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**Arvid Janssen**  
Unit Manager IT Services, HvA

## SYSTIMAX® Solutions

### Intelligent Network Infrastructure on a Unique City Campus Helps Manage Complex and Changing Demands

**Hogeschool van Amsterdam chooses SYSTIMAX® iPatch® and GigaSPEED® X10D solutions for network that serves 32,000 students and lecturers**

High performance connectivity and intelligent network infrastructure helps turn a new vision for the university campus into reality. The iPatch system makes it easy to manage a network with 22,000 outlets and 1,200 kilometers of 10G copper cabling that supports diverse and constantly changing equipment.

The Hogeschool van Amsterdam, University of Applied Sciences (HvA) is building a unique city campus close to the center of the Dutch capital. Across an area of 10 hectares, the campus will include lecture theaters, halls of residence, sports facilities, cafés, hotels and restaurants, shops and partially public spaces.

The HvA's new and renovated buildings are clustered around city squares and courtyards rather than the traditional private gardens and greens and will serve 32,000 students and lecturers. Staff on the campus, including 2,300 lecturers, deliver around 80 different courses in subjects ranging from sport and nutrition to finance and management. Managing facilities to meet the needs of these courses is a major challenge for the HvA, especially its IT and network services departments.

Commenting on this, Arvid Janssen, Unit Manager, IT Services, said, "We are seeing a significant growth in the number of students year on year. However, student numbers for each discipline change regularly, so around a third of our installed base is renewed every summer. Because space requirements change, walls must be moved and, naturally, this has an impact on the network infrastructure".

To cater for the changing requirements, the HvA wanted a new, high performance, structured cabling solution. By installing 10Gb/s information outlets throughout its buildings, it can connect any device in any area. So, equipment ranging from CAD workstations and video conferencing cameras to vending machines and access control units can not only share the same network, it can be swapped at the same access point.

Managing such a complex and dynamic situation efficiently is a challenge and, to meet it, the HvA decided to incorporate intelligence within the network physical layer. The solution it chose for this was the SYSTIMAX iPatch system. This offers interactive, realtime management of the physical layer, keeping system managers up-to-date about the status of each connection.

Arvid Janssen explains this choice, "Before, we had eight on-site engineers covering 10 buildings taking care of the transfer of end-user equipment and keeping the patches up-to-date. They did this manually using a spreadsheet system to record the details and making site inspections to check their information on connections was correct. This is inefficient and error-prone, especially if there is pressure to complete changes quickly.

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As well as PCs, telephones and printers, the campus network also supports vending machines, monitoring and access equipment, measurement and control systems, AV equipment, cash registers and PIN machines. Several different parties are involved in managing all the different equipment, making central coordination essential.

With the iPatch System, managers can prepare electronic work orders and have the work done by other parties, for example, an employee of the security company. The work orders can be read on the iPatch Rack Manager display at the patch panel, guiding the employee through the necessary steps. In addition, audible and visible indications confirm where connectors should be plugged-in. This simplifies moves, adds and changes so they can be completed without special training.

The system allows managers to monitor work at the patch panels, see that it is done correctly and keep the status of each work order up-to-date. When a change is completed, the system can perform extra tasks such as the automatic activation of switch ports to ensure the service is only provided to authorized users.

Before selecting the iPatch System, the HvA carefully studied the alternatives. Commenting, Arvid Janssen said, "Through investigation, presentations and reference site visits, we were convinced that the iPatch System was the most mature product on the market and the best for our requirements. Its use of standard 8-wire cords is a significant advantage over systems requiring special 9-wire patch cables."

When specifying and planning the cabling and iPatch installations, the HvA worked with the Deerns Consulting Engineers. Jos Hoogenboom, a senior specialist at Deerns, explained the process, "We called for two tenders, one for cabling infrastructure and one for the intelligent patch environment. We did this because not every installer can deal with intelligent infrastructure and we needed a partner who could provide high quality software implementation, training and support."

The company that received the order for both tenders for the first two buildings was Amsterdam-based Unica ICT, a CommScope Certified iPatch Solution BusinessPartner. The economic benefits for the HvA and the excellent project plan for implementing both installations were key reasons for selecting Unica. The company also had the required references.

At the start of the five-year project, Unica began an installation that will eventually total 900 iPatch intelligent panels, 55 iPatch Rack Managers and 29,000 patch cords. In addition, it started installing 22,000 SYSTIMAX GigaSPEED X10D outlets connected via 1,200 kilometers of SYSTIMAX GigaSPEED X10D unshielded twisted pair cable.

The GigaSPEED X10D solution comfortably exceeds the full specifications of the Category 6A/Class E<sub>A</sub> standard for 10Gb/s connections using unshielded copper cabling over distances up to 100m.

Commenting on the project, Jan Schreurs, Business Development Manager, CommScope Enterprise Solutions said: "This is an example of how advanced network infrastructure has helped make a new vision for an educational campus into a reality. A very high performance network unifies facilities that are dispersed throughout a city district – and iPatch intelligent infrastructure makes it easy to manage complex and constantly changing interconnections."



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