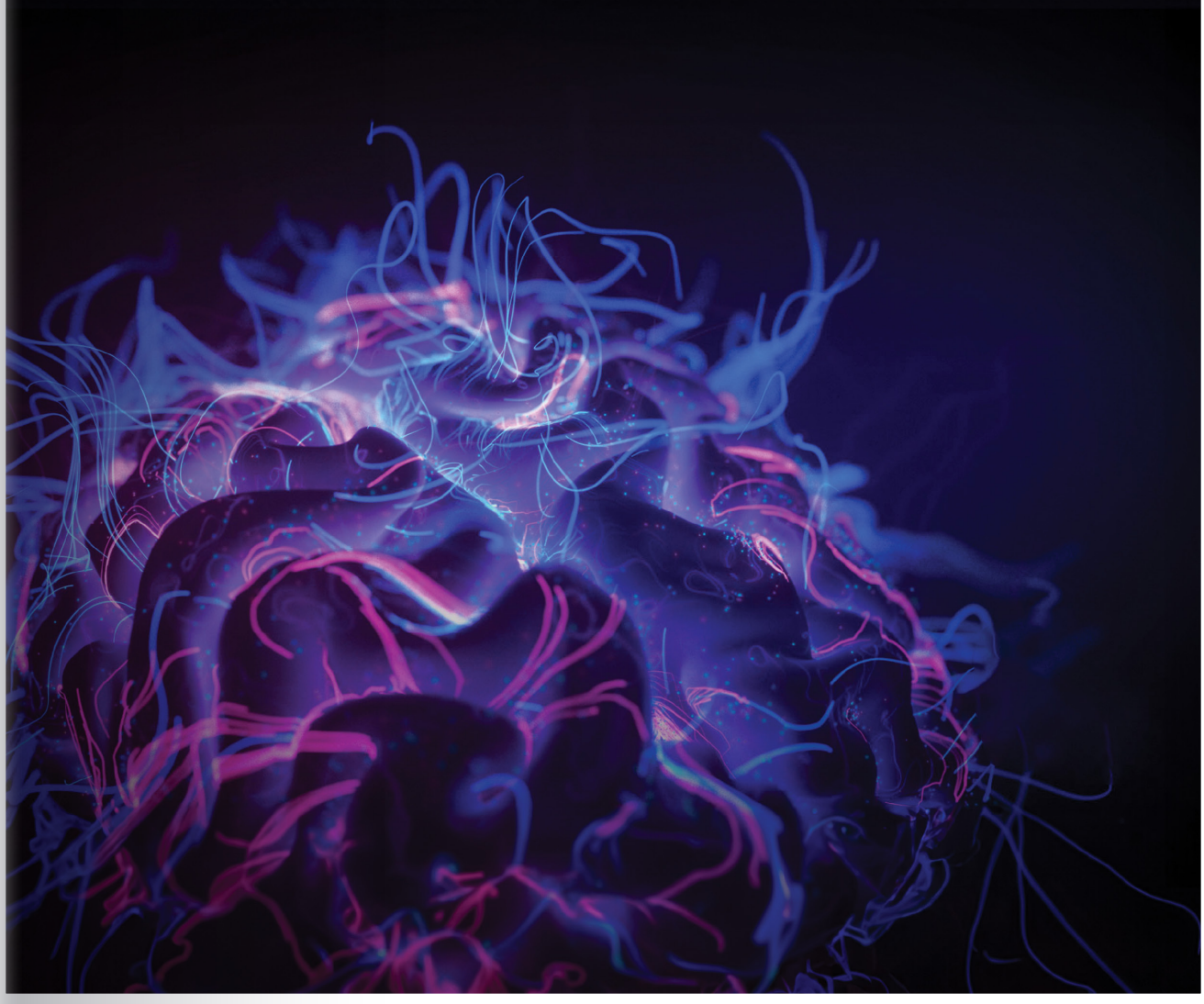
BRAINLAB

Digital O.R.
Integration



Future-proof Digital Surgery

Offering state-of-the-art Digital O.R. integration solutions, Brainlab is pioneering the future of digital patient care and transforming the technological footprint across Northwell Health

In the last five years, the North American healthcare industry has greatly evolved as operating rooms across the country are digitalizing and optimizing clinical workflows.

At the forefront of this change is Brainlab, who for over three decades has transformed healthcare with innovative software-based technology and spearheaded the digital medical era to actively bring about change in patient care.

Brainlab has a resounding reputation in the country's healthcare industry for its cutting-edge radiotherapy and neuro, spine, ENT, craniomaxillofacial (CMF) and trauma surgical navigation solutions. However, the organization's exceptional Digital O.R. integration offering is not as well known.

As a highly comprehensive data management platform that seamlessly integrates with the full spectrum of medical devices, video sources, and hospital IT systems, the company's Digital O.R. delivers reliably up-to-date integration to meet the ever-evolving demands of vital patient care technology.

In the heart of the operating room, there are many critical free-standing devices each with software and a unique interface to that system, which can make the access, storing, and documentation of data more challenging. As a result, valuable time that could be used for patient care may be lost, particularly when trying to connect all the necessary devices.

Brainlab understands that a highly integrated hospital IT environment is an integral element of any modern operating room. As such, its Digital O.R. offering is designed to centralize and streamline the relevant information needed for surgery across the entire patient journey. This involves the inclusion of radiological studies, data from electronic medical records (EMRs), live video sources like endoscopes and microscopes, and hardware or software, all onto a single easy-to-use platform, known as Buzz Digital O.R. All data generated during a patient procedure needs to be subsequently available for post-operative review, to analyze the procedure, and for patient follow-up. The data is also valuable for understanding system usage to address training needs for the surgical team.

Brainlab Digital O.R. integration elevates its offerings from neuro, spine, ENT, CMF and trauma surgery solutions, as its value extends to digital innovation and making a meaningful impact on the healthcare industry across all surgical specialities.

THE PARTNER OF CHOICE

As the largest healthcare provider in New York state, Northwell Health (Northwell) greatly anticipates the implementation of Digital O.R. integration solutions across its hospitals, partnering with Brainlab to bring to the fore the next generation of digital healthcare, starting with their latest project, the Petrocelli Surgical Pavilion.

As Northwell strives toward greater innovation, Brainlab is the ideal organization to partner with due to its plethora of options, the future readiness of its solutions, and usability of its platform.

OPEN PLATFORM ARCHITECTURE

Brainlab Digital O.R. is built on a completely vendor-neutral platform to work with a vast variety of video sources, endoscopes, microscopes, c-arms, robotic systems, imaging equipment, and other technologies in the operating room. The entire architecture of Brainlab is based on standardized data formats such as FHIR, HL7, and DICOM, allowing easy, customizable integration.

SEAMLESS INTEGRATION

The Buzz platform unifies the entire operating room environment, providing Northwell the opportunity to collaborate with their vendors of choice for each surgical speciality, and tactically plan for the seamless integration of future technologies. Northwell proactively strategized to build a comprehensive integration system with enhanced flexibility. This strategic approach empowers it to expand its technological capabilities, adapting to the introduction of emerging technologies in the market, and ultimately elevating the quality of patient care and outcomes.

EASY TO USE

In comparison to most other O.R. integration offerings, which are workflow-based with outdated interfaces, Brainlab has developed an easy-to-use software that immensely increases usability. The platform uses an intuitive user interface similar to a smart phone, with a simple drag and drop functionality for changing what data is displayed in the room at any given time. This allows the surgical staff to display the right data, at the right time, in the best location in the operating room, for every setup.

SCALABLE OPTIONS

Additionally, the Brainlab Digital O.R. integration offerings provide vastly scalable options for an enterprise-wide experience. The software and hardware can be customized specifically for each room's needs, while keeping a consistent user interface across all platforms, garnering the same experience in each room regardless of size and procedure type. This allows the same functionality and usability even in smaller procedure rooms, reducing the burden to retrain staff on different interfaces across various rooms.

> *"As vascular surgeons, Brainlab provides us with such a valuable resource. Vascular surgery is very image intensive - not only do we need to review images prior to the procedure, but also throughout the entire procedure. We are continuously acquiring images, and comparing them to archival images – and Brainlab can provide us with both of these simultaneously. For me, this means providing the patient with optimal care, because all patient specific information is at our fingertips at the same time."*
>
> **- Dr. Gregg Landis, System Chief of Vascular Surgery - Northwell Health**

STREAMLINE SURGICAL DOCUMENTATION

Buzz Digital O.R. is a next generation, central information hub that routes, displays, interacts, streams, records, and enhances videos, medical images, and software content. Brainlab has supporting documentation solutions to streamline the full documentation workflow and reduce the need for any manual transferring of videos or image captures from the operating room into the clinic, which can be saved and used for teaching, follow-up with patients and families, and long-term storage either in the EMR, PACS, or VNA systems. Brainlab also delivers software solutions that allow surgeons to create semi-automatic surgical reports generated from data produced during the procedure, lessening the time surgeons and clinical staff have to spend on surgical documentation.

ACCELERATE COMMUNICATION AND TEACHING

Utilized as a single consolidating platform, Buzz Digital O.R. helps centralize and connect the relevant information with various video sources needed for surgery and integrate that data with hospital information systems to provide data insights and facilitate collaboration throughout the procedure. It allows users to share video sources and information securely for teaching and training, or to call a specialist during an emergency.

ENHANCE SURGICAL PLANNING

Brainlab offers a comprehensive portfolio of various planning elements for many different surgical specialties, including its state-of-the-art DICOM Viewer, which allows surgeons to view and interact with patient images in three dimensions. There are several different options for various clinical indications, such as TraumaCad for orthopedic planning and templating, vascular surgery, and a plethora of additional planning elements for neurosurgery. For surgical specialties that are outside of the company's planning offerings, third-party applications may be seamlessly integrated into the Buzz Digital O.R. platform for access within the operating room.

FUTURE-PROOF SOLUTIONS

Since Brainlab is primarily a software company, unlike its hardware-focused competitors, the company consistently adds value through advanced software components, utilizing a software-as-a-service model. In this way, the software advances with the needs of the hospital and surgical teams, ensuring that the solution is equipped for the future and able to stay consistently up-to-date over the lifetime of the Northwell investment. The Buzz Digital O.R. is a future-proof platform that utilizes software-driven efficiency to fuel innovation and support the clinical workflows as they evolve over time.

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PLANNING AND IMPLEMENTATION

Digitalization and optimization of clinical workflows is one of the biggest challenges for hospitals today. With decades of experience in project management, healthcare IT integration, and managing and integrating third-party devices, Brainlab ensures that all components of the Northwell digital operating room work seamlessly together, optimized for all of the facility's clinical teams.

Detailed planning was essential for maximizing utilization of the Digital O.R. technology starting from day one, which created the environment and supporting infrastructure required to reduce manual effort on the surgical staff. The Brainlab team of expert project managers, technical consultants, healthcare IT, and customization specialists worked to support Northwell's organizational goals from concept to realization, ensuring that integration was planned thoughtfully to ensure their digital operating room fit perfectly with their clinical and budgetary goals.

Throughout the planning process, Brainlab worked very closely with Northwell's IT department and clinical leadership to systematically and comprehensively identify data management systems and workflows specific to all the different surgical specialities. This ensured seamless

data access for planning, intraoperative, and post-operative documentation through the company's industry-leading IT integration.

Brainlab leverages pre-processing and preloading of surgical data, effectively decreasing clinical staff time dedicated to searching for patient data and waiting for it to download before the procedure. Brainlab has developed an efficient data infrastructure with the support of Northwell, designed around the needs of its surgeons, to meet all requirements of the hospital system and ensure proper stability and availability with failover and redundancy plans.

When partnering with Brainlab, Northwell's IT department was particularly drawn to the organization's O.R. integration due to the careful handling of patient data and the software's usability.

Brainlab carefully curates a training and education plan to support the successful go-live of the products, to ensure all clinical staff are fully trained and comfortable supporting the new hardware and software.

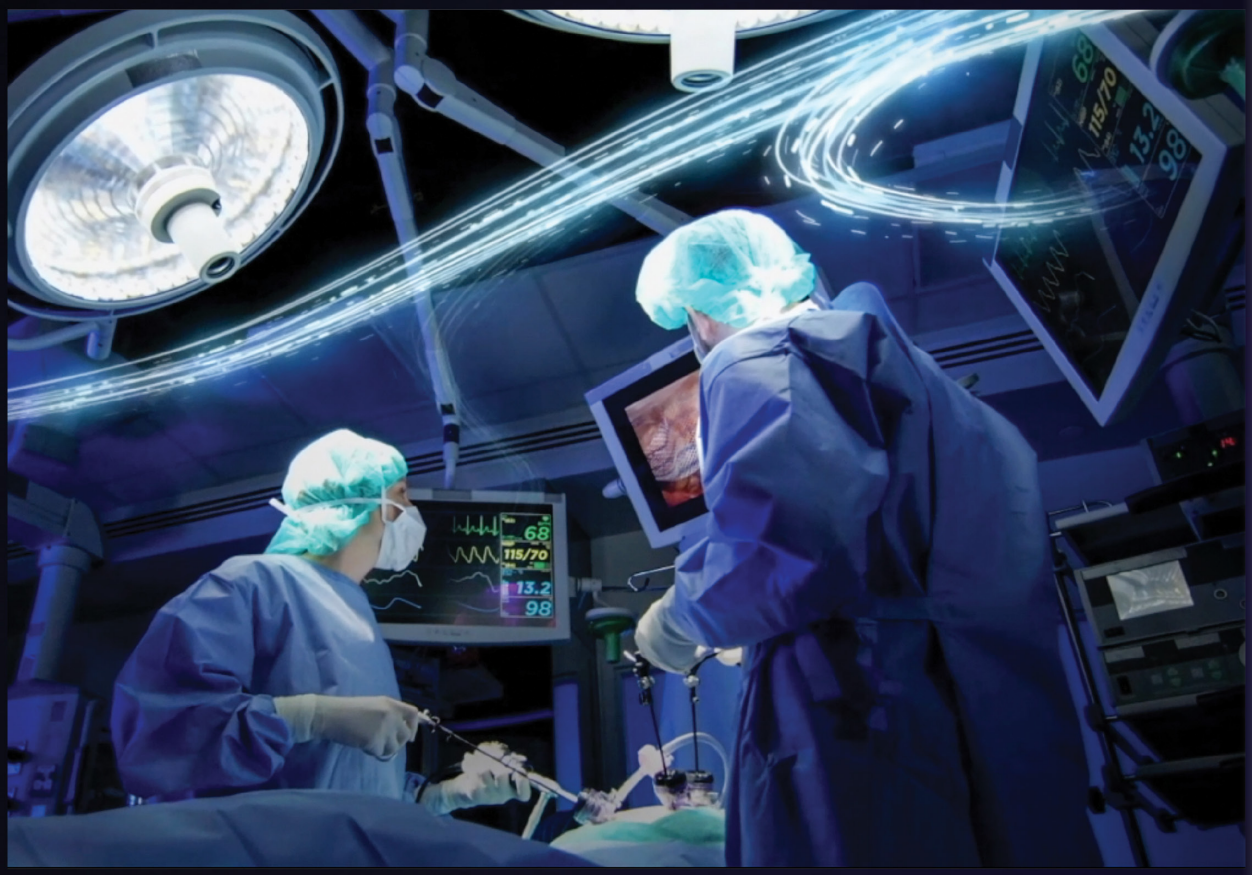
> *"Brainlab's highly intuitive and dynamic ability to display needed surgical data with a single touch made it a clear choice for the next generation of operating rooms at North Shore."*
>
> **- Kris Stillwell, Lead Medical Informatics Specialist**
> **- Northwell Health**

After go-live, Brainlab experts are available in person and remotely to solve any issues that may arise, supporting the Digital O.R. equipment throughout the full product life cycle. Brainlab proactively provides maintenance and continuing education to ensure that all systems are running efficiently, and that all staff are properly trained to effectively support flawless workflows in the operating room.

FUTURE OF DIGITAL SURGERY

Innovation lies at the Brainlab core. With its unwavering commitment to improving patients' lives, the organization has a vision to use big data and machine learning to improve point-of-care decision-making and deliver real-time analysis and insights to ultimately improve patient care.

Pushing digital medical boundaries, Brainlab is utilizing artificial intelligence (AI) algorithms and immersive mixed reality solutions to transform surgical procedures and operations across Northwell and beyond. ■



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