INCOAX

Case Study May 2024

InCoax delivers high-performance gigabit connectivity to apartments in Finland, replacing current DOCSIS 3.1 services

The background

Home working shows no signs of waning post pandemic, underscoring the importance of reliable Internet access and symmetrical services. While previously tenants might have demanded a large number of linear TV channels, we have now seen a transition to a selection of a few popular local channels alongside streaming platforms. For the owners of apartment complexes, a cost-effective, broadband connection is vital to attract potential new tenants and keep their current residents satisfied.

Located in Kankaanpää, a town and municipality of Finland, the Kankaanpään Asunnonhankinta complex consists of 545 apartments. While the complex remains appealing to tenants, the previous network did not meet the broadband performance level required or provide the local TV channels requested by the residents.

The apartment complex owner wanted to ensure that tenants were digitally connected as cost-effectively as possible. Due to its previous broadband connectivity conditions, it recognized that it was time to make a change and introduce an alternative proposal for residents who were at risk of being underserved.

The challenge

High-speed, low-cost broadband and dedicated TV services were required for the apartment complex to fulfil the digital needs of its tenants. The combination of high-speed and low-cost connectivity may seem contradictory and be difficult to achieve,

but fortunately, the complex owner looked to local network operator Pohjois-Satakunnan Seutuverkko (PSSV) to deliver this project.

PSSV covers five municipal areas in the western part of Finland and is the only local operator in its region. PSSV which usually only provide full fiber solutions, realized that it had to think outside the box to solve the Multi-Dwelling Unit (MDU) installation problem in a cost-effective way compared to installing fiber to each apartment. With a longstanding legacy of providing full fiber optic connectivity, PSSV set high expectations for the performance of the network and had to find a way to reduce the cost of the deployment. It was delighted to provide the high performance and cost-effective solution the apartment complex owner craved to combat its connectivity headache.

At the end of 2021, almost half of Finnish households (49%) had access to an optical fibre network connection according to Traficom. Although 60% have access to a 1 Gbps connection, the demand across the country for better connectivity remains strong.

The solution

PSSV partnered with Swedish company InCoax Networks, which proved to be a highly successful collaboration. Together, they provided the apartment complex with the digital connectivity it sorely needed. InCoax aims to provide cost-effective high-performance multi-gigabit networking solutions for streaming, working, and remote learning within large residences, by repurposing the existing in-building coaxial network.

PSSV deployed InCoax's MoCA Access® 2.5 technology to initially provide symmetrical gigabit broadband – with the option of reaching multi-gigabit speeds – to tenants living in the apartments in Kankaanpää, Finland. MoCA (Multimedia over Coax Alliance) is a global member-driven, non-profit standards organization that develops the multi-gigabit broadband coax connectivity standards.

By extending its fiber network to each building and repurposing the existing coaxial network, previously used for cable-TV, PSSV could provide a fiber-like broadband performance to individual tenants residing in the MDU.

To connect its network to the apartment complex, it extended the fiber that was already deployed from the network operator's Central Office to the basement of each building, providing data rates of 1 Gbps with the option to upgrade to 10 Gbps. A Control Unit (in-building node models C251 or C254) was installed in the basement of each MDU and connected to the existing in-building coaxial network. Depending on the size of the building, different Control Units were selected. The C251 has one coax port, while C254 has four coax ports each supporting a maximum of 31 Network Termination Equipment (NTE) modems. The NTE modems and Wi-Fi routers were self-installed by the residents of the apartments. Only a few residents required installation assistance, so the home deployment process was very cost-efficient.

With this easy-to-deploy technology, the complex can be cost-effectively connected, with significant savings during the deployment phase. It is enabling the network operator to introduce more competitive pricing and increase its share of home broadband subscribers.

The technology's cost-effectiveness and non-intrusive nature enables a proactive deployment process for network operators. It can be deployed even if a limited number of tenants purchase the package of services available. This means that additional apartments in the complex can be quickly and easily integrated onto the network once they sign onto the new broadband package, allowing for a fast return on investment (ROI) for PSSV.

The result

Through this fruitful partnership, the price of TV and broadband service packages for tenants has more than halved, with packages now starting from €6 per month in comparison to their previous start price of €12.95 per month. The initial take-up rate prior to deployment was only 13% of the complex's apartments. However, the ROI can be reached within the first year of deployment if 25% of customers sign up for the new broadband offering from PSSV, which will be achieved according to PSSV's estimates.

The installation of the InCoax technology offers an excellent alternative method to installing costly fiber cabling and will ensure the tenants at the complex have efficient digital access. With accessible, fast broadband connectivity now being a non-negotiable requirement, the collaboration ensures that the tenants' in-home experience has been prioritized.

Through the seamless integration of the technology, tenants at the apartment complex have widely benefited from the project without the need for any individual apartment installations.

The project has proven that by repurposing existing coaxial infrastructure and harnessing MoCA Access™ technology, that it can be a key complement to fiber in bringing gigabit and multi-gigabit networking to any MDU. The technology offers multi-gigabit speeds of up to 2.5 Gbps and has the potential to provide up to 10 Gbps in the near future.

The appetite for fiber access extension technologies across Europe remains and will remain key in bridging the digital divide for those tenants residing in MDUs.

"We are delighted to provide tenants at Kankaanpään Asunnonhankinta with affordable broadband that supports their day-to-day activities, including home working and education."

- Helge Tiainen, Business Development Director at InCoax Networks

"Fast and reliable broadband is now a requirement everywhere and it is vital that tenants' broadband experience is prioritized. InCoax's technology and technical support has laid the foundations for us to continue to promote digital inclusion and provide widespread connectivity for homes in Finland."

- Jukka Ehto, CEO at PSSV