



Polycom solutions deliver distance learning to Croatian education system

Polycom video conferencing solutions are enhancing the distance learning experience for Croatian schools and universities by enabling better student/teacher collaboration.

The Challenge

To improve the delivery of education to pupils in remote areas and enhance communication between teachers and students for more effective learning at all levels.

The Solution

A national educational video conferencing network based on Polycom's VSX series, MGC conference bridge, PVX licences and various management applications, installed in over 100 universities and schools throughout the country, supported by a Polycom Elite Service contract.

The Results

Connecting remote student populations, raising standards of collaborative communication and increasing student/teacher satisfaction.

As a signatory to the 1999 Bologna convention on European education, Croatia has made considerable progress towards meeting its educational requirements. One of these is to improve communications between teachers and students for more effective learning. Since the Bologna convention, the government has implemented a nationwide programme of collaborative communication throughout more than 100 universities and schools. This has been undertaken through the Croatian Academic and Research Network (CARNet), the government agency specifically set up to deliver advanced information and communication infrastructure to the academic and research communities.

"In Croatia, we embrace the opportunities that new computer and communication technologies bring to education," explained Damir Regvart, network engineer at CARNet "Our drive in education today is characterised by a need for flexibility and individualisation so that teachers and students can teach and learn whenever and wherever possible. As well as the traditional classroom environment, we are exploiting opportunities via the Internet and through video conferencing. Video conferencing systems alone have certainly found an important place among our new forms of distance learning and teaching techniques."

Croatia has a population of 4.5 million, an area of 56,542 sq km (21,831 sq miles), over 3000 schools, seven universities (200 faculties) – plus 1,185 islands of which 47 are inhabited. As a result, delivering an education service equally throughout the country faces many challenges. The most pressing of these include the isolation of many schools throughout the country, particularly on the islands, and a limited supply of teachers capable of delivering education to them.

Universities pioneer video conferencing

As a result, a pilot project was initiated among four universities to test the feasibility of distance learning enabled by video conferencing. After a careful review of available products, Polycom technology was accepted as being the best for the job.

As the global leader in telepresence, video and voice communications solutions, Polycom has the largest range of video and teleconferencing solutions based on open standards in the world. Consequently, a mix of Polycom's VSX8000 and VSX7000 systems were installed in video conferencing rooms at the University of Zagreb, Split, Osijek, Rijeka, Pula, Zadar and Dubrovnik.

The Polycom VSX solutions offer a large format, twin screen unit that delivers superb video and audio quality to the classroom environment.

"In Croatia, we embrace the opportunities that new computer and communication technologies bring to education."



"By 2000, we had proved the effectiveness of the systems and moved into phase two," continued Damir Regvart. "This involved moving from our previous ATM network to IP and rolling out the model to a further three universities (25 faculties) around the country until all were part of the video conferencing educational network."

The success continues in schools

But it didn't stop there. By 2004, CARNet was entrusted with the task of continuing the video conferencing programme in Croatia's schools. To begin with, this meant replicating the university experience with a mix of Polycom VSX3000, VSX5000 and VSX7000 units installed in 50 primary and secondary schools throughout the country.

The Polycom VSX3000, VSX5000 and VSX7000 units deliver a range of quality video conferencing solutions based on compact desktop units with excellent audio and video quality through to bigger high resolution screens capable of delivering a powerful video conferencing experience to large rooms of up to 40 people.

By 2005, Polycom's Croatian channel partner, SupraNet Projekt, was brought in to deliver, install and configure the equipment, and has since worked with CARNet on all subsequent video conferencing projects.

SupraNet Projekt were empowered with the logistics of implementing the project around the country. Working with the local Polycom representatives and using their experienced field force, SupraNet Projekt installed video conferencing rooms at the schools at a rate of three per month.

"It was a mammoth undertaking and one that involved teamwork at every stage," explained Damir Regvart. "However, we maintained our schedule and installed the equipment throughout the schools as planned. By the end of 2007, we had installed and tested 50 Polycom VSX systems to our and the schools' satisfaction."

Invading the islands

Next came the islands project. Typically the primary schools on these Croatian outposts were staffed by one teacher throughout the children's age range of 6-12 year olds. This under-resourcing is at the crux of the issues surrounding population remoteness and the limited supply of teachers. The government considered that it was in the interests of all involved to prevent the migration of island populations to the mainland solely for the

purposes of gaining an education. As there weren't enough teachers to make the journey to the islands, and faced with ferry services that could be regularly disrupted by bad weather, it was imperative to ensure that children on the outlying islands had an equal and fair share of the educational resources. Video conferencing was proving to be the ideal solution with mainland schools and universities, so the thinking was to extend the initiative to the islands.

"By 2005, our video conferencing programme was ready to invade the islands," added Damir Regvart. "This involved an initial pilot link between the primary school on the island of Drvenik and a school in Trogir on the mainland using the Polycom VSX7000."

Unsurprisingly, this pilot link proved equally successful and the schools programme was subsequently rolled out to a further 20 schools on Croatia's islands using Polycom's VSX7000 units.

Supporting the Solution

By the end of 2007 it was time to co-ordinate the support of such a dispersed solution. The support of over 250 endpoints and two MGC's were beginning to become more difficult. SupraNet Projekt proposed that CARNet take out an Elite Service contract where they would be able to take advantage of Polycom's technical experts who could proactively offer support. By co-ordinating service calls through a unique access point CARNet are able to reach the technical experts who know and understand their complete deployment whenever they required assistance, whatever the time of day. Having access to unlimited support to ask technical questions, obtain replacement equipment, and keep the equipment up to date is critical to end user uptime and usage of conferencing equipment.

CARNet's dedicated Polycom team includes an Elite Service Manager (ESM) and an Elite Service Engineer (ESE) who work closely with the technical experts at SupraNet Projekt and within CARNet to ensure their deployment is maintained at optimal levels. The ESE reviews all Software upgrades as they are released, and identifies the components that would be beneficial to the technical support engineers at CARNet, by co-ordinating the rollout of Software Upgrades, the technical team at CARNet can focus on supporting their customers instead of spending time reviewing multiple revisions of software and this ensures their equipment is optimised and running at the

"We are fully committed to video conferencing to spearhead all future drives to bring education resources to outlying towns and populations."

correct revision levels. The ESM monitors the calls being logged and runs monthly reports to discuss during the periodic status meetings, this compilation of statistics give the technical team at CARNet an oversight into the performance of the complete deployment. This enables them to plan for system upgrades, new system roll outs and scheduling downtime as appropriate. By utilising an Elite service contract, CARNet benefit by saving time and resources but also have increased visibility of how their whole Polycom solution is performing.

The best medicine

In the meantime, several affiliated projects were springing up to exploit the use of video conferencing in education. One of these was the E-Medica project involving a range of Polycom VSX5000 and VSX7000 installed in four medical schools in Zadar, Rijeka, Dubrovnik and Zagreb that linked with nursing hospitals throughout the country for medical lessons and demonstrations.

"This, and all our video conferencing projects, have progressed very well and delivered the kind of positive feedback we were aiming for," enthused Damir Regvart. "Our experience with the Polycom equipment and the personnel at SupraNet Projekt has been excellent since the start of the video conferencing programme. We are very happy."

Students and teachers on the remote islands along the sparkling coast of this beautiful Adriatic country are also impressed. Thanks in some part to video conferencing, they are getting a fairer share of education and no longer feel disconnected from the rest of their country. The programme to bring education and distance learning to these remote regions is a small step towards stabilising the population and slowing down the drift to the cities.

"The last eight years have been a big adventure for us and one that has certainly achieved our objectives and generated a lot of positive feedback," concluded Damir Regvart.

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