



Forest of Dean Trust

Sector:

 Education

Products:

-  Meraki MR Wireless LAN
-  MS Switching
-  MS Centralised Cloud Management
-  MX Security Solution
-  MV Smart Cameras
-  MT IoT Sensors
-  Cisco Umbrella

Services:

Onsite WiFi survey, full network audit, LAN prep, design, installation, configuration, support

Highlights:

- A Cisco full stack infrastructure supports growth and innovation
- Redway Networks delivered an outstanding project with fast equipment sourcing and competitive pricing
- Reliable, fast WiFi has improved digital teaching and learning
- Network administration time has been reduced by 50%
- Auto-VPN has reduced daily technician troubleshooting time at Dene Magna by 25%
- The Trust has reduced the time previously taken to be notified of network infrastructure issues by 100%
- Smart cameras have reduced CCTV storage costs
- Firewall blocks 150 threats worldwide in the first 2 weeks

The Forest of Dean Trust future-proofs its technology and delivers a safe digital learning environment to students and staff with a full stack Cisco Meraki solution from Redway Networks

The Forest of Dean Multi-Academy Trust has selected a full-stack Meraki cloud-networking solution (including WiFi, switching, firewall and physical security) to manage its multi-network environment and support its expanding ICT estate. The Trust wanted to improve its current infrastructure and selected Meraki from Redway Networks to future-proof its technology stack, improve digital learning and teaching and reduce network management time for its IT team.

The Trust, based in Gloucestershire supports over 1,100 students at Dene Magna secondary school and Drybrook primary school. Staff regularly move between the two school sites and the sixth form which is housed at Gloucestershire College's Forest of Dean campus, so a secure network with reliable, fast WiFi that enables users to connect seamlessly is essential.

In 2019 Dene Magna School expanded to include a sixth form and to accommodate this growth it needed to upgrade to a more superior WiFi 6 solution that could be managed remotely via the cloud. Dene Magna's journey with Redway Networks began in 2021 when it decided to replace its existing Ruckus WiFi with a next-generation WiFi 6 solution that would support its 1:1 learning programme and ever-growing ICT real estate.

Emily Stigant is the Trust's IT Manager and heads up the ICT team which is based at Dene Magna School.

Emily says: "We wanted a fully web-based wireless platform that could be managed efficiently and cost-effectively over multiple sites and enable our staff to move between schools and connect easily to the WiFi. Our sixth form is housed at Gloucestershire College's Forest of Dean campus, which has its own solution, so we needed to keep the networks separate, whilst being able to co-exist in a friendly way."

Emily continues: "Whilst looking at new WiFi for Dene Magna, we became a multi-academy trust and Drybrook Primary School joined us, which made the need for a cloud-managed solution more important as our network requirements were growing. I wanted a solution that was easy to manage and would give my team the ability to make mass changes to any school or network without physically having to go on site."

With growth and future-proofing at front of mind for the Trust, Emily set out to find an independent networking vendor who had the experience and product portfolio to not only provide the WiFi but a full infrastructure with services and support.



Meraki's superior WiFi enhances teaching and learning

To equip the Trust and ensure it had the futureproofing, scalability, and cost-efficiency it required Redway Networks recommended a Cisco Meraki cloud-networking solution. Emily says: "When Redway Networks demonstrated Meraki and I saw the possibilities it offered us, I was blown away. Its single pane of glass network management is as close to 'plug and play' as you can get, and I could see immediately how it would fit into our ICT environment."

Redway Networks then provided 50 x Meraki MR36 cloud-managed access points in the classrooms, MR44s in larger, high-density areas and MR72s outside to provide performance, security and manageability at all three sites."

Emily says: "We decided to install external access points so that the students could enhance their learning by being able to do research outside on their laptops instead of having to go inside and use the library. We have a forest schools' area at Drybrook Primary and our plan moving forward is to add an external access point in that area too so our primary students can take out their iPads out."

The Trust now has a robust, future-proofed wireless network which gives Emily's team complete network visibility from anywhere via the cloud. Staff can now move seamlessly between school sites with fast, automatic wireless connectivity and notifications to IT of any issues relating to WiFi have been reduced by 100% (previously the IT team were constantly having to change WiFi passwords and help staff connect). Emily says: "Our Meraki WiFi has been a huge game changer for us as its improved teaching and learning by enabling us to provide a better ICT provision. Including the roll out of additional Chromebooks at Dene Magna to enable 1:1 personalised learning and iPads at Drybrook to support the changing stages of primary education."

The Trusts wanted to move to cloud-managed switching, so the next step was for Redway Networks to provide new Meraki core and edge switches.

"We had numerous network switches with several user interfaces and each switch change had to be done individually which meant we were spending a considerable amount of time on network troubleshooting. We'd previously had issues with our PC connections which had taken ages to fix so we wanted to move to a system that would monitor itself and alert us to any network issues."

Emily Stigant, ICT Manager, Dene Magna School



Meraki switching reduces network management time

The natural choice was Meraki as its next-generation switches are cloud-managed and use a template-driven approach to configuration, which makes them quick to install and easy to manage. Redway Networks were then chosen to supply and configure 29 Meraki MS125 layer 2 switches for core and edge which has enabled the Trust to handle its growing traffic and consolidate network management across schools into a single pane of glass.

Emily says: "When Redway installed our new Meraki switches at Drybrook we were instantly alerted through the dashboard to an issue with our domain name system (DNS) that we weren't even aware which highlighted the power of Meraki's network management. Since we've had our Meraki switches we've reduced the time previously spent on network-wide switch changes by 25% meaning we have more time to focus on supporting teaching and learning with effective ICT."

Meraki firewalls and auto-VPN improves security

Emily says: "Following our WiFi and switching upgrade we were able to track network devices and data throughout more accurately which highlighted significantly more network traffic than we'd previously estimated. It then became apparent that our existing Smoothwall firewalls didn't have enough capacity to support our needs, so we decided to upgrade to a more superior security solution. We also have a VPN that connects Dene Magna to the sixth form which was dropping multiple times each day and taking more than 15 minutes to get up and running each time. This was interrupting lesson time and impacting teaching and learning so a stable VPN that could handle the amount of traffic traveling between the two sites was top of the list when we looked at firewalls."

Redway Networks demonstrated the Meraki MX security solution and the ease at which it would centrally manage the Trust's network, devices and clients from any Internet accessible device. Emily says: "Once I saw the simplicity and ease of management of Meraki and its auto-VPN functionality it was a no-brainer, and I knew Meraki was the right fit."

Redway Networks then supplied Meraki's MX250, MX95 and MX75 firewalls with a 10-year advanced security and support licence, configured to the schools' exact needs. With Meraki in place the Trust now has iron-clad security with a stable and reliable auto-VPN between Dene Magna and its sixth form at Gloucestershire College's Forest of Dean campus

Emily says: "Meraki is already delivering results and time savings. I can see through Meraki's reporting and statistics that the firewall has blocked 150 threats worldwide in the last two weeks and its auto-VPN is saving our technician over a quarter of his working day on the time previously spent bringing the VPN connection back online. It's literally hands off with Meraki as the auto-VPN is self-healing so if it did ever drop traffic would keep moving which great from a technical perspective. Since we've had our Meraki firewall the VPN hasn't dropped once which makes us very pleased for the future."

"Once I saw the simplicity and ease of management of Meraki it was a no-brainer, and I knew Meraki was the right fit for us."

Emily Stigant, ICT Manager, Dene Magna School

Cisco Umbrella improves student safeguarding

A natural addition to the Meraki firewall was Cisco Umbrella cloud delivered security (a domain name service and secure web gateway that integrates with the Meraki firewall) which the Trust asked Redway Networks to implement to provide a great first line of defence for the schools.

Emily says: "We chose Cisco Umbrella to improve student safe-guarding as it automatically integrates with our Meraki firewall to provide us with the level of monitoring and filtering we require in an education environment. The granular filtering for profiles is helpful as it means we can set it to 'staff' to enable access to certain websites we don't want students to go to. With Umbrella all our network traffic is now pushed through a central point which enables us to monitor what staff and students are always accessing onsite from the internet. Umbrella has also improved safe-guarding and security for students on 1:1 devices as we can monitor exactly what they are doing online through the Umbrella app even when their laptops are offsite."

Meraki smart cameras protect students, staff and grounds

To secure and manage its schools physical environment, the Trust wanted to update its existing CCTV. Redway Networks provided twenty-four Meraki MV72 and MV32 outdoor dome cloud-managed smart cameras to improve physical security.

Emily says: "Our existing CCTV was really outdated, and we were concerned that this lack of visibility would take a toll on school safety. We'd experienced a couple of incidents out of hours, and we wanted more site coverage so we decided to replace all our CCTV with a smarter solution that would provide multi-site visibility from one cloud platform and one that we could easily add more cameras to."

Meraki was a natural choice and the school's IT team competed a straightforward, painless installation and configuration which was uncomplicated due to the Meraki cameras being fully WiFi capable and easily installed from any power socket or data point. Because of the cloud-managed nature of Meraki's smart cameras, the Trust can now access footage remotely through the dashboard which has enabled not only Emily's IT team, but also key members of the Trust's safeguarding and leadership team to monitor and securely store footage on the fly from all 24 cameras.



Since using its new smart cameras, the Trust has been able to capture better footage which has given more confidence to students and staff, knowing their environment is being monitored accurately, consistently, and intelligently.

Emily says: "We can now monitor both school premises and only act when there is a potential threat. With Meraki all the data is encrypted in the vision portal, and we can assign different access levels based on staff job roles. Since we've had our Meraki smart cameras, we've saved money on previous storage costs as all the footage is kept in the cameras and we've had an immediate alert to an incident with students accessing our tennis courts out of school hours, so we're already seeing benefits."

"With Meraki's smart cameras we can easily monitor both school premises and only act when there is a potential threat."

Emily Stigant, ICT Manager, Dene Magna School



Meraki Systems Manager delivers centralised management

The Trust wanted to create a secure device experience for its students and staff with in-depth network analytics for its IT team so decided to add to its product portfolio with Meraki Systems Manager.

Emily says: "One of the areas we wanted to improve on was the security of our mobile devices, especially iPads. Seeing our mobile device estate grow over the last couple of years and not having adequate visibility and control of the network made me fairly concerned. Having Meraki Systems Manager has enabled me to plug any gaps with the mobile device management app which brings all our devices into the Meraki managed environment. I'm now very confident in our ability to provide secure managed mobile devices which has opened up more opportunities for us."

Meraki Systems manager has enabled Emily's team to resolve any network issues instantly as it provides complete visibility and insight for all the schools' operating systems, applications and devices. User profiles can be easily pushed to iPads and mobile phones with link up to Google Workspace or Apple School Manager to sync app purchases and user accounts.

Emily says: "Now, instead of shying away from Apple and Android devices, I'm actively supporting their use for delivering personalised learning for all our students".

"As our ICT estate grew, one of the areas we wanted to improve on was the security of our school devices but Meraki easily plugged any gaps. I'm now confident in our ability to provide secure managed mobile devices which has opened up more opportunities for us to deliver enhanced user experiences."

"We've protected our network in every way and are giving our students safe online experiences under the Cisco Umbrella".

Emily Stigant, ICT Manager, Dene Magna School



Meraki's complete network visibility delivers efficiency and scalability

With the full stack Meraki product portfolio from Redway Networks, the Trust now has safe digital learning environment for all its students and staff that can be managed efficiently and cost-effectively with the scalability to grow as it on-boards more schools.

Emily says: "The benefit of having all the Meraki products totally integrated, not just in the cloud but with each other, presents us with a perfect visual view of our network with a granular level of detail. Since installing Meraki we've improved efficiency as we've reduced the amount of time previously spent on network troubleshooting and performing software updates which has enabled us to focus on creating safe, flexible spaces where learning, teaching and collaboration can take place. We now have much better wireless performance and users have an excellent classroom experience with seamless access to the Internet from anywhere on campus. Meraki has given us complete visibility from the edge of the network through to the core, so if ever there is an issue we will see instantly where it is in the Meraki Dashboard."

Redway Networks delivers an exceptional service

Emily continues: "Redway Networks delivered an outstanding service and support. Its staff worked their socks off to source the Meraki equipment and get kit out to our schools as quickly as possible with product supply chains disrupted by the pandemic. We're continuing to see benefits from Meraki but the standout one for me is being able to 'do less with more'. We're only a small IT team and Meraki's one pane of glass management has enabled us to be super productive."

"Redway Networks has been a great partner to work with and I've been so impressed that I keep coming back! We're already looking at adding to our Meraki portfolio with its MT temperature sensors so we can monitor our IT infrastructure better and make more intelligent decisions to reduce equipment replacement and improve sustainability."

Emily Stigant, ICT Manager, Dene Magna School



Wireless + Networking Solutions. Made Simple.

Redway Networks is a leading independent WiFi and networking specialist with expertise in the planning, design and installation of enterprise-wide cloud-networking solutions to UK education. We only endorse world-leading technology and deliver bespoke, affordable solutions that improve digital learning and transformative experiences.