Transforming Radiology Education: The East of England Imaging Academy & Rosenfield Health Partnership

A Case Study on Regional Transformation in Radiology Education with Rosenfield Health's iCode Solutions

1. Introduction

The East of England Imaging Academy (EoE IA) brings together 13 NHS trusts, serving approximately 6.2 million people. The academy drives coordinated workforce development, shared training pathways, and cross-trust clinical teaching, while introducing regional digital capabilities that promote consistent standards in imaging practice. Working closely with regional universities and medical schools, EoE IA supports both undergraduate and postgraduate education for radiologists, reporting radiographers and other imaging professionals.

To advance this regional education strategy and modernise its digital infrastructure, the EoE IA partnered with Rosenfield Health to implement the **iCode Teaching Files System (TFS)** and the **iCode Teaching and Clinical Trial Export (TCE)** gateway, enabling secure, compliant sharing of teaching materials across trusts.

2. The Challenge

Radiology education across the EoE IA faced significant variation between trusts. Teaching materials were often siloed within local PACS systems or shared drives, limiting opportunities for cross-site learning. Anonymisation was performed manually on a case-by-case basis, which was time-consuming and increased the risk of errors, making safe sharing in line with RCR guidance more difficult. Trainees experienced unequal exposure to a broad range of imaging cases depending on their placement, particularly when comparing larger teaching centres with smaller hospitals. With multiple PACS providers across the region and no unified view of teaching activity, establishing consistent teaching standards and shared governance was a constant challenge. To address these issues, EoE IA sought a solution that would provide equitable access, enable safe study sharing and support a structured regional approach to radiology education.

3. The Solution

To support the EoE IA's vision of consistent, regional radiology education, the academy became the first UK adopter of Rosenfield Health's iCode TFS and iCode TCE gateway, working together to tailor the platform to their regional workflow requirements.

3.1 iCode Teaching Files System (TFS)

iCode TFS is a cloud-based, vendor-neutral platform that enables the creation, organisation, and reuse of anonymised imaging cases for teaching, training, and assessment across trusts.

Core Capabilities Include:

- A unified anonymised archive accessible to all participating trusts, aligned with RCR guidelines.
- Automatic pseudonymisation and secure governance aligned with DSPT requirements.
- Strong search and metadata tools following ACR classification standards.
- FRCR-style and custom modules for teaching sessions, quizzes, and trainee assessments, including rapid-reporting sets and long cases.
- Bookmarking and shared folders for preparing teaching sets and presentations.
- One-click export options for lectures, conferences, and other educational uses.

EoE IA uses iCode TFS to deliver structured teaching sessions and run formal trainee assessments.

3.2 iCode Teaching and Clinical Trial Export (TCE)

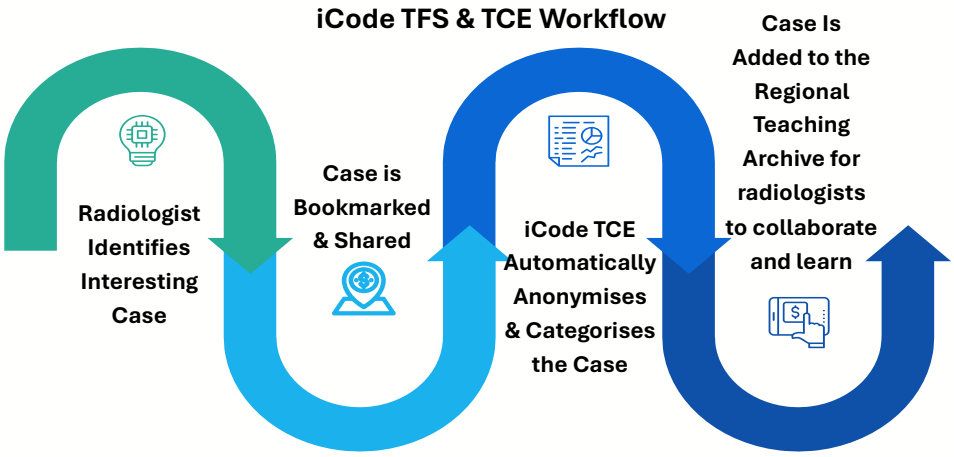
iCode TCE is installed inside each trust's network and connects directly to PACS, acting as the trust-side mechanism for safe, standardised case contribution.

Core Capabilities:

- Anonymises studies at source, removing patient identifiers before export, in line with RCR recommendations.
- Applies standardised metadata and categorisation for consistent case organisation.
- Provides full audit logs for governance and compliance.
- Ensures consistent, compliant workflows across multiple trusts.

Workflow Design & Customer-Led Optimisation

iCode TFS and iCode TCE support an efficient **"2 to 4-click" workflow** from PACS, allowing studies to be retrieved, anonymised at source, categorised and uploaded automatically to the cloud, as shown in the workflow diagram.



To better support the EoE IA's operational requirements, Rosenfield Health further optimised this into a "**one-click**" workflow, demonstrating a customer-led approach and the ability to adapt solutions to local clinical practice. The practical impact of anonymisation at source and the streamlined workflow is reflected in feedback from the EoE IA team:

Creating anonymised teaching cases was historically a long and frustrating process, requiring manual exports and external anonymisation tools. With iCode TCE installed locally, cases are now sent directly from PACS into the teaching library with patient data removed automatically. What previously took days or weeks now takes hours or minutes, and assessments are fully integrated within the platform. Everything we need for radiology teaching is in one place." ***— Huw Churchman, Imaging Education Administrator, NNUH***

4. Deployment Progress Across the Region

The EoE IA Teaching Files programme spans 13 NHS trusts, with 7 trusts already live and the remainder scheduled for deployment. This regional adoption reflects significant progress in delivering a consistent, compliant teaching ecosystem.

Trusts Live:

1. East and North Hertfordshire Teaching NHS Trust (ENH)
2. West Suffolk NHS Foundation Trust (WSH)
3. Norfolk and Norwich University Hospitals (NNUH)
4. West Hertfordshire Teaching Hospitals (WHTH)
5. Bedfordshire Hospitals (BH)
6. Cambridge University Hospitals (CUH)
7. Mid and South Essex (MSE)

University Connections
EoE IA collaborates with 7 universities across the region, with a mix of active partnerships and ongoing engagement supporting programme expansion.

577 Registered Users
Radiologists, reporting radiographer, sonographer, trainees, educators, and PACS staff are now using the teaching archive across the live trusts.

Integrated with 13 PACS Systems Across 6 Providers
Despite variation in local PACS systems, iCode TCE ensures a consistent, standardised export and anonymisation workflow, enabling smooth contribution and access to teaching materials across all trusts.

Teaching Archive Growth
The archive is expanding rapidly and has become a significant educational resource. Current metrics include:

- **2,679 anonymised studies,** contributing to **627 iCode TFS test bank questions**
- **563 quiz cases** currently available for assessment and FRCR preparation

Metrics reflect the archive at the time of publication and will evolve as the programme expands.

5. Impacts

5.1 Teaching, Training & Upskilling Impact

Deployment of iCode TFS is delivering tangible improvements in teaching, training and professional development across the region. By providing access to anonymised cases from multiple hospitals, educators, trainees, and wider imaging staff now benefit from more consistent learning opportunities, fostering a connected regional teaching community.

*"The platform makes it much easier to build curated teaching sets and examinations and to share cases with trainees in a structured way. Overall, it has reduced administrative burden and allowed greater focus on the educational value of the cases rather than the logistics of preparing them."— **Diogo Silva, Radiology ST4 & Virtual Imaging Academy fellow, NNUH***

Equal Access for All Trainees
Trainees from all participating trusts now have access to a broader range of anonymised cases covering diverse imaging findings and case complexities. This reduces variation in training experiences and ensures more equitable learning opportunities, regardless of a trainee's base hospital.

*Early feedback indicates that equitable access is improving across the cohort: "All trainees have access to the base library and can use it for self-directed learning." — **Huw Churchman, Imaging Education Administrator, NNUH***

Enhanced FRCR Readiness
With over 2,600 anonymised studies now available within the regional archive, iCode TFS supports structured FRCR-style preparation and regional assessments. Rapid reporting sets, long cases, and quiz modules enable trainees to practise with high-quality materials in formats that closely mirror FRCR examinations, strengthening exam technique, confidence, and diagnostic consistency.

This shared platform enables coordinated exam delivery across the region. Average examination group sizes currently range from 6 to 12 trainees, with plans to expand to 30 candidates across

regional training schemes. This progression reflects both the scalability of the platform and the increasing regional alignment of training standards.

Early Exposure & Career Progression
The increased variety and volume of teaching materials enable earlier exposure to key imaging patterns and support preparation for interviews, recruitment, assessments, and registrar progression.

5.2 Patient Impact
iCode TFS contributes to improved patient care by supporting consistent, high-quality radiology training across trusts.

Consistent Reporting Standards
Access to a broad range of teaching cases and structured learning materials helps trainees and staff interpret imaging consistently, contributing to more reliable diagnostic quality.

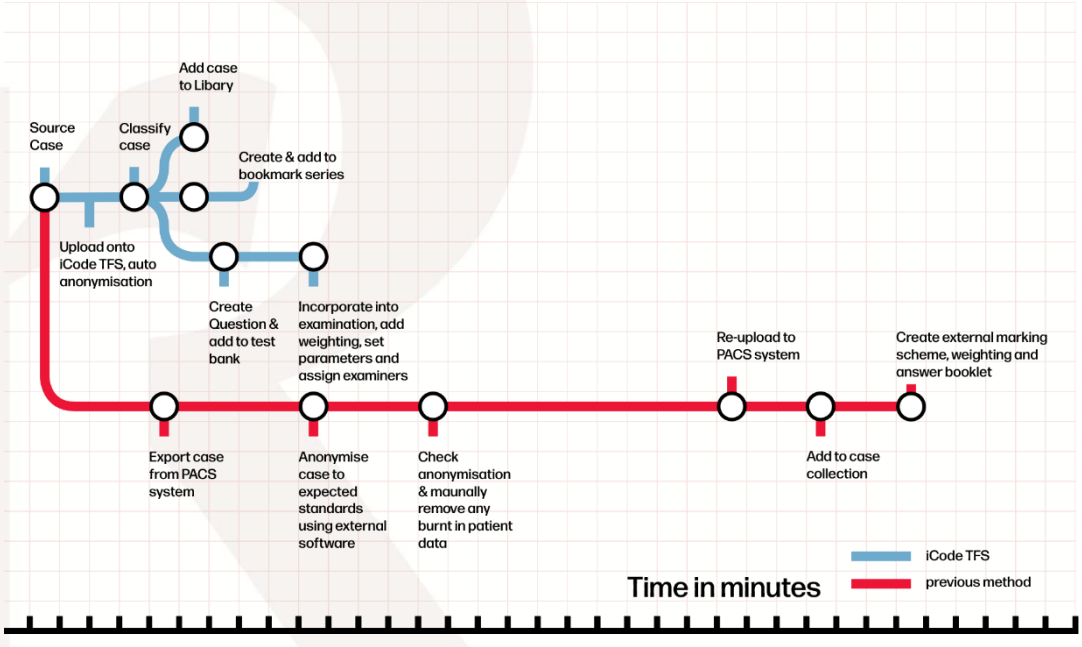
Greater Diagnostic Confidence
Enhanced training and exposure to varied cases empower radiologists and reporting radiographers to make timely, confident decisions, benefiting patient pathways.

Increased Reporting Capacity & Backlog Reduction
By reducing administrative time for teaching preparation and improving trainee readiness, iCode TFS frees radiologists' capacity, which can be redirected toward reporting. This supports trusts in meeting turnaround targets and managing imaging backlogs.

Alignment with NHS Workforce Development Goals
This initiative strengthens training capacity and accelerates workforce readiness, supporting NHS Workforce Transformation Programme objectives.

Enhanced Patient Safety
A comprehensive training environment enables earlier recognition of key imaging patterns and reduces variation in practice, directly supporting patient safety over time.

5.3 Economic & Operational Impact
EoE IA workflow mapping shows that iCode TFS and iCode TCE reduce **9** manual stages to a single integrated digital pathway, resulting in **~80% reduction** in preparation time per teaching case. This removes external anonymisation tools, eliminates **3** manual data-handling steps, and avoids PACS re-uploads, improving governance and operational efficiency.



Radiologist Time Savings

Automated anonymisation, structured categorisation and integrated teaching tools reduce the time required to prepare educational material, allowing radiologists to focus on reporting and patient-facing clinical work. As described by EoE IA fellows:

*"As a Radiology SpR, I have found that iCode TFS has significantly streamlined the process of creating teaching material. Previously, retrieving suitable cases from PACS, manually anonymising them, adding data and preparing slides could take 20–30 minutes per case. With iCode TFS, anonymisation and categorisation can be completed in just a few clicks, resulting in substantial time savings."— **Diogo Silva, Radiology ST4 & Virtual Imaging Academy fellow, NNUH***

Quantitative workflow comparison indicates the following efficiency gains per teaching case:

Process Group	Manual Process (mins)	With iCode TFS + TCE (mins)	Time Saved (mins)	% Reduction
Case extraction & anonymisation (export, anonymise, manual review)	17	1	16	94%
PACS re-upload & duplicate handling	11	0	11	100%
Case organisation (add to library, classification, bookmarking)	4	3	1	25%
Assessment content preparation (questions and marking criteria)	4	4	0	0%
Total per case	**36 mins**	**8 mins**	**28 mins**	**78% reduction**

Note: Timing reflects preparation for a single teaching case. Aggregate time savings scale proportionally based on the number of teaching cases per session, sessions delivered per month, and number of participating trusts.

Regional Time and Operational Impact

Under a conservative modelled assumption of **15 teaching cases per session and 4 teaching sessions per month per trust**, iCode TFS and TCE are projected to release approximately **336 consultant hours per trust annually**. Across the **7 live trusts**, this equates to approximately **2,352 consultant hours released per year**, rising to approximately **4,368 hours annually** under full regional deployment across **13 trusts**.

Note: Modelled on 28 minutes saved per teaching case, 15 teaching cases per session, 4 teaching sessions per month per trust, and 12 months per year.

Automated anonymisation and integrated workflows remove the administrative burden traditionally associated with case preparation. For teaching sessions involving extensive anonymisation, the cumulative time savings can be transformative. As described by Dr Hameed Rafiee:

"For teaching sessions requiring anonymisation of cases, this would save at least 8 hours per session."— **Dr. Hameed Rafiee, *Consultant Radiologist at NNUH, and Virtual Imaging Academy Development Lead for the East of England***

Operational Reliability & System Performance

iCode TFS has proven reliable in both routine teaching and high-stakes assessment environments.

"We have been very pleased with how well the system has performed during our region-wide exams set up by the Virtual Imaging Academy. Support from the Rosenfield team has also been excellent, ensuring that the tests operate reliably and providing a seamless experience for both staff and candidates."— **Dr. Hameed Rafiee, Consultant Radiologist at NNUH, and Virtual Imaging Academy Development Lead for the East of England**

5.4 Geographical Reach, Accessibility & Sustainability

By enabling teaching and assessments to be delivered digitally, the platform removes the need for trainees to travel across the region, including to central locations such as Norwich. Trainees can access learning and assessments from their own trust using standard computers, improving participation among those previously deterred by long travel times. This approach supports equitable access to training across the EoE IA's large geographical footprint while also reducing travel-related carbon emissions, contributing to NHS sustainability and Net Zero objectives.

"We have a sizeable regional cohort based outside NNUH who previously had to travel over 1.5 hours to attend teaching. These trainees can now access cases and assessments remotely, with engagement improving as a result. Of the 81 trainees assigned to the Imaging Academy, 20 are based externally across QEH and ESNEFT sites. The same benefits extend to the Cambridge and EBH training schemes, improving attendance and supporting regional teaching KPIs." — ***Huw Churchman, Imaging Education Administrator, NNUH***

6. Future Direction Model

Powered by Rosenfield Health's **iCode TFS** and **iCode TCE**, the EoE IA establishes a foundation for continued development as additional trusts are onboarded and teaching practices evolve. As the system matures, the region will gain clearer insight into learning needs, teaching activity and trainee progression, supporting workforce planning and quality improvement across imaging services.

The EoE IA experience demonstrates how shared governance, consistent access to teaching resources and standardised workflows can strengthen radiology education across multiple organisations. The teaching file offers a scalable framework for other regions exploring collaborative approaches to radiology training, supporting consistency, efficiency, and continuous improvement.

Based on current archive growth, the regional repository is projected to exceed 4,000 anonymised studies within 24 months, subject to full regional deployment. This anticipated expansion reflects both increasing trust participation and sustained educational engagement across the network.

Let's solve your challenges together. Take the next step:

Click here to download the iCode TFS brochure.
Book an introductory call for personalised support