Hotelschool The Hague

Hotelschool The Hague a future-ready network with Fibre To The Office

Hotelschool The Hague (HTH), originally named 'Hogere Hotelschool Den Haag', was founded in 1929. This hospitality higher education school now welcomes over 2,600 students across two campuses in The Hague and in Amsterdam. In September 2021, HTH opened its 'Campus of the Future', which sets a new standard in the field of hospitality education sustainability. The school building on the Brusselselaan in The Hague, part of the campus, no longer met current requirements and ambitions in the areas of educational innovation and sustainable, efficient operations. The building was rebuilt and renovated and is now home to the first Aginode Fibre To The Office (FTTO) network in the Netherlands.patch cords to enable a flexible, secure and redundant solution for PoE applications and to provide a modern open space environment with a clear competitive edge.

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THE CHALLENGE: CREATE A FUTURE-READY NETWORK WITHIN CONSTRAINTS

The building consists of a basement, ground floor and four higher floors, and features multiple distribution areas for an internal LAN network. This is used by approximately 1,000 students, visitors, teachers, and administrative staff. First-year students housed elsewhere use the network 24/7. With a view to new developments, a future-ready network had to be designed and rolled out in a very limited time. Realising this with traditional cabling presented a range of challenges. Existing structures and overfull cable ducts would have to be taken into account, in a complex operational environment.


We were contacted by the Hotelschool in early 2019'' explains Georges Kazantzidis, Territory Sales Manager Netherlands, Aginode. ''We discussed the challenges associated with the planned renovation and explained how Aginode could help manage these. On our first visit to the HTH, we were received very courteously, as might be expected expect in a hospitality environment. We presented our LANactive Fibre To The Office (FTTO) concept to Martin Bal, HTH ICT Manager. Martin received our presentation very positively. An important next step was mapping out the network and desired connectivity. We then determined the number of connection points required per floor. In addition to standard user IT ports, this included network connections for Wi-Fi, camera systems, access security, connections for payment, media, and building management systems. Based on the

resulting schematic, we designed an FTTO concept with some 700 connection points. Budget, design and technical documentation were approved by the Hotelschool mid 2019.''

+ 50
FTTO switches

FTTO is an innovative fibre optic-based network concept. Prefabricated fibre cables connect the central distribution area to lockable zone distribution boxes installed in the ceilings. From there, active FTTO Ethernet switches are connected with ruggedized fibre patch cords. The FTTO switches convert the optical signal to electrical and vice versa. Terminal devices are connected via RJ-45 interfaces: recognisable traditional connection technology. Each FTTO switch is connected to the central distribution switch. The FTTO switches each provide four or five user ports, suitable for Gigabit Ethernet. The centralised structure of the active network components simplifies network deployment, management, redundancy and service levels. This significantly reduces IT infrastructure costs. All FTTO user ports with this design support Power over Ethernet Plus (PoE+) functionality. Digital Ceiling (DICE) technology can be used to facilitate migration to PoE ++. In addition to this functionality, all passive connections are continuously monitored
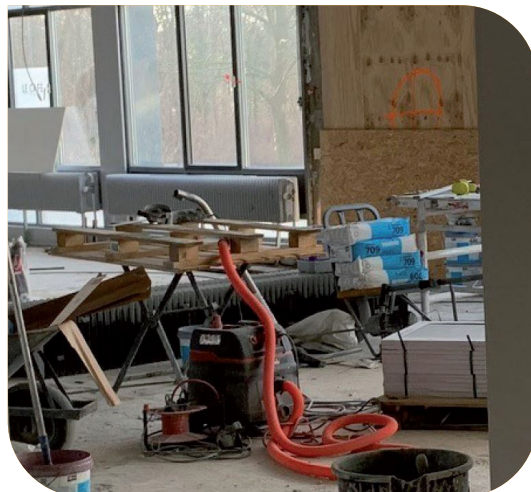
and managed by the LANactive Manager network management system. Any incidents in the passive wired environment are detected immediately.

In addition to LANactive FTTO, Aginode now also offers the LANactive Digital Ceiling platform, providing an upgrade path to higher network speeds such as 10G, Multi G and PoE++ (60W/90W). With DICE technology, the capacity of an existing FTTO environment can be doubled without modifying the existing structured cabling. This technology is the future for Smart Building environments: connecting and electrically powering smart IT and Operational Technology (OT) environments, throughout the lifetime of a building environment, in a clever way.

''One of my colleagues, from the purchasing department, sent me information about LANactive FTTO while we were preparing for the renovation of The Hague Campus,'' says Martin Bal. ''The building is an old structure, that has rather low ceilings. Because our campuses are interconnected, and for construction reasons, removing all the cabling at once was not an option. During the renovation phase, the HTH also wanted to maintain a number of educational functions. FTTO meant fewer cables, less complex work, and ensured the network would remain operational throughout the renovation. I asked Georges to send me some documentation and case studies. A long list of references followed: government, semi-government, embassies, universities, hospitals, defence, large companies... and schools, too. We were definitely interested.'' Andreas Reckers, Sales Manager at Aginode, explains: ''A key advantage of this design approach was the fact that no major structural alterations were required. We could also realise significant savings in terms of available floor space, wall penetration, and pipe routes. We replaced several backbone cables and hundreds of copper cables, which were managed from several distribution rooms, by just forty OM4 fibre optic cables and forty zone distribution boxes.''

Georges continues: "The network is now managed from a single distribution room, with a single network rack equipped with nine LANmark patch panels and the Fortinet fibre switch environment. The network was delivered mid-2021. The entire solutions was 'Plug & Play' - for example, prefabricated fibre optic cables were already equipped with LC connectors. After delivery and commissioning, we gave a Aginode training in the use of LANactive Manager. I followed this training together with the HTH IT staff, in order to better inform our clients about network management and Zero-Touch Configuration.''

LANactive Manager is a simple, secure solution for configuring, managing and monitoring all Aginode LANactive FTTO, DICE and Industry switches. LANactive Manager is ideal for on-site network engineers and is available as standalone desktop application. For large installations with thousands of switches, customers can use the LANactive Manager Client-Controller. Using the Zero-Touch Configuration process, LANactive switches added to the network are automatically recognized and configured by the LANactive Manager.
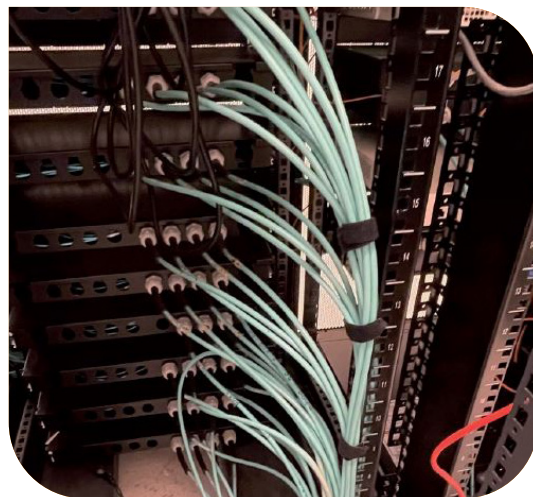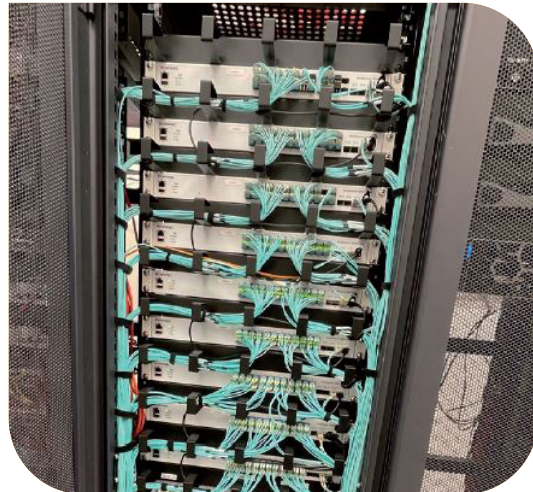
SMART INSTALLATION

''The HTH team was delighted with the lower OPEX and quick rollout, as well as the fact that they didn't need to deal with challenging construction obstacles and changes to ducts,'' concludes Georges. ''This was the very first FTTO project in the Netherlands. A second FTTO project is currently being carried out at the Eemsdelta College in Appingedam, a new building. We played an important supporting role during the design phase of this project, too. Interest in this innovative solution is definitely growing - I am increasingly being asked to consult on renovation and new construction projects.'' Stakeholders such as installers, consultants and users are not just interested in the network's quality and future-proof nature, but also in subjects such as sustainability, modular construction and smart installation. We might say 'less is more'. The familiar 90-metre permanent link rule is now also a thing of the past with this solution.

Martin: ''Fibre optics is more future-ready than copper cabling. The new FTTO solution not only meets today's needs but can accommodate whatever tomorrow might bring. The entire chain, from the fibre entering the building to

the workstations and Wi-Fi 6 network, has been upgraded to Gigabit speeds. If, for example, we were to install even faster Wi-Fi access points in a few years' time, permanent cabling would not be an issue at all. With FTTO we are also investing in the future: with fibre to the workplace we are well prepared for higher bandwidths, PoE and new applications. The installer read up on this technology, because it was still relatively new in the Netherlands. There was also some uncertainty about the application of distribution (core) switches, which were not included in the design. But in the end we managed to find a solution. People nowadays take a fast internet connection for granted, like running water. After the renovation, everything worked immediately without any problems. If I had to 'upgrade' our other locations, I would certainly use Aginode LANmark and LANactive again.''

Features installation

- 700 connection points
- 9 Fortinet (FS-424E-FIBER) fibre optic distribution switch environment
- 40 LANmark-OF pre-term microbundle OM4 duplex LC fibre optic cables
- 40 LANmark lockable zone distribution boxes including mounting plate
- 94 Extreme Networks Universal Wireless AP410C WiFi-6 access points

Timeline renovation HTH

- Contract awarded: November 2019
- Final design: December 2019 - February 2020
- Renovation / construction of FTTO network: June/July 2020 - April 2021

Solution benefits

- Future-proof network (scalable, flexible, sustainable)
- Network security
- Area optimisation (no LTE)
- Improved energy efficiency
- Reduced operating costs
- Simple management, flexibility in use, no mixing of technologies
- Quick and easy installation
- Support for PoE evolution, PoE+, PoE++
- Interoperability / IP convergence

#smartconnection

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