



Project Case Study

Northmoor Road, Oxford

Intelligent Living Within a Literary Landmark

A heritage-sensitive KNX smart home transformation of J.R.R. Tolkien's former residence, delivered by AVINU with eelectron OL-U control interfaces



Introduction

Lord of the Rings Literary Heritage meets Intelligent Modern Living

Located in the heart of North Oxford's celebrated residential district, Northmoor Road is a home of national cultural significance, internationally recognised as the former residence of **J.R.R. Tolkien**.

Tolkien lived here with his wife Edith and their four children

between 1930 and 1947, and **much of his Middle-earth writing was developed within these rooms.**

The current owners, now raising their own young family, commissioned AVINU to **sensitively integrate intelligent home technology while preserving and enhancing the historic features** of this Grade II listed home.



Design Vision

The design vision for Northmoor Road was shaped by a deep understanding of the clients' priorities: to **preserve the architectural integrity** of this Grade II listed home while **creating a modern, intuitive environment for family life**. The brief was not simply to "add technology", but to ensure that every intervention felt intentional, discreet and aligned with both the heritage character of the property and the lifestyle of its occupants.

From the earliest design discussions, we worked closely with the architect and heritage planning team to understand where the building could be adapted, where it must be protected, and how modern systems could be integrated without visual compromise. Original joinery, plasterwork and detailing were carefully respected, with routing strategies and device positioning planned in collaboration with all trades.

KNX was selected not merely as a control protocol, but as the **strategic backbone** that would allow the home to function as a unified whole. Its **decentralised architecture, flexibility and long-term reliability** provided the foundation for a carefully layered integration strategy, one that could adapt to changing family routines while maintaining architectural clarity.



The guiding principles of the project were therefore threefold:

- **Discretion without compromise:** ensuring that switches, sensors and control points enhanced rather than interrupted the interior design.
- **Unified intelligence:** aligning lighting, heating, cooling, shading, gardens and AV under a single, coherent logic structure.
- **Future resilience:** designing a system that is scalable, serviceable and robust enough to evolve with the home over time.



This measured, design-led approach ensured that technology never dominated the narrative of the house. Instead, it operates quietly in the background, supporting comfort, efficiency and daily rituals, a contemporary layer woven sensitively into one of Oxford's most culturally significant homes.

Intelligent Building management

KNX at the Core

At the heart of the transformation is a fully integrated **KNX Building Management System (BMS)**, designed and commissioned to unify every major service across the main house, the front and rear gardens, and the newly constructed contemporary garden room.

Rather than treating lighting, climate control, shading and environmental systems as isolated elements, a platform that aligns all services has been engineered into a single intelligent control to the client's exacting requirements and daily routines. The result is a home that responds quietly and intuitively to its occupants, while preserving the architectural integrity of this Grade II listed property.

Lighting

Inside and Out



Lighting throughout the property is fully integrated into the **KNX** framework. Internally, scene-based control allows each space to transition seamlessly between day, evening and entertaining modes, with carefully calibrated dimming curves tailored to the character of each room.

Externally, both the front façade and rear garden lighting are incorporated into the same logic structure. Architectural features, pathways and planted areas are illuminated intelligently, with seasonal adjustments and security-based schedules operating in the background. The garden room lighting integrates seamlessly within this system, ensuring the extension feels like a natural continuation of the original house rather than a separate zone.

Comfort

Heating, Cooling & Environmental Control



Integrating modern comfort systems into a listed building requires precision and restraint. AVINU coordinated heating and cooling systems within the **KNX** backbone to ensure unified environmental control throughout the home.

Each room benefits from **carefully balanced temperature management**, with **heating, comfort cooling** and towel rail control all operating within a **centralised logic strategy**. Seasonal optimisation, temperature set-back modes and occupancy-linked adjustments ensure that the home remains consistently comfortable without unnecessary energy use, particularly important in heritage properties where fabric upgrades are restricted.



Automated

Blinds & Solar management

Blinds are integrated as part of the wider environmental strategy rather than functioning as standalone motorised elements. Solar gain, time of day and scene activation are all considered within the KNX logic, allowing shading to operate subtly and efficiently. This protects interior finishes, reduces glare and supports thermal performance, while maintaining the refined aesthetic of each room.

Occupancy

intelligent logic

Discrete occupancy detection enhances both comfort and efficiency. Transitional spaces respond automatically, guiding movement through the home in a subtle manner, while environmental systems adapt to presence and usage patterns.

Behind the scenes, carefully programmed KNX logic reflects the family's lifestyle. The system is neither overbearing nor overly complex; it simply anticipates and supports daily routines.

Unified BMS

App & Visualisation

All building services are visualised through a dedicated BMS application, providing intuitive access to lighting, climate, shading and scene control whether the family is at home or away. Remote monitoring and control ensure flexibility without compromising security or reliability.

While the user experience is elegantly simple, the underlying architecture is robust and decentralised, a hallmark of the KNX standard and a key reason it was selected for this culturally significant project.

A True Whole-Home Integration

By aligning lighting, comfort cooling, heating, shading, gardens, the new garden room, audio-visual systems and networking infrastructure within a single KNX framework, AVINU delivered a genuinely unified intelligent home.

This holistic, logic-driven integration reflects the depth of coordination undertaken across architectural, mechanical and electrical disciplines, and exemplifies the calibre of work recognised by AVINU's 2025 Smart Building Award for Best Whole Home Integration Project.

Team of Experts

As the interior design developed, the clients wanted a control interface that felt authentic to the warm materials of the home while delivering **premium functionality**.

AVINU selected the Italian manufacturer **eelectron** and their **OL-U KNX Metal edition** range in brushed bronze, chosen for its combination of **refined aesthetics, tactile interaction and advanced KNX functionality**.





The OL-U switches provide tactile scene control, lighting adjustment, shading functions and more. The client particularly appreciated the RGB slider-bar dimmer for its intuitive, tactile interaction and exceptionally smooth operation.



OL-U Metal edition switch installed within the home's interior, demonstrating how the brushed bronze finish complements natural materials and period architecture.



OL-U devices were installed in every room of the house and the separate garden room, offering a unified architectural aesthetic and premium user experience without compromising quality or performance.





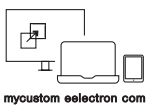
Customization Process

As a unique nod to the heritage of the home, the client embraced Tolkien's legacy by creating custom LOTR-themed icons for the OL-U switch buttons. These include symbols such as a mountain, a wizard's hat, a ring and a flame motif—subtle, elegant references to Middle-earth that transform the control interface into a narrative element of the home

In-House Customisation & MyCustom Portal

A key differentiator of Eelectron is its in-house customisation process, managed through the proprietary MyCustom portal.

This platform allows project partners to configure finishes, layouts and button engravings with precision, translating design concepts directly into production-ready products. Custom icons and symbols are engraved using Eelectron's in-house laser engraving machines, ensuring exceptional accuracy, consistency and quality control. This vertically integrated approach enables bespoke solutions - such as the Lord of the Rings-inspired iconography in this project - while maintaining industrial reliability and short lead times.



This project also represents a milestone for Eelectron as the very first OL-U project in the United Kingdom, something the team were extremely excited about



This project benefitted from close collaboration between AVINU, Eelectron and the UK distributor Aldous Systems.

AVINU worked closely with Giangiacomo Pastore, Regional Business Director - Europe, who supported the project through specification, scheduling and delivery of the newly launched OL-U range.

Aldous Systems - led by Jason Aldous - played an invaluable role in product selection, costing, supply logistics and coordinating the production of the custom LOTR icon engravings



Projects like Northmoor Road demand far more than technical expertise — they require sensitivity, collaboration and a deep respect for the building's history. From the outset, our role at AVINU was not only to support the client's vision, but to work alongside the entire project team — architect, heritage officers, interior designers and specialist trades — to ensure intelligent technology enhanced the home without ever compromising its legacy.

By aligning our design and integration services early in the process, we were able to deliver a KNX-based system that feels effortless to use, discreet in its presence, and future-ready in its capability. It has been a privilege to contribute to such a prestigious and culturally significant project, and to help create a family home that respectfully bridges past and present.

- Daryl Roberts, Managing Director, AVINU

Client testimonial

We had a fantastic experience working with AVINU during our house renovation. They covered the installation/automation of lighting, speakers, internet, heating/cooling and windows.

From the start, the team was incredibly friendly, knowledgeable and easy to work with. Their recommendations were thoughtful and tailored to our house (which was listed, so needed a delicate touch) and the way we live.

The quality of the work has been excellent throughout, and the team super friendly. The only downside is that now we have to get used to turning on light switches when we visit other people's houses.

Collaboration

We were thrilled to see the very first OL-U installation in the UK realised in such an iconic and culturally important property. AVINU's attention to detail and technical execution made this a landmark project for us.

- *Giangiacomo Pastore, Eelectron*

Supporting AVINU on this heritage project has been a pleasure. The OL-U range suited the home beautifully, and collaborating on the custom LOTR icons made this project truly one-of-a-kind.

- *Jason Aldous, Aldous Systems*





Multi-Room Audio

Designing multi-room audio for a listed property presents unique challenges due to heritage restrictions that limit modifications to ceilings and original walls. To overcome this, AVINU designed a discreet, high-performance audio system that integrates seamlessly into the property without affecting protected surfaces.



Working closely with the clients and interior designers, AVINU utilised Monitor Audio Vecta speakers positioned high in the corners of rooms or built into bespoke joinery. This ensures an immersive listening experience while maintaining visual discretion.





Audio extends into the garden with weather-resistant speakers, and hidden speakers at the front of the house allow the clients to play atmospheric Tolkien-inspired effects - an imaginative and memorable feature.



Televisions & Home Cinema

All television installations were integrated into bespoke joinery to avoid impacting original walls and preserve the clean lines of each room. Screens remain discreet when not in use, yet offer full functionality when needed.

The dedicated home cinema was designed and delivered by AVINU, featuring high-performance audio, acoustic treatment and **automated lighting, shading and environmental control** through KNX.

Data & Networking

AVINU designed and installed a robust data and networking infrastructure throughout the property using Ruckus and Ubiquiti network hardware, delivering enterprise-grade reliability and performance.

The system supports wired and wireless networking across indoor and outdoor areas, ensuring consistent connectivity for all automation, entertainment and security functions.



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The transformation of Northmoor Road represents a carefully balanced convergence of heritage preservation and modern intelligent living. Through the strategic deployment of KNX as a unified Building Management System, AVINU aligned lighting, climate control, shading, audio-visual systems, gardens and data infrastructure into a single, coherent framework.

The integration extends across the historic main residence and the newly constructed contemporary garden room, ensuring architectural continuity while delivering contemporary comfort and performance. Every control interface, environmental adjustment and automation routine was tailored to the clients' lifestyle, creating a home that responds intuitively without drawing attention to the technology behind it.

From bespoke LOTR-inspired switch iconography to discreet speaker placement within heritage constraints, each decision reflects a commitment to both design integrity and technical precision.

The result is **not simply a smart home, but a truly integrated intelligent property — one where logic, aesthetics and lifestyle operate in harmony.**

About AVINU



AVINU is an award-winning smart home design and integration company with over 16 years of experience delivering intelligent, design-led residential automation across London, Oxford and the South East.

In 2025, AVINU won the prestigious Smart Building Award for Best Whole Home Integration Project, recognising technical excellence, design sensitivity and outstanding client experience.

AVINU collaborated closely with the architect, heritage officers, interior designers, electricians, heating and cooling engineers, joinery teams, shading specialists and other contractors to ensure complete coordination across every stage of the project.

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About eelectron



Eelectron is an Italian manufacturer specialising in KNX-based control interfaces and building automation devices for high-end residential and commercial projects. With a strong focus on design, usability and engineering quality,

Eelectron develops and produces its solutions in Italy, combining advanced technology with refined aesthetics. The company is widely recognised for its tactile user interfaces, architectural integration and ability to support complex, design-led projects across international markets.

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