SECTRA

How technology is easing the growing pressures in radiology

Dear radiologist (and others),

Sectra has been part of diagnostic imaging and radiology for more than 30 years. During that time, we have seen the field grow and evolve, from the early days of digital detectors and analog workflows to today's advanced photon-counting and AI-supported technologies.

In fact, we have not only witnessed this development but also contributed to it. That, however, is not the focus of this document. Instead, we want to address the reality facing radiology, and you as a radiologist.

To find a supporting way forward, we have explored sub-specialization and its implications for your daily work. We have also dived into how a well-functioning and mature enterprise imaging solution can support you and make your day a good one.

What we have concluded is that it is the combination of all the small but important features of advanced, highly specialized diagnostic tools that matter.

With that said, let's dive into the topic at hand!

1. Managing the reality

Let's begin with the forces affecting radiology and the essential characteristics of a diagnostic application that meets the needs of today, *and tomorrow.*

The increased complexity in radiology

Radiologists are facing escalating demands like never before. Rising patient volumes, aging populations, and the rapid pace of technological advancements are continuously reshaping your field, making it more intricate and resource intensive. Every day, you are tasked with interpreting increasingly complex imaging studies while also managing growing procedural volumes. The need to get to know the patient by reviewing prior and current images as well as associated EMR data, integrate multi-modality workflows, and deliver timely, precise diagnoses leaves no room for inefficiencies. Therefore, a supporting diagnostic application is more important than ever.

The severity of burnout

Technology considerations are not the only important factor. The human behind the work is the most important asset here. We understand the immense pressures you face and the emotional toll of increasing workloads. If we don't solve this together with solutions and sustainable operations, we face a risk of burnout as the devastating result of this load. The need for efficient systems, technologies, and processes is no longer a mere aspiration; it's essential. You require, and deserve, solutions that reduce your burden, streamline your processes, and create a sustainable work environment where you can once again focus on what matters most.

The ongoing sub-specialization

As radiology evolves, it is increasingly being defined by its sub-specialties. Focused disciplines such as breast imaging, musculoskeletal imaging, and neuroradiology play a vital role in enabling further specialized diagnostic services. Choosing a system that supports those diverse and specific workflows, while bringing everything together in a unified enterprise imaging solution, ensures that you can deliver timely and accurate diagnostics.

The need to consolidate diagnostics

Both vendors and radiologists are navigating a healthcare landscape that is becoming increasingly dependent on enterprise-wide imaging. Disconnects caused by fragmented IT systems and intricate workflows hinder collaboration, increase costs, and make it harder to work efficiently. By consolidating diagnostics, we can break down these silos together to unify diagnostics and streamline IT operations, making healthcare services more productive and lighter to operate.

When the solution blends in, diagnostics stand out

While technology isn't a cure-all for the challenges, implemented the right way, it will make a meaningful difference in daily work.

Well-designed diagnostic tools are there to streamline workflows, save time, and **reduce the cognitive burden** of repetitive or fragmented tasks. They support you in the moments that matter most, helping you **navigate increasing demands** with greater ease and focus on what truly requires your expertise.

Let's walk you through what we think are the most important features of an efficient diagnostic application, one where you don't have to get up and move to another workstation or reboot every time you start your work.

It all starts with effective workflow orchestration

A diagnostic application with built-in workflow orchestration helps to focus on diagnostics by streamlining task prioritization and case management.

Tools like dynamic worklists, SLA tracking, and AI-driven triage help ensure that urgent cases are addressed promptly. Also, features like dynamic quick filters, notifications, flexible sorting, and customizeable worklist fields keep task management smooth and organized.

Built-in collaboration tools, such as chat and peer review, simplify communication, letting you focus on providing accurate and timely diagnoses.

When the solution blends in...

Versatile image navigation saves time and energy

It is important that navigating between current and prior studies doesn't waste time or energy. The right tools help keep the focus on diagnostics rather than navigation and re-organizing.

Having a diagnostic application with efficient image navigation supported by anatomical linking, automatic alignment, and synchronized image series make comparisons effortless, eliminating tedious manual adjustments.

To counter interruptions, the right solution makes it easy to go back and forth between cases without losing current layouts and thus momentum.

Advanced diagnostic tools should be simple

When under pressure, the diagnostic tools are there to simplify the process, and not the opposite.

Therefore, it is important to include advanced yet easy-to-use capabilities like guided vessel analysis, lesion tracking, multi-modality fusion, and photon-counting CT post-processing.

Remember that all tools must be as intuitive as possible to reduce repetitive tasks, turning complex studies into manageable workflows.

When the solution blends in...

Optimized image display eases high pressures

It is important to have a diagnostic application that manages image presentations automatically. Organizing series manually adds workload.

A solution with automated layouts organized by sub-specialty, with rule-based and smart display protocols helps highlight critical details.

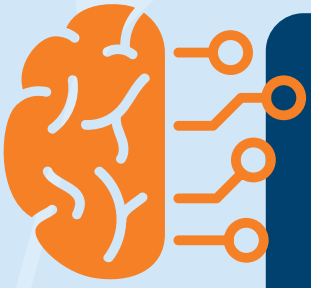
It is also efficient to have color coding and partitioning options to make it easier to navigate current and prior studies.

Collaboration without interruption

Clear communication is essential to managing workloads effectively. Sharing studies, requesting advice, or linking to image series should be secure and immediate.

With integrated messaging, structured MDT worklists, and unified reporting in one interface, collaboration becomes seamless, eliminating the inefficiencies of disconnected systems and supporting you even during the busiest times.

When the solution blends in...



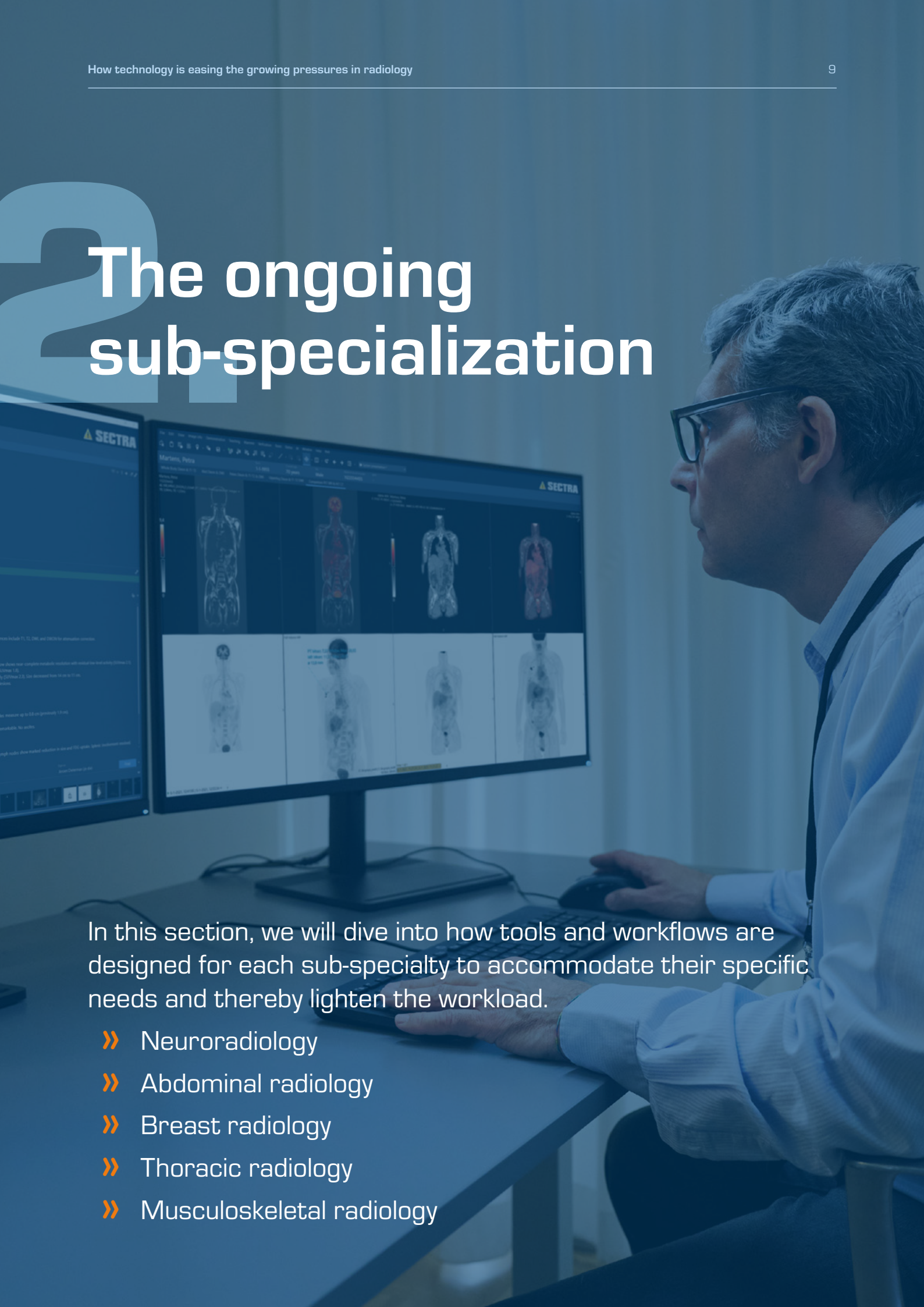
The right AI assists you in being productive

Used the right way, AI can save time in diagnostics. To deliver real value, it must be fully integrated into your diagnostic application and workflows—supporting selection, implementation, and everyday use. If users are forced to switch to another system to view results, adoption will never take off.

Best practices pave the way for efficiency

With blueprints for best practice workflows, you gain predefined configurations that simplify tasks, ensure consistency, and optimize your daily routines. Every feature is developed to lighten your workload, save time, and reduce strain, so you can focus on delivering the high-quality diagnostic service that is expected of you while maintaining your well-being.

2 The ongoing sub-specialization



In this section, we will dive into how tools and workflows are designed for each sub-specialty to accommodate their specific needs and thereby lighten the workload.

- Neuroradiology
- Abdominal radiology
- Breast radiology
- Thoracic radiology
- Musculoskeletal radiology

Neuroradiology

Complex and high-stakes cases where **precision** and **rapid decisions** are essential.

Neuroradiologists manage demanding and high-stakes cases, including stroke evaluations, neuro-oncology, trauma, and chronic conditions like multiple sclerosis. Their work revolves around advanced imaging such as CT, MR, and perfusion maps, often under extreme time pressure.

The need for rapid, precise assessments, whether addressing hyper-acute scenarios or monitoring subtle changes in lesions, places neuroradiologists in a critical part of the care pathway.

The growing complexity of cases, combined with rising workloads, can make it feel like there is never enough time to focus on the intricacies that matter most.

By streamlining workflows, **automating repetitive tasks,** and **simplifying examination comparisons** over time, the right tools create space to concentrate on vital work—supporting every step of the way, with the strain of mundane processes reduced so you can devote your energy to diagnostics.

Features and functionalities for the neuroradiology workflow:

- Anatomical linking saves time and effort by synchronizing slices across modality types.
- Automatic alignment eliminates manual tasks, saves time, and ensures consistent lesion follow-up.
- Display protocols lay out images automatically, simplifying review and reducing manual sorting.
- General image fusion combines various datasets and simplifies visualization of lesion progression.
- The subtraction tool highlights minor changes, enabling clear, efficient and confident lesion analysis.
- Multi-planar reconstruction and 3D streamline reviews.

AI supporting neuroradiology

- AI automates MS lesion segmentation and measurement, accelerating progression tracking while ensuring consistent, accurate data for effective disease management.
- Automated perfusion mapping standardizes stroke diagnostics, reducing variability between radiologists and enabling faster, confident decisions in critical cases.

Abdominal radiology

A diverse and challenging range of cases, where **accuracy** and **efficiency** are key to guiding patient care.

Abdominal radiologists tackle a broad range of conditions, including tumors, metastases, infections, and chronic diseases affecting the liver, pancreas, kidneys, prostate, and digestive tract.

The role involves **interpreting advanced imaging datasets** (CT, MR, PET/CT, ultrasound) and integrating previous scans to monitor disease progression. These analyses are essential for accurate diagnoses and informed treatment plans.

As imaging volumes grow and datasets become more intricate, purpose-built tools can streamline workflows, track lesion progression, and **simplify multi-modality comparisons,** helping radiologists focus on delivering actionable insights.

Features and functionalities for the abdominal radiology workflow:

- Guided vessel analysis saves time by standardizing the diagnostic procedure for accurate stenosis grade.
- Multi-parametric MRI color maps and time-intensity charts improve lesion staging confidence.
- General image fusion combines imaging series types to efficiently track disease progression.
- Lesion tracking streamlines lesion management by organizing lesion findings, enabling structured follow-up and reporting.
- Display protocols lay out images automatically, simplifying review and reducing manual sorting.
- Integrated ultrasound workflow reduces complexity of imaging and interventional procedures.

AI supporting abdominal radiology

- ✓ AI automates prostate MRI lesion detection and classification using PI-RADS scoring, enhancing diagnostic efficiency and consistency.
- ✓ AI supports lesion evaluations over time, tracking lesion changes accurately to streamline workflows and manage growing workloads effectively.

Breast imaging

Diverse imaging modalities and balancing high-volume screenings with **highly accurate diagnostics.**

Breast radiologists play a crucial role in early cancer detection and comprehensive breast care, requiring navigation of **high-volume screenings** alongside **intricate diagnostic cases.**

Their work involves interpreting multi-modal imaging, while tracking subtle changes and lesion progression over time.

The dual demands of speed, due to the massive volume of exams, and precision are at the heart of this specialty. **Handling growing caseloads** while ensuring diagnostic accuracy can feel overwhelming.

By streamlining comparisons, facilitating complex workflows, and simplifying the overview of all imaging types, the right tools help manage these demands with greater efficiency and confidence. Technology should support and reduce friction, concentrating expertise where it has the greatest impact.

Features and functionalities for the breast radiology workflow:

- A single platform for all breast imaging types improves efficiency.
- Display protocols align and organize prior studies with current ones and streamline reading.
- A dedicated keypad increases comfort and speed in high-volume screening.
- Breast ultrasound multi-planar reconstruction tools enable precise tissue evaluation and reduce interpretation time.
- Computer aided detection highlights abnormalities for early detection, supporting the radiologist in diagnostic accuracy.

AI supporting breast radiology

- ✓ AI automates triaging, prioritizing suspicious cases to reduce radiologist workload.
- ✓ AI assists in breast density assessments, supporting confidence in dense tissue analysis.
- ✓ AI monitors imaging quality, helping avoid additional image acquisitions and reading.

Thoracic radiology

Timely and **precise** assessments for critical treatment decisions in time-sensitive cases.

Thoracic radiologists interpret imaging studies that assess the lungs, heart, and mediastinal structures. From detecting lung cancer and evaluating subtle nodule progression to diagnosing pulmonary embolisms and infections, the decisions of thoracic radiologists **impact critical treatment pathways.**

Their work involves analyzing a **widespread dataset,** often within the time-sensitive demands of lung cancer screening programs.

With increasing caseloads and mounting complexity, it can feel like there is little time for the detailed evaluations these cases require. By enabling efficient workflows, streamlining assessments over time, and ensuring clarity in comparisons across datasets, **smart tools offer valuable support.**

Technology should empower and ease routine pressures, allowing more attention to be devoted to the insights that transform diagnostic services.

Features and functionalities to support the thoracic radiology workflow:

- Multi-planar reconstructions create tailored views to quickly identify critical abnormalities.
- Cardio-thoracic ratio tools provide precise measurements and simplify comparisons over time.
- 4D multi-phase CT navigation integrates timepoint data, enabling faster cardio CT evaluations.
- Anatomical linking synchronizes slices across modality types, streamlining diagnostics.
- MIP slab reconstruction and window level abilities make it easier to focus on detailed structures.

AI supporting thoracic radiology

- AI for lung nodule analysis provides size, volume, and classification for consistent follow-up of lesion progression.
- AI quantifies emphysema severity, offering reliable pulmonary assessments.
- AI streamlines calcium scoring, accelerating cardiovascular evaluations and improving efficiency.
- AI triages chest X-rays, identifies urgent studies and provide support in prioritization.

Musculoskeletal radiology

Detailed evaluations and **complex measurements** that directly shape treatment decisions.

MSK radiologists play a critical role in diagnosing and supporting treatment plans for conditions affecting bones, joints, and soft tissues.

Their work frequently supports orthopaedic teams, with imaging assessments that **guide surgical planning,** ranging from dysplasia analysis to evaluating complex joint pathology.

Evaluations often require detailed **multi-step measurements,** such as alignment angles or glenoid version and inclination, which directly influence treatment decisions.

Balancing high caseloads, varied imaging protocols, and complex anatomy can feel overwhelming, especially when precision is non-negotiable.

By providing tools that significantly speed up the process of performing repetitive and complex measurements, standardizing workflows, and simplifying fine-grain comparisons across modalities, **purpose-built tools can reduce the workload.**

Technology should alleviate routine frustrations and help the experts to focus on what matters, delivering accurate insights that improve patient outcomes.

Features and functionalities for the MSK radiology workflow:

- Click guides simplify and streamline working with complex or infrequent measurements.
- Multi-planar reconstruction views eliminate projection errors and positioning issues.
- 3D reconstructions improve of the anatomy overview.
- Multi-planar reconstruction views reduce the effort required for complex case interpretation.
- Edge enhancement improves the clarity of anatomical structures, which can simplify fracture detection.

AI supporting MSK radiology

- ✓ AI for fracture detection highlights subtle fractures and expedites trauma case reviews.
- ✓ AI for vertebrae labeling automates compression fracture analysis, prioritizing urgent cases for faster diagnosis.

3. The strategy

In the following section, you will meet various stakeholders and gain a better understanding of their needs, their challenges, and their drivers behind choosing a consolidation strategy as well as the benefits of having a single enterprise imaging solution.

The radiologist

Dr. Emily Carter, 42

Senior radiologist, sub-specialized in breast imaging

A day at work

Emily starts her day by reviewing mammography cases, followed by a mix of US and MRI readings. She relies on quick access to priors and consistent hanging protocols. Afternoons often include tumor boards where she presents complex cases. Her biggest frustration is when technology slows her down or forces her to toggle between different systems. What she values most is a workspace that feels seamless so she can focus entirely on diagnostics and patients rather than the tools.

Needs

- Fast, reliable access to images
- One workspace for all modalities
- Easy collaboration tools

Challenges

- Interruptions due to slow systems
- Growing study volumes
- Time lost to admin tasks

Drivers

- Efficiency and productivity
- Accuracy with advanced visualization and AI
- Tools that reduce friction

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The PACS manager

Michael Nguyen, 38

PACS manager
Multi-site healthcare network

A day at work

Michael's mornings begin by checking system health dashboards and ensuring overnight prefetching worked as expected. Throughout the day, he fields radiologist requests, anything from display protocol adjustments to worklist configurations. He enjoys solving problems but dislikes when his team has to escalate everything to vendor support. What motivates him is having a single enterprise platform that he can configure, monitor, and fix on his own, reducing stress and constant interruptions.

Needs

- Centralized configuration and monitoring
- Quick troubleshooting tools
- Flexible setup across sites

Challenges

- Maintaining uptime with limited staff
- Managing fragmented systems
- High support burden from users

Drivers

- Consolidation into one platform
- Self-service troubleshooting
- Strong vendor partnership

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The IT manager

Laura Eriksen, 45

IT manager
Enterprise infrastructure and security

A day at work

Laura balances security audits, vendor calls, and hospital projects like cloud migration. She ensures systems remain compliant and stable while planning for AI-driven innovations. She constantly juggles daily operations with long-term modernization. Her focus is on reducing risks, downtime, and infrastructure overhead.

Needs

- Secure and stable IT environment
- Predictable system performance
- Integration with EMR

Challenges

- Legacy system risks
- Balancing up-time
- Aligning multiple stakeholders

Drivers

- Cloud scalability and security
- Reducing infrastructure maintenance
- Future-ready technology

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Chief Operating Officer

David Reynolds, 55

Chief Operating Officer
Regional healthcare system

A day at work

David spends his day in meetings on budgets, strategy, and care quality. Imaging is a major cost driver, and he needs ROI clarity. He looks for scalable, enterprise-wide solutions that support acquisitions and ensure clinician adoption. He values strong vendor partnerships that reduce risk and enable long-term success.

Needs

- Clear ROI and cost predictability
- Scalable imaging strategy
- Alignment with long-term goals

Challenges

- Rising healthcare costs
- Siloed systems
- Risk of failed IT implementations

Drivers

- Consolidation to one platform
- Strategic vendor partnerships
- Differentiation through innovation

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Unifying imaging solutions

As we can see from meeting these stakeholders, they all need to implement a strategy leading up to transforming legacy into a single enterprise imaging solution. Transforming the strategy into something viable and functioning is key to reducing the strain on today's health services. Therefore, choosing an enterprise imaging solution that covers as many disciplines as possible is an important piece of the puzzle.

Real speed is all about consolidation and transition into enterprise imaging

At its core, enterprise imaging is a **strategic approach** designed to consolidate all clinical imaging and multimedia content into one unified solution. This ensures that imaging and diagnostic data is consistently captured, indexed, managed, stored, viewed, analyzed, and shared across all imaging departments.

By **integrating the imaging content** into one solution, enterprise imaging connects workflows, enabling faster decision-making, optimized operations, and improved, secure patient care at scale.

A true enterprise imaging solution **unifies imaging and diagnostic workflows** across radiology, pathology, cardiology, and even beyond imaging to genomics, transforming it into an enterprise diagnostic solution.

Consolidating all diagnostic data into a single, scalable system ensures not only that imaging departments operate seamlessly but also that interdisciplinary collaboration thrives, as data is shared effortlessly between specialties.

4. The future *(is here)*

By providing scalable, cutting-edge solutions, and actively conducting industry research, we want to empower healthcare organizations to seamlessly integrate innovation into their workflows. We want to ensure you are prepared not just for today's challenges but also for the opportunities of tomorrow.

Photon-counting CT

Photon-counting CT, PCCT, is a transformative medical imaging technology that enhances diagnostic precision. It produces **high-resolution images** with **improved contrast,** enabling radiologists to **visualize fine structures** that are critical for accurate diagnoses. Another significant advantage of PCCT is its ability to operate at **lower radiation doses,** making it safer for children, oncology patients, and those requiring repeated scans.

Native PCCT post-processing

Our integration of PCCT technology in IDS7 ensures radiologists can leverage its benefits **with continuity in their workflows.** PCCT images can be seamlessly viewed within IDS7, where advanced spectral post-processing tools are accessible.

Radiologists can dynamically adjust energy levels to highlight specific structures and features while **staying in the same application.**

Optimized imaging workflow

A PCCT modality captures all energy-level data simultaneously in a single scan, which means that the patient can remain stationary throughout the imaging process. This **minimizes motion artifacts** that can occur when acquiring images in separate series.

Radiologists benefit from high-quality images, where the variations come solely from post-processing adjustments rather than multiple acquisitions. As a result, the process becomes **safer and faster,** reducing scan times and modality use while maintaining high image quality.

Cardiac CT

The American College of Cardiology has updated its guidelines to recommend coronary CT angiography, CCTA, as the first-line test for patients with acute chest pain. These changes are reshaping cardiac care, **driving increased exam volumes.** Combined with rising reimbursement rates, radiology departments are under growing pressure to manage this increase efficiently while also ensuring precise and timely diagnostics.

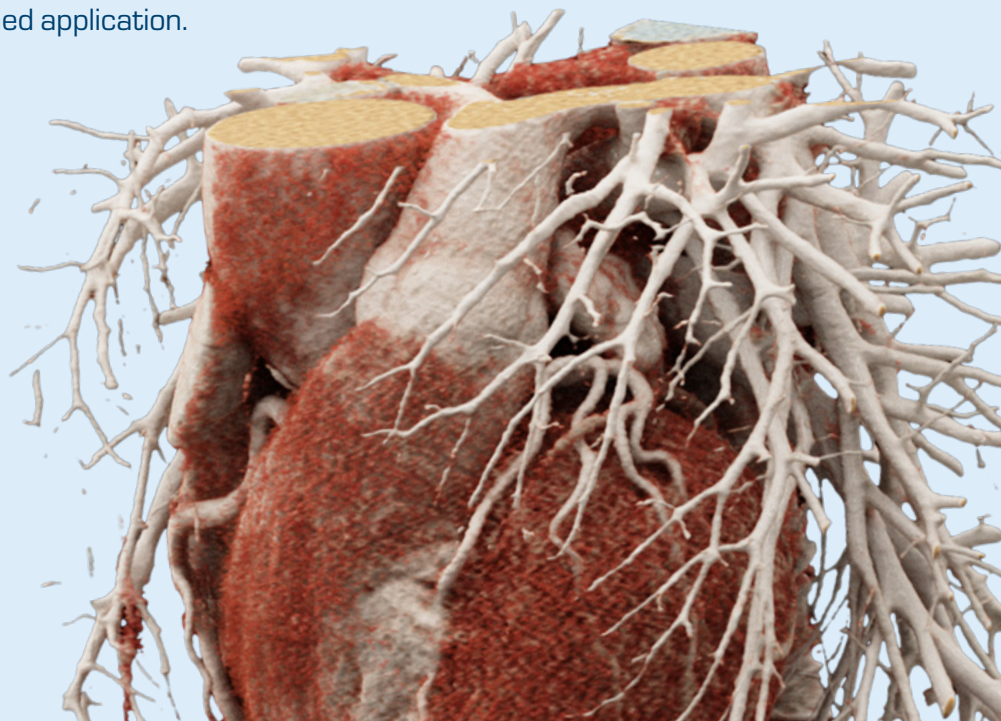
Developing a unified solution

To address these challenges, we are creating a solution that integrates critical features into one **unified diagnostic application.** This includes automatic coronary tree visualization, branch labeling, stenosis detection and quantification, and calcium scoring.

By consolidating these capabilities, the need for third-party applications and fragmented workflows is eliminated, allowing radiologists to work more efficiently within a streamlined application.

Preparing for future growth

Pairing our support for cardiac CT with complementary technologies, like CT-FFR, can **transform how these exams are managed.** By offering scalability and ease of use, we are designing a solution tailored to meet the demands of today's healthcare systems while preparing radiology teams for continued growth in the years ahead.



Workload management

Workflow orchestration is inherently complex and constantly evolving. It often requires manual adjustments to keep up with changing conditions. Departments need solutions that seamlessly integrate into their current operations, **minimize administrative overhead,** and are easy for staff to adopt without extensive training. To tackle these challenges, we are embedding native orchestration capabilities directly within the diagnostic application.

Enhanced worklist engine

We have added significant enhancements to the workflow orchestration capabilities. **Seat-based distribution** ensures fair workload balancing, and shift-aware orchestration dynamically adjusts based on staffing schedules.

Rules for **balanced case mix** help distribute exam types evenly across readers, while still allowing for manual flexibility when quick reassignment is necessary.

Radiologists benefit from reader-focused worklists that let them concentrate on their assigned cases while also maintaining visibility in team-wide workflows.

Easy implementation

The new workload management functionality is ready to use in the latest version of IDS7. Radiology teams can quickly adopt the solution without complex setup or lengthy onboarding processes. They can also combine **traditional workflows with new orchestrated ones,** ensuring operations remain smooth and uninterrupted.

AI-driven reporting

Reporting is most helpful when it's built into the heart of your imaging workflow. With insights gained from many regions and markets worldwide, we are redesigning the reporting process to embrace the latest advancements in AI. This **AI-first approach** is designed to intelligently augment the radiologist's expertise, enhancing efficiency and accuracy while ensuring that clinical decisions remain in expert hands.

AI-enhanced reporting

AI features, such as **automated impression generation,** simplify repetitive tasks by formatting and summarizing findings. This allows radiologists to focus on decision-making and diagnosis instead of manual data entry.

We are also exploring a more dynamic, **free-form reporting** process, where AI captures context and measurements in a structured yet intuitive manner. These innovations strike a careful balance, combining cutting-edge AI with radiologists' expertise to maintain the central role of physicians in diagnostic workflows.

Data integration and collaboration

Streamlined data management is essential to our vision for modern reporting. AI-driven measurements and diagnostic data can be seamlessly incorporated into reports, ensuring all stakeholders, from referring physicians to specialists, receive **actionable insights.**

Reporting acts as a key integration component, **connecting broader patient perspectives** and diagnostic strategies. By facilitating the sharing of well-structured information, reporting fosters better collaboration across teams and potentially drives improved patient outcomes.

Enterprise education

With growing workloads and staff shortages in radiology departments, **preparing students** for clinical roles has never been more important. To address this need, we have developed an education platform that helps trainees build **essential diagnostic** skills through hands-on practice with real clinical cases. This approach **bridges the gap** between academic learning and clinical application, ensuring students are confident and ready for real-world challenges.

Flexible and engaging learning

Our platform is designed to support **diverse learning needs** with a variety of features. Interactive modules, self-paced training, and collaborative assessments provide a dynamic and engaging way for students to enhance their knowledge and skills.

Educators can customize content and track progress, tailored to competencies required in healthcare. The platform's scalable design enables **implementation across institutions and regions,** promoting consistent and standardized training for future radiology professionals.

Confidence in clinical scenarios

By incorporating clinical scenarios into the learning process, the platform prepares students for the tasks they will encounter in practice. This hands-on approach builds confidence and prepares them to **handle real-world situations** with competence.

As a result, radiology departments benefit from newly trained professionals who are **well-equipped to meet clinical demands,** helping to ease staffing challenges while maintaining high standards of care.

To our radiology heroes,

We understand you have many other things to prioritize, but know this: our focus is entirely on you and the vital work you do.

We don't just develop software; we craft solutions with you in mind. Our enterprise imaging tools are created to do more than improve productivity and precision. They're built to make your day easier. You should focus on what matters most: your patients, your colleagues, and the life-changing work you do.

Right now, you are under a lot of pressure. We may not have all the answers, but we know technology can make the road forward a little smoother. Our solutions are here to lighten your load, delivering clarity and reliability when you need them most.

You are at the heart of everything we do. Your trust and commitment inspire us to push boundaries and deliver solutions that work for you.

Here's to driving better outcomes, and bringing a little more brightness to your day: **brilliant workflows, made for you.**

Warm regards,
The Sectra Team

SECTRA

Knowledge and passion

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