise the gross anatomical structures. We are only looking at the surface. Healthcare professionals want to look at the biological and cell level beyond surface redness, swelling, polyp or tumour."

Perhaps most significantly, medical imaging is evolving beyond pure diagnostics into therapeutic applications. As Gunja predicts: "It's not just diagnosis; you're actually treating [the condition] in real time.

You could be firing a laser or using high-energy ultrasound while looking at the patient." This integration of imaging with treatment, combined with AI-enhanced analysis, improved power efficiency and secure data transmission, points toward a future where medical imaging becomes a seamless part of the entire patient care journey.

The industry is also shifting towards more integrated, efficient systems. According to Gunja, "If you look at the hospital room, it's full of wires, towers and medical devices. So, how can we cut some of these things so people can move around the patient much more efficiently?" This drive towards streamlined, efficient systems will enhance clinical workflows and patient outcomes.

The continued growth of the global medical imaging market reflects the increasing demand for technological advancements in healthcare. As these innovations mature, they promise to deliver more precise, efficient and accessible medical imaging solutions worldwide.

Contributor Biographies

Avalue Healthcare

Kelly Wang
Senior Business Development Manager

Kelly brings over 20 years of experience supporting mid-sized Taiwanese medical device companies in global market expansion, with a focus on applying marketing insights to identify new growth opportunities. She specializes in integrating AI-driven edge computing into healthcare systems and develops strategies aligned with the evolving demands of medical IT. Guided by the principle "Think Globally, Act Locally," she ensures solutions meet both international standards and local market needs.

Digi International

Ben Tucker
Director, Product Management for Infrastructure Management

Ben Tucker has 25+ years of experience delivering communications solutions across industries like energy, finance, retail, medical, government and hyperscale data centers worldwide. As Director of Product Management for Infrastructure Management at Digi, he leads the development of edge connectivity solutions that empower customers to manage devices, data and operations at scale, driving performance and innovation at the edge.

Excelitas Technologies

Gerhard Holst
Senior Imaging Product & Application Scientist

Gerhard spearheaded the development of optoelectronic measuring systems and novel imaging technology as a member of the Microsensor Research Group at the Max Planck Institute for Marine Microbiology. He subsequently joined Excelitas and has been with the company for over 23 years. Excelitas offers scientific, industrial and specialized imaging camera systems and cutting edge sCMOS and high-speed digital imaging technology. Excelitas PCO imaging cameras have helped customers achieve successful and reliable measurements for over three decades.

OMNIVISION Technologies

Tehzeeb Gunja
Director of Medical Marketing

Tehzeeb leads OMNIVISION's medical business, overseeing strategy, product management and business development. Previously at Nokia Mobile Phones, he contributed to integrating the first GPS subsystem in a mobile phone and led system design for wireless, camera and imaging technologies. He holds a BS in Electronics and an MS in Electrical Engineering, and has received awards for leadership and technical excellence.