



NEWS HIGHLIGHTS

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ICT | GÉANT | Telemedicine | European Union

GÉANT academic network shows its worth in telemedicine demonstration

Science|Business reporting

A demonstration of the role that telemedicine could play in improving healthcare across Europe has taken place across the GÉANT academic network and various national research networks. Three hospitals across Europe were linked in an advanced video conferencing system, enabling the sharing of high quality, real-time video images of surgery, for training and diagnosis.



The demonstration last week linked St Olav's University Hospital in Norway, connected through the Norwegian UNINETT network, the Monaldi Hospital in Italy via the Italian GARR network and the Hospital Clinica Barcelona, through the Spanish RedIRIS network, to each other via the pan-European GÉANT network. Staff at each hospital provided a tour of surgical operating facilities and there were demonstrations of how endoscopic surgery can be transmitted for training purposes across GÉANT, which is operated by research networking organisation DANTE.

So far the true potential of telemedicine has been held back by poor image quality and a need for expensive equipment. The demonstration, created and run by the TEMDEC, the Telemedicine Development Centre of Asia at the Medical School of Kyushu University in Japan, successfully overcomes these issues providing high image quality, transmitted at 30 Mbps using Digital Video Transport System equipment that can be run from a standard PC.

"Telemedicine has the power to improve medical training and patient care across Europe," said Dai Davies, General Manager, DANTE. "It provides the ability to view new surgical techniques and collaborate internationally on diagnosis and share skills and experience. The success of this demonstration shows how high speed networking can underpin telemedicine across Europe and the world."

The TEMDEC project has pioneered the use of telemedicine to improve surgical training. Since being set up in 2003, it has carried out over 100 demonstrations across the world, of techniques that include laparoscopic gastric surgery, neurosurgery, endoscopy and colon surgery. This is the first TEMDEC-led project to link hospitals across Europe.

"Surgical training has traditionally been based on observing operations and learning from them," said Shuji Shimizu, Department of Endoscopic Diagnostics and Therapeutics Kyushu University Hospital and Leader of TEMDEC. "As surgical skills become more specialised we need to be able to train surgeons remotely in order to improve knowledge transfer and enhance abilities. Using television-quality video over the GÉANT network to remotely watch live keyhole surgery undertaken in other countries, promises a disruptive change to training in this area, benefiting all involved. We hope that this demonstration is the first step in the adoption of increased telemedicine use across Europe."