Multi-Purpose Storage Platform Supports Cross-Border eHealth Project

East Tallinn Central Hospital, Estonia

Founded in 1785, East-Tallinn Central Hospital (ETCH) has a history of healthcare innovation and international research. Co-operation in the area of eHealth started in 2002, initially with Helsinki University and two years later ETCH became a founding member of the Baltic eHealth project, the first cross-border dedicated health data network of its kind. This challenge required the hospital to change from its conventional PACS archive to a multi-purpose storage platform where all patient data, not just images, could be shared securely with both radiologists and clinicians across national borders.

"We were looking for a solution beyond conventional PACS, one that offered not only the capability to manage and store a variety of patient information, but also featured streaming technology" said Dr Peeter Ross, former Chief Radiologist and current R&D Director at East-Tallinn Central Hospital. "In the beginning we talked with many vendors but found CARESTREAM Solutions the most flexible and reliable for our purposes. We had many questions and were looking for a partner who would work with us to find the answers. Carestream Health was that kind of partner, readily sharing their experience of eHealth and positively working through issues such as cross-border security."

The Baltic eHealth project is part-funded by the European Regional Development Fund and aims to build a large transnational IT infrastructure which when completed at the end of 2007, will connect over 200 hospitals and 6,000 general practitioners.

Streaming Technology Extends Clinical Workplace

Streaming data transfer technology plays a key role in the project where portions of data are sent, rather than all, allowing users to view the first images in a study as the rest are being transmitted. Only the frame-buffer view is submitted with the processing undertaken via the server or grid to reduce the need for large bandwidth network connections, even for viewing of 3D, cardiac CT and other extremely large image files. "We have now successfully completed the pilot phase and have started reporting on a daily basis," Dr Ross explains. "Images, are streamed into Tallinn for reporting but remain archived in Denmark to meet legal and security regulations. Our radiologists very much appreciate the speed and simplicity of the PACS tools, particularly the mini-patient archive and 3D reconstruction, and find web access both reliable and fast."

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Dr Peeter Ross with Chief Radiologist Ulle Raudsepp

"We have extended this solution to our general practitioners (GPs) here in Tallinn. Thanks to the CARESTREAM Solution, they can now view images and all related patient data remotely, which has extended the clinical workplace enormously. The exchange of information is now much easier, with radiologists and clinicians able to access identical data, and the consequence of this enhanced communication is improved patient care."

East Tallinn Central Hospital and its main clinical partner work with a 100 Mbps connection with the majority of referring physicians linking to the system via a 1-2 Mbps ADSL connection.

"The PACS saves on the need for IT resources and support and is a great success compared to our old system," added Marko Parve, Head of Medical Engineering, East Tallinn Central Hospital. "Radiologists now experience a system that is reliable with flexible user configuration. Moreover, the new PACS has made it possible to connect more than 30 modalities in the hospital and we have plans to integrate a further eleven from endoscopy, pathology and our eye clinic.

"Even greater productivity has been achieved, especially for referring physicians. Now it is possible to seamlessly view series images from CT, MRI and XA (angiography), which demand higher server performance and computer speed, also 3D MIP and MPR with the advanced streaming technology offered by the system. This was not available before."

"Carestream Health is also a valued partner in helping us move forward with the next phase in the Baltic eHealth project"

Dr Peeter Ross, R&D Director at East-Tallinn Central Hospital.

"Carestream Health is also a valued partner in helping us move forward with the next phase in the Baltic eHealth project. The EU-funded R-bay project, which starts during summer 2007 and lasts 18 months, aims to create an eMarketplace for the purchase of remote reporting and second opinion services across borders. More than ten countries in Europe will participate, extending the Baltic eHealth network with the addition of the UK, Netherlands, Finland and the Czech Republic. Future IT planning is important for the realisation of these plans and we are working closely with Carestream Health to upgrade our systems in a timely manner.

"Here at ETCH, we have worked with CARESTREAM Solutions for over two years and virtually every month we are creating new features for our HIS, RIS and PACS systems. Ours is a co-operative, fruitful relationship that is sure to continue for many years to come."

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