Imaging Now & Next

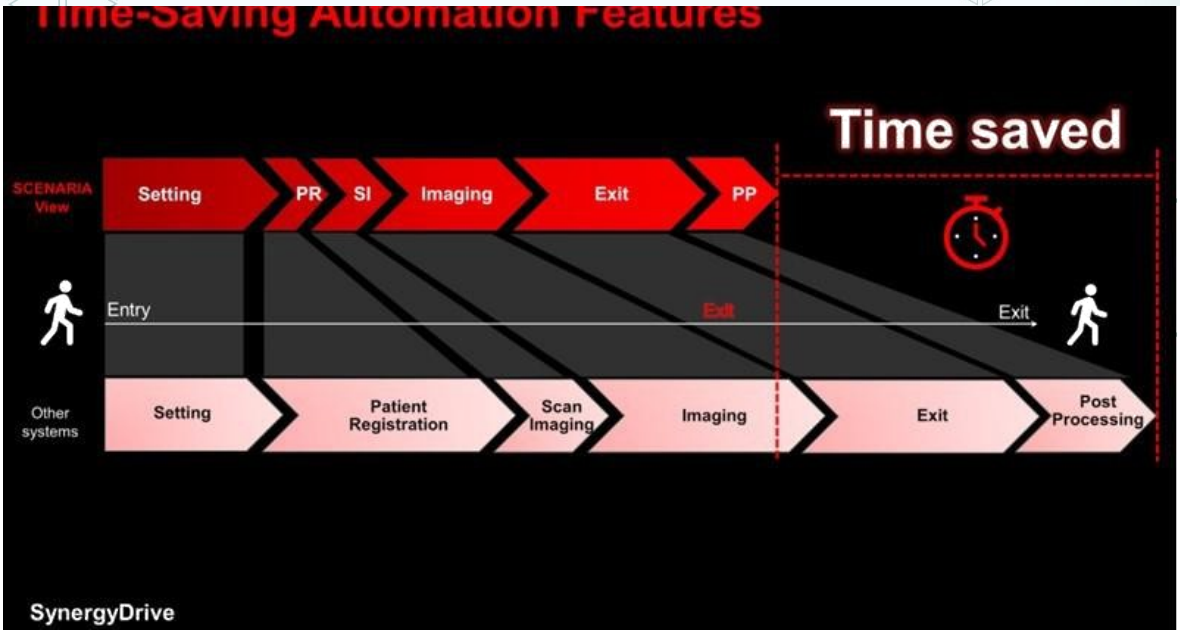
Diagnostic imaging workflow technologies to streamline operations of CT & MRI

The past few years have seen a significant increase in patient load, mainly due to changing demographics, among other factors. Additionally, since diagnostic imaging is a highly competitive market, there has been a steady decline in the respective reimbursement plans due to immense pressure and increased workload. Thus, Fujifilm upgraded its CT and MR diagnostic machinery with SynergyDriveTM technology (unique workflow and innovative tools) to help the instrument technicians, radiologists, and department administrators better serve the increased patient load.

This automated image processing technology offers significant benefits by reducing and simplifying the diagnostic examination process; thus, placing the focus on the patient instead of the procedure. Additionally, it enhances productivity, boosts workflow, and provides consistent results.

“Since the beginning, I have enjoyed the ergonomy and easy of use of the Scenaria View CT. The scanner is a cutting-edge system that includes fundamental features for modern radiology, allowing significant dose reduction whilst maintaining excellent image texture and ensuring high quality and high patient comfort.”

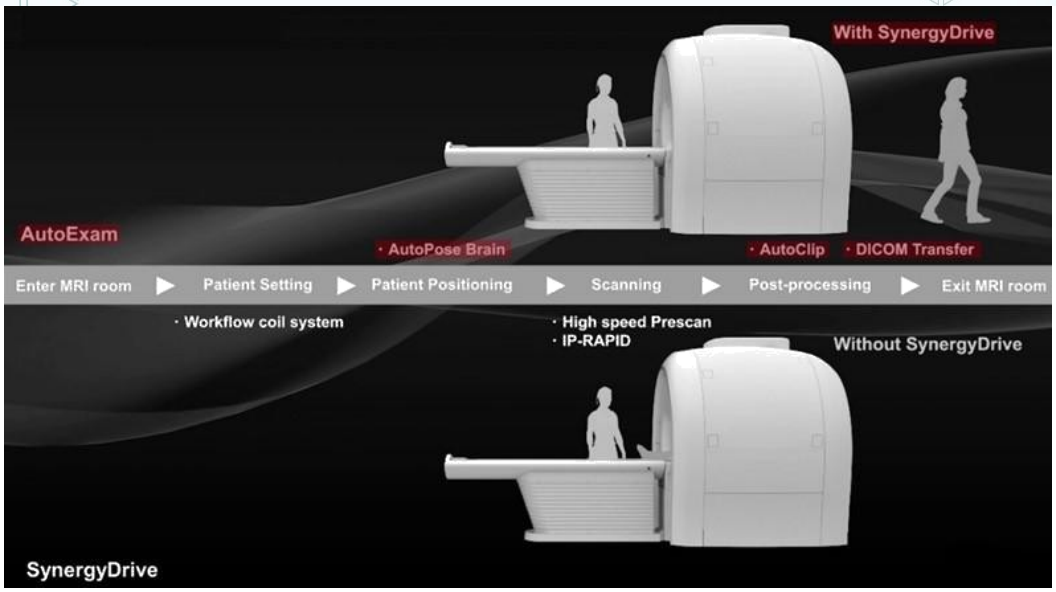
Dr Umberto Negro, Italy



The CT SynergyDriveTM technology offers AI-powered CT scan automative and innovative techniques, including automatic slice positioning, auto start, and high-speed image reconstruction. The SCENARIA View facilitates advanced CT procedures, such as cardiac imaging or neuro perfusion. Additionally, the CT scanner provides the latest image quality and the expected dose reduction technologies, along with a relaxing environment referred to as the human-centered design. The upgraded CT machines have an 800 mm wide bore gantry with a 200 mm lateral slide table, which provides easy access to the patients and allows flexible postures even in the off-centered areas, such as shoulders.

A key component of CT-based diagnostics includes the acquisition of high-quality images, which should not only be independent of the clinical indication or user but also fast. Since a CT scan of any anatomical region needs only a couple of seconds, it is necessary to calculate the images as fast as possible. Therefore, SCENARIA View image reconstruction offers a processing speed up to 60 images/sec, significantly saving the examination time. This is approximately 47% faster than a conventional CT.

Thus, SynergyDrive is introducing an era of intelligent imaging. Automatic postprocessing helps users reproduce their results efficiently. The system performs the post-reconstruction procedures, such as 3D and MRP reconstructions. Irrespective of the user, patient, or throughput, it helps generate excellent results consistently, improving diagnostic confidence.



“Our philosophy is to be open-minded, and patient centered. The patient and his needs are right in the center of our looks, so we look for them and this is the most important point for me. I think the additional technology like IP-RAPID, SynergyDrive or AutoPositioning assist us to reach this requirements”

Dr Carsten Figge, Germany

The MR SynergyDriveTM technology provides a shortened and simplified examination process, which helps streamline the workflow, higher throughput, and prevents scanning failures. Additionally, it offers the following advantages in favor of efficient patient diagnoses:

The new coil portfolio offers extended coverage and flexibility in scanning various anatomical regions. It ensures that the patients are comfortable during the scanning process. This allows the users to conduct more exams per day, enhancing productivity for faster patient set-up and easy handling. Also, the faster set-up times let the technicians focus on the patient.

With an increase in patient volumes and a concomitant decrease in reimbursement, there is a clear need for greater efficiency while maintaining the quality of scanning. The IP-RAPID facilitates the shortening of the entire examination process for the whole spectrum of clinical MRI.

This compressed sensing technology offers the right solutions for the clinicians' queries and accelerates the complete scanning process, covering all contrasts, orientations, static and dynamic imaging, speeding up the exam process by up to 60%.

The scan automation technologies have been shown to reduce the inter-operator variability, resulting in consistent imaging results. Our unique MRI exam software streamlines the MRI workflow and standardizes the clinical quality. The AutoExam technology encloses several components, such AutoPose, Main Scan, AutoClip, and Auto Dicom transfer. These features have made manual slice positioning, scan interactions, and post reconstructions obsolete. They allow the operators to use artificial intelligence to automatically position the slices faster and avoid repositioning delays, saving valuable time and reducing workflow steps with inline reconstruction, automating reconstruction with zero clicks, and removing the need for any user interaction.

SynergyDrive with these features fulfills the current need for deep learning in the field of radiology, which is increasing tremendously due to the highest achievable performance of various computer vision tasks, such as detection, segmentation, classification, monitoring, and prediction. The AI-powered CT and MRI scanners provide excellent and consistent imaging results in an easy-to-use format and the standardized, automated workflow enhances efficiency and reduces unwarranted variations.

SynergyDrive on Scnenaria View and Echelon Smart Plus were launched at the 2019 European Congress of Radiology (ECR). For more information on Fujifilms' diagnostic imaging solutions and AI-enabled applications to enhance radiology workflows, please visit https://hce.fujifilm.com/products/mri/technologies/synergydrive.html and https:// hce.fujifilm.com/products/ct/technologies/synergydrive.html

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