



How Marengo CIMS reduced
treatment planning times by 25%
and enhanced compassionate care
with GE HealthCare's intelligent
Radiation Therapy product



GE HealthCare

This white paper illustrates how Marengo CIMS Hospital—a JCI-accredited institution and leading oncology care provider offering comprehensive cancer services including radiation, medical, and surgical treatments under one roof—has pioneered the use of GE HealthCare’s intelligent Radiation Therapy™ (iRT™) product to enhance compassionate patient care. The adoption of iRT has enabled unified, faster, precise, coordinated, and intelligently automated workflows that deliver seamless patient care, advancing the department toward becoming a centre of excellence in Radiation Therapy, a critical treatment modality for cancer patients.

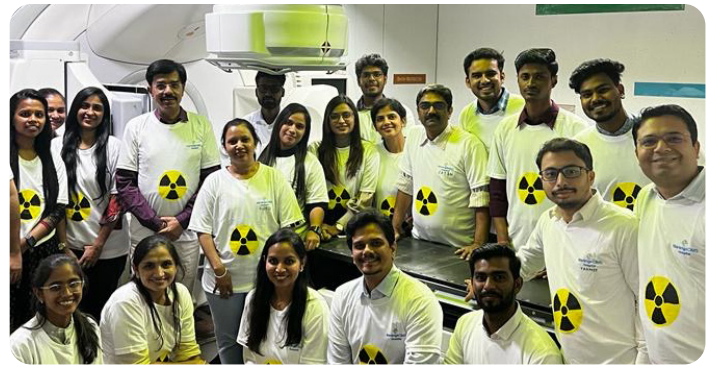


Today, even the best cancer centers globally face challenges with the inherent complexities of radiation therapy workflows. Radiation oncology involves several sequential stages, from diagnosis to follow-up, and even minor inefficiencies at any step can result in delays. Like many world-class facilities, Marengo CIMS recognized that standard processes such as patient registration and initial consultations still required extensive paperwork.

Even with advanced protocols, once a treatment plan is determined, CT simulation images typically have to be manually imported into planning systems, introducing the risk of errors. Creating a treatment plan often means working across multiple disconnected platforms, with redundant data entry and communication lapses that can delay approval and slow down the transition from imaging to treatment. Manual, handwritten dose prescriptions, while carefully managed, can present opportunities for miscommunication that could impact treatment timing.

Radiation therapy workflows are inherently complex and manually intensive, requiring clinicians to juggle multiple systems—OIS, PACS, EMR, TPS, QA—that don't always communicate with each other. Critical data can often be buried in spreadsheets, inaccessible in real time, and too time-consuming to analyze—making it challenging for clinicians to identify patterns, track performance, or make timely decisions that could further improve patient outcomes. Even at leading institutions, the lack of full integration can create bottlenecks and delays in coordinating care across oncologists, physicists, dosimetrists, and radiologists.

This labor-intensive process, while managed effectively by skilled teams, still consumes valuable time and attention that providers want to dedicate to what matters most: delivering timely, high-quality care to their patients. In their commitment to pushing the



state of the art in oncology care, Marengo sought to transform these industry-wide challenges.

Recognizing that excellence requires continuous innovation, Marengo Asia's leadership envisioned a future where technology could elevate their already world-class oncology workflows to unprecedented levels of efficiency and patient care.

"We believe that Marengo Asia Hospitals oncology workflows are among the best in the world. Our guiding principle is how to go from complexity to clarity: to work through multiple intersecting layers and arrive at what's simple and effective for both our patients, their families and clinicians "

—Dr. Raajiv Singhal, MD and CEO Marengo Asia Hospitals

The oncology teams at Marengo CIMS Hospital in Ahmedabad were confident that they would be able to improve this dynamic and would find a solution to addressing their treatment planning challenges. Enter GE HealthCare's Intelligent Radiation Therapy (iRT) solution, that offered the Marengo team a chance to put their expertise to work to implement a new intelligent workflow to improve the overall situation.

Eighteen months ago, GE HealthCare brought iRT to Marengo Asia CIMS Hospital, Ahmedabad as one of the early partners in developing this transformative technology. The radiation team at Marengo CIMS played a crucial role in shaping the product, providing real-world insights and feedback that helped refine iRT's capabilities to meet the practical needs of busy oncology departments. Following this collaborative development phase, iRT has continued to deliver measurable improvements in workflow efficiency and patient care.

iRT is an advanced, fully interoperable radiation therapy orchestration system that replaces fragmented workflows with a unified, real-time software service. It automates manual tasks, integrates with existing systems such as OIS, PACS, EMR, TPS, and QA, and enables seamless coordination between oncologists, medical physicists, dosimetrists, and radiologists.

These capabilities eliminate delays and reduces clinical radiation treatment planning time in delivering faster treatment, enabling clinicians to focus more on patient care.

Since the implementation of the final version of iRT, Marengo Asia CIMS Hospital radiation experts have worked to reduce treatment planning time by 25 percent and administrative workload by 20 percent which is similar to global customer implementations. Most significantly, the hospital was able to cut the time between imaging and the start of treatment by 15 days—a crucial improvement for cancer patients, where timely care directly influences outcomes. Faster treatment planning through integrated systems provide consultants with consolidated patient diagnostic data, reducing delays caused by juggling multiple platforms.

About Marengo Asia CIMS hospitals

Marengo CIMS Hospital established in 1998 is a leading multi-speciality hospital located in Ahmedabad, Gujarat, India. With a focus on providing the best possible medical treatment, the hospital has consistently ranked among the top healthcare institutions in India. The hospital is committed to providing the highest quality of care to patients through its range of outpatient and inpatient preventive, diagnostic, and organ transplant treatment services. The hospital has a 350-bedded modern infrastructure, making it one of the largest hospitals in the region.

Marengo CIMS Hospital is accredited by JCI – Joint Commission International (USA), NABH (National Accreditation Board for Hospitals & Healthcare Providers), and NABL (National Accreditation Board for Testing and Calibration Laboratories).

Dr. Devang Bhavsar, Head of Radiation Oncology, has led the adoption of advanced radiotherapy techniques at the hospital. A deeply personal experience with a family member's cancer battle shaped his mission to close the gap between the rising demand for radiation therapy and the limited availability of timely, high-quality care in India.

How iRT streamlines oncology workflows

Built on an open-architecture platform, iRT provides top-level control of the entire radiation therapy continuum through a single, centralized interface. This customizable ecosystem seamlessly hosts and orchestrates both existing and iRT-specific applications, enabling complete interoperability with all major functional platforms such as OIS, PACS, EMR, TPS, and QA. By integrating with multi-vendor systems and automating repetitive tasks, with iRT, the team was able to ensure uninterrupted data flow—from diagnosis through treatment planning and follow-up. iRT has streamlined every stage of the radiation therapy workflow, creating a consistent, coordinated foundation before CT simulation even begins.

Task coordination in radiation oncology

CT simulation provides the imaging necessary for radiation treatment planning. Although placing a CT SIM order takes a similar amount of time under both manual and digital systems, the distinction lies in how quickly the order is received. iRT sends real-time alerts to Radiotherapy Technologists (RTTs), removing unnecessary waiting periods.

Once the simulation is completed, the system automatically notifies both the medical physicist to import images and the radiation oncologist to begin review. This automation ensures that the next steps begin immediately.

CT simulation and image review

iRT's efficiencies extend beyond imaging and order placement to the broader orchestration of team workflows. Previously, coordinating tasks within the Radiation Oncology Group (ROG) meant juggling multiple phone calls, emails, and in-person reminders—slowing down progress and adding to clinician fatigue. iRT replaces this fragmented approach with real-time, role-specific task assignments and updates, ensuring that each team member knows exactly what to do and when. This structure has not only eliminated bottlenecks, but also improved overall accountability and alignment across the care team.

"We used to spend too much time on coordination—multiple phone calls, follow-ups, and tracking down team members," said Dr. Bhavsar. "iRT cuts through all that, giving us time back to focus on patient care."

"The ability to notify the entire care team in real time eliminates communication gaps that used to cost us valuable time. These accumulated efficiencies help drive the overall reduction in time to treatment initiation."— Dr. Bhavsar



Prescription analysis: dose and constraints

Dose prescriptions are essential to ensure that radiation is delivered accurately and safely, maximizing tumor control while minimizing damage to surrounding healthy tissue. In manual workflows, dose prescriptions were often handwritten or communicated verbally. In a study analyzing radiation therapy safety-related events, 22% directly involved communication errors.¹

"Dose prescriptions are too critical to risk misinterpretation. With iRT, there's complete clarity—what the oncologist prescribes is exactly what gets delivered."— Dr. Bhavsar

1. [https://www.redjournal.org/article/S0360-3016\(17\)32968-1/fulltext](https://www.redjournal.org/article/S0360-3016(17)32968-1/fulltext)

iRT replaces these processes with a standardized, digital interface that eliminates ambiguity. Institutional protocols are built into the system through configurable templates that embed site-specific dose constraints and clinical guidelines directly into the workflow, ensuring consistent quality. Once finalized, prescriptions are locked, preserving the integrity of the treatment plan and reducing the risk of error.

Post contouring and treatment planning

Under manual processes, radiation oncologists had to hand off contouring instructions to physicists in person or via phone, causing considerable delays. iRT removes these barriers by updating the system with the new contouring instructions in real time as soon as contouring is completed. Physicists receive immediate access to the next planning steps, avoiding the 10-minute delays that typically occurred at this stage. These small efficiencies, repeated daily, accumulate into significant time savings across the patient population.

"In the course of a week, iRT saved us hours by removing delays associated with the hand off of contouring instructions," said Dr. Bhavsar.

Plan verification and scheduling

Previously, plan verification required interdepartmental calls and document handovers, which slowed down the process. With iRT, plans become instantly accessible to all relevant stakeholders once they are ready. This eliminates handoffs and simplifies scheduling. Coordinators can act on approvals without waiting for updates via phone or email, shaving critical hours from the timeline.

Care deviation and operational insights

"Before iRT, there were too many handoffs between departments. Now, it's one system, one update, and everyone's on the same page."
— Dr. Bhavsar

Manual systems relied on spreadsheets and handwritten notes for tracking care deviations, making it difficult to surface errors or delays in real time. iRT automates this process, capturing data across the workflow and flagging inconsistencies immediately. It also enables demographic and protocol-based analysis, giving clinicians the ability to identify bottlenecks, compare outcomes, and improve workflows.

"Data used to sit in spreadsheets that no one had time to analyze," Dr. Bhavsar explained. "Now, iRT puts real-time data at our fingertips, helping us spot trends and act fast to improve care."

Delivering timely, high-quality radiation therapy

By simplifying coordination, minimizing redundancies, and ensuring that tasks move forward without delay, the Marengo team have worked diligently with the technology to significantly improve operational efficiency. The 15-day reduction in the time from imaging to treatment is not just a logistical improvement—it represents earlier care for cancer patients and a better chance at positive outcomes.



"Those 15 days are critical," said Dr. Bhavsar. "For cancer patients, faster treatment can mean better outcomes. iRT lets us focus on what matters most: delivering the right care at the right time."

Expanding access to advanced oncology care

iRT drives efficiency and consistency across large hospital networks by streamlining complex workflows, improving coordination, and reducing delays. At the same time, its automation and interoperability make it viable for expanding oncology operations into smaller, underserved areas.

"With iRT, care teams with limited staff can complete the entire treatment workflow effectively. It reduces unnecessary delays, eliminates miscommunication, and ensures that patients receive timely, high-quality radiation therapy—no matter where they are. The Tier 2 radiation department at Marengo CIMS treats 80-100 patients daily. The iRT platform will connect this tertiary center through a hub-and-spoke model, significantly improving treatment planning efficiency and delivering high-quality care to patients in resource-limited settings," said Dr. Bhavsar.

As Marengo continues to scale its oncology efforts, iRT is enabling consistent, coordinated, and compassionate care across urban and rural settings, helping close the cancer treatment gap across India.

The leadership at Marengo Asia Hospitals sees this achievement as just the beginning. "With advances in AI, the scope of what's possible is continually expanding. We are excited to partner with GE HealthCare as we make the promise of quality and personalized care a reality for people in cities, in villages, and around the world."

If you're looking to scale precision oncology, reduce inefficiencies, and deliver high-quality radiation therapy at every site of care, connect with GE HealthCare to see how iRT can support your mission.

GE HealthCare is a leading global medical technology, pharmaceutical diagnostics, and digital solutions innovator, dedicated to providing integrated solutions, services and data analytics to make clinicians more effective, therapies more precise, and patients healthier and happier. Serving patients and providers for more than 125 years, GE HealthCare is advancing connected and compassionate care, while simplifying the patient's journey across the care pathway. Together, we're creating a world where healthcare has no limits. Learn more at www.gehealthcare.com.

The products/technologies mentioned in this material may be subject to the regulation of the government. Your shipment and effective commercialization only may occur after regulatory approval. The products/technologies could be described with their market names, different from what is approved in the regulator. The commercialization of it will occur with the product name registered in the regulator.



<https://www.gehealthcare.com/specialties/oncology-solutions/intelligent-rt>



GE HealthCare