SHARPER, FASTER, SMARTER: HOW AI IS TRANSFORMING DENTAL TECHNOLOGY

AI-enabled solutions enhance communication and drive efficiency.

Digital technology has fundamentally changed what's possible in dental practice. Cone beam imaging technology provides clinicians with once unimaginable insight into anatomy and pathology, intraoral scanners bring ease and precision to impression taking and milling and 3D printing makes same-day dentistry a reality for practices everywhere.

Now, artificial intelligence is taking these technologies even further – not by replacing clinicians, but by enabling them to work with unprecedented accuracy, efficiency, and confidence. Robert Befidi, President of DEXIS, explains how AI integration is amplifying the capabilities of one of dentistry's most widely used imaging platforms.

HOW IS AI INTEGRATED INTO DEXIS IMAGING SOFTWARE?

DEXIS has taken a clinician-first approach to AI. Rather than layering technology on top of existing workflows, it's embedded directly into the imaging experience within DTX Studio Clinic and DEXIS Imaging Suite, so it operates seamlessly in the background.

Today, AI is integrated across several key areas. It enhances clinical productivity through workflow automation – including case setup, image organization and preparation for treatment planning. AI also supports automatic anatomical recognition, helping identify teeth, restorations and structures within 2D and 3D images, and it improves image clarity and consistency, optimizing diagnostic quality across modalities like CBCT, intraoral radiographs and scans.

One of the most impactful areas is AI-assisted detection, where the software highlights regions of interest – such as potential caries or other anomalies – to support clinician review. These capabilities now span 14+ FDA-cleared AI findings, reinforcing the clinical depth of DEXIS solutions. AI also helps unify data from different sources into a single, intelligent patient visualization, enabling clinicians to interpret complex datasets faster and with greater confidence – all within one platform, while minimizing the need to move patient data across multiple systems. Ultimately, DEXIS sees AI as a virtual dental assistant supporting clinicians during diagnostics, not a replacement for clinical judgment.

WHAT CLINICAL CHALLENGES DOES DEXIS AI HELP ADDRESS?

Dental teams today are balancing increased patient expectations with time pressures and growing case complexity. One major pain point is diagnostic consistency – variability, whether due to experience level or fatigue, can impact outcomes. AI helps standardize image interpretation by surfacing potential findings and supporting more confident, repeatable diagnoses.

Another challenge is time efficiency, as reviewing large CBCT datasets or manually annotating findings is time-consuming. AI reduces that burden by assisting with detection and organization, helping clinicians get to insights more efficiently, so they can focus their time on interpretation, decision-making and patient care.

There's also a meaningful patient-facing benefit: AI-driven visualizations allow clinicians to clearly show and explain conditions chairside, which can significantly improve case acceptance and trust.

HOW DOES AI CHANGE THE WAY PRACTICES WORK, DAY TO DAY?

The biggest shift is a move from reactive interpretation to proactive insight. With AI integrated into DTX Studio Clinic, relevant findings can be surfaced earlier in the workflow, allowing clinicians to focus on careful review, validation, treatment planning and patient communication rather than discovery alone. This also changes the team dynamic – assistants, hygienists and doctors are all aligned around a standardized workflow with the same visual insights, improving collaboration and efficiency across the practice.

A common theme in customer feedback is the confidence AI provides. One clinician recently shared that having AI highlight potential areas of concern allows them to "walk into every exam feeling more prepared and focused," while making it easier to clearly explain findings and recommendations to patients. Another practice noted a measurable increase in case acceptance, simply because patients could now clearly see what the clinician was seeing.

WHAT'S NEXT FOR AI AT DEXIS?

DEXIS continues to invest heavily in AI as a core part of its innovation strategy. Recently, DEXIS expanded its capabilities around automated detection, visualization and workflow support – including enhancements that help streamline treatment

planning within a single environment. Looking ahead, the company is focused on deeper diagnostic support across more indications, more intelligent treatment planning tools – especially in implantology and restorative workflows – and predictive insights that can help anticipate progression or risk over time.

DEXIS has a long-term vision of a connected digital ecosystem where AI helps guide the entire patient journey – from diagnosis to treatment planning to outcome tracking – within one unified platform. At every step, the goal remains the same: Empower dental professionals with technology that enhances their expertise, improves patient outcomes and makes dentistry more efficient and more accessible.

To learn about Patterson's full portfolio of equipment and technology solutions, click here.

SPRINTRAY: SEAMLESS 3D PRINTING WORKFLOW, POWERED BY AI

3D printing has already transformed dentistry, expanding the possibilities of what clinicians can achieve within the span of a single appointment. Now, SprintRay is using advanced machine learning to take that capability further – streamlining workflows from design to finished print. Here's how:

From scan to design in minutes. With SprintRay's Cloud Design platform, upload your intraoral scans, choose your treatment type, and generate a finished digital model with the help of AI or a SprintRay Design Expert. Design crowns, inlays, onlays, retainers, night guards and more in as little as five minutes, with unlimited revisions and manual backups for AI-generated designs. And for practices that want hands-on refinement, SprintRay's AI Studio module pairs the speed of AI-automated design with lightweight CAD tools, allowing adjustment of margins, contacts and anatomy in just a few clicks.

Print setup, simplified. Once approved, designs move seamlessly to SprintRay's RayWare Cloud, where Smart Print AI streamlines print setup. The software automatically orients the model, nests it on the build plate, adds precisely placed support structures and sends the job directly to the printer – minimizing posts, reducing cleanup time and keeping supports clear of critical areas in the process. Over time, RayWare's adaptive algorithm learns your habits and refines its automation to match the way you actually work.

Easy for everyone. Because AI manages technical complexities at every stage – from design generation to print setup – SprintRay's 3D printing workflow requires minimal training to master. New staff can be onboarded easily and efficiently, and cross-training across the practice becomes far more manageable, reducing reliance on individual team members.

Consistent results, every time. With guesswork removed from both ends of the workflow, SprintRay brings repeatability to the 3D printing process. Every variable has been optimized, so practices can print with confidence, regardless of what's on the build plate.

Accessible, up-to-date, anywhere. SprintRay software is fully cloud-based, accessible via web browser on almost any computer or tablet. The latest version is also available automatically with every sign-in, so no more worrying about installations, software updates or system requirements.