


# From fragmented imaging to a unified Imaging Health Record

## How AUSL-IRCCS Reggio Emilia transformed enterprise imaging with Philips Vendor Neutral Archive (VNA)

**Who:**
Eng. Marco Foracchia, former CIO, AUSL-IRCCS Reggio Emilia

**Where:**
AUSL-IRCCS Reggio Emilia, Italy

**Challenge:**
Fragmented multimedia imaging across disconnected departmental systems

**Solution:**
Philips Enterprise Imaging platform with Philips VNA and Acquisition Portal

### Modernizing radiology across one unified network

AUSL-IRCCS Reggio Emilia is one of Italy's leading advanced healthcare organizations and the first hospital in Italy to achieve HIMSS EMRAM Stage 7 certification as of 2025 [1] . Years before Enterprise Imaging became mainstream, the organization recognized that imaging data was rapidly expanding beyond radiology. Ultrasounds, EEGs, surgical videos and ophthalmology scans remained siloed across departments, limiting accessibility and collaboration. The fully electronic infrastructure—including ADT, CPOE, EMR, and Philips PACS (since 2003) — has become a reference point for digital transformation in the Italian healthcare system. Together with Philips, Reggio Emilia created a unified imaging architecture capable of managing DICOM and non-DICOM content across the enterprise.

**Key results* achieved:**

**70+**
**departments connected archiving in a single VNA**

**35x**
**increase in number of non-DICOM exams archived between 2015 and 2025**

**10x**
**increase in DICOM exams. Between 2015 and 2025**

*Results from case studies are not predictive of results in other cases. Results in other cases may vary.



"In today's clinical environment, imaging is everywhere, not just in radiology. Our clinicians depend on images and videos to document care, support decisions, and collaborate across departments. We needed a single, secure platform to bring all of this information together"

**Eng. Marco Foracchia, former CIO of AUSL-IRCCS Reggio Emilia**

# Re-imagining how imaging works across 70+ departments

## Meeting the challenge of Enterprise Imaging

The AUSL-IRCCS of Reggio Emilia is a network of 6 Public Hospitals and accredited by OECI as center of excellence in cancer care and research since 2014. It counts 1800 beds and 70.000+ admissions/year, around 8000 healthcare professionals are working from 3000 workstations (+400 mobile), covering a 1.500.000 population of referring patients. AUSL-IRCCS Reggio Emilia has long been recognized as one of Italy's leading advanced healthcare organizations. In 2025, its leadership was further recognized with the HIMSS EMRAM Stage 7 certification, becoming the first and only hospital in Italy as of 2025 to reach the highest level of maturity on the globally recognized digital health adoption model and confirming the organization's advanced level of digital maturity and its ability to leverage technology to improve patient care.[1]

But more than a decade earlier, Reggio Emilia was already facing a challenge that many healthcare organizations are only now beginning to be confronted with. Imaging data was rapidly expanding beyond radiology, while clinical multimedia content remained fragmented across disconnected departmental systems.

Back in 2012, clinicians began requesting a more comprehensive patient view that included ultrasounds, EEGs, endoscopy videos, ophthalmology scans and surgical recordings. Although smaller in volume than radiology studies, these data types were critical for clinical workflows, regulatory compliance and multidisciplinary collaboration.

The challenge was significant. The hospital identified 534 distinct data sources across departments. Only 13% of exams were properly managed in dedicated storage systems, while 79% were unmanaged or not stored at all. Most of these fragmented assets were non-DICOM and could not be integrated through traditional radiology workflows. This fragmentation created risks for collaboration, governance and operational efficiency. Managing each data source as a separate IT project was simply not sustainable

"The existing radiology-centric infrastructure was though not (yet) equipped to handle the diversity and complexity of these new imaging needs – at that point in time the term ***Enterprise Imaging*** did not even exist"

**Eng. Marco Foracchia, former CIO of Reggio Emilia Hospital**

To address this challenge, Reggio Emilia launched an ambitious Enterprise Imaging initiative in 2014, selecting Philips as a strategic partner to co-develop a comprehensive and flexible enterprise imaging solution. Philips was "willing to go beyond the comfort zone of radiology and see the big picture" echoes Ing. Marco Foracchia.

The project was supported by strong executive governance, with sponsorship from the CMO and CEO and leadership from the ICT Steering Committee. The goal was to create a unified platform capable of managing all imaging and multimedia content — DICOM and non-DICOM alike with scheduled and non-scheduled (encounter based) acquisitions — across all departments and care settings with the goal of managing all data related to a patient digitally and to uniform the scheduling and reporting workflows outside radiology.

Rather than deploying a standalone archive layered onto existing systems, Philips and Reggio Emilia designed an enterprise imaging architecture centered around a unified clinical repository.

[1]Azienda USL di Reggio Emilia – IRCCS Becomes First Hospital in Italy to Achieve HIMSS EMRAM Stage 7- https://www.himss.org/news-center/azienda-usl-di-reggio-emilia-irccs-becomes-first-hospital-in-italy-to-achieve-himss-emram-stage-7/#:~:text=EMRAM%20Stage%207%20represents%20the%20highest%20maturity,an%20organization%27s%20ability%20to%20leverage%20advanced%20digital



## Meeting the challenge of Enterprise Imaging

At the core of the solution was the Philips Vendor Neutral Archive (VNA), together with the Philips Acquisition Portal. The Philips VNA became the backbone of the hospital's imaging infrastructure, enabling centralized and secure management of imaging data regardless of source, format, or department.  It supported both DICOM and non-DICOM content, allowing ingestion of images, videos, traces, and PDFs from a wide array of devices and departments.

The Acquisition Portal transformed image capture workflows across the organization. Clinicians could capture multimedia content directly at the point of care using tablets, mobile devices and professional cameras.

Whether documenting a surgical wound, a diabetic foot ulcer, or an ostomy site, clinicians could log into the Philips Explorer Portal, locate the relevant patient, and attach media directly to the patient record. These images were then stored in the VNA and made accessible through  Philips Enterprise Viewer, which allowed image review and full patient portfolio access.

The platform also supported scheduled acquisitions for departments like ECG, endoscopy, ophthalmology, and ultrasound. Bookings were received by the Philips platform, and depending on the device, either a DICOM worklist was generated or a non-DICOM adapter was used to store media in formats like JPG, MPG, or PDF. Even encounter-based acquisitions such as intraoperative videos were integrated into the workflow, allowing surgical teams to initiate imaging processes directly from the operating room.

Integration with the hospital EMR and Clinical Data Repository was designed to work natively within existing workflows. Clinicians could launch acquisition workflows directly from the EMR, embed imaging content into patient records and access Enterprise Viewer without leaving the clinical workflow.

"We have increased N-fold the archive of healthcare imaging in the last 10 years, serving 100% of the departments producing images in our institution. This means that now all images are properly and securely stored and available for review using a single user experience. I can proudly say that we achieved our goal to create a complete Imaging Health Record.

**Eng. Marco Foracchia, former CIO of AUSL-IRCCS Reggio Emilia**



## Enterprise imaging across the organization

By 2025, digital pathology and genomics had also been integrated into the VNA infrastructure, enabling new levels of interoperability and data accessibility supporting the existing clinical workflows. For clinicians, the impact was quickly evident.

"Believe me, the surprise of an oncologist working on their EMR, suddenly when they press show image content and they start seeing digital films there – that was a wow effect that really gave value to our everyday struggle.

**Ing. Marco Foracchia, former CIO of AUSL-IRCCS Reggio Emilia**

Today, virtually all imaging sources across the organization are integrated into the enterprise platform, with only a few legacy systems remaining. By 2026, Enterprise imaging and VNA is not anymore experimental, is a structural approach for large and small devices. VNA integration has become a mandatory requirement for all new procurements and public tenders. Clinical reports are automatically sent to the regional EHR, ensuring compliance with European regulations on data accessibility. "Closing the circle, giving the data back to the patients and the EHR brings it everywhere in Italy, to all institutions that need those data for second opinions, care path that continue at those institutions etc.", says Marco Foracchia, CIO of AUSL-IRCCS Reggio Emilia

## A platform for the future of healthcare imaging

The implementation of Philips Enterprise Imaging transformed the way imaging data is managed, accessed and shared across AUSL-IRCCS Reggio Emilia.

More than 70 departments now archive healthcare imaging into a centralized VNA. Between 2015 and 2025, non-DICOM exams increased from less than 1000 to more than 35,000, while DICOM exams grew from around 10.000 to more than 117,000. At the same time, storage volume for non-DICOM data reached 63.6 TB in 2025, due to the inclusion of digital pathology data, and will be probably expanding even more to support future innovations like genomics and AI-enabled care.

Through its partnership with Philips, Reggio Emilia not only addressed a complex data fragmentation challenge but also established a scalable foundation for the future of enterprise imaging. Philips VNA and Acquisition Portal became more than technology platforms — they became enablers of a more connected and collaborative approach to imaging management.

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00001811-00-00 * NOV 2026

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