

IN-DEPTH 2015 | CLOUD-BASED SURVEILLANCE & CCTV IN HOUSING

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CLOUD-BASED CCTV AND SURVEILLANCE

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We have teamed up with Cloudview to look at how housing providers can use the latest cloud-based technologies to reduce the cost, effort and time of using their new or existing CCTV infrastructure to track anti-social behaviour and crime, as well as extend its use to monitor their physical assets, the state of communal areas or even when bins need emptying, without needing to do a site visit, thereby cutting down on time and travel costs.

As any reader who has been involved in any housing-related incidents using CCTV will know, most 'traditional' CCTV and surveillance systems used by housing providers (and indeed, most other organisations) are pre-internet relics. They are expensive to install and maintain. They are prone to theft and vandalism. The recorded footage is often low quality, corrupted or simply over-written. And actually accessing the footage is both expensive and takes too long.

In contrast, cloud-based CCTV records and stores all of the footage in the cloud; the footage can then be accessed through a browser on any internet-enabled device. Footage can be viewed in real time or historically, including the ability to set parameters to cut down the amount of footage needing to be reviewed. Naturally, security is vitally important; Cloudview is the only CCTV solution of any type that has been awarded the prestigious Police Preferred Specification status by Secured by Design.

For housing providers with an existing network of CCTV cameras or planning to install new ones, Cloudview provides a Visual Network Adapter. This is the vital link that connects any camera to Cloudview's cloud-based image management system and ensures authorised users have quick, easy access to footage whenever they want.

We hope you enjoy this first In-Depth supplement, and please get in touch at indepth@housing-technology.com if you would like to know more about cloud-based CCTV and surveillance.

CLOUD-BASED CCTV AND SURVEILLANCE IN HOUSING



Housing Technology interviewed surveillance, CCTV and technology experts from Accent South, Cloudview, OpenSky, Vision-On Systems and Visitor Aware about how cloud-based CCTV and surveillance could help housing providers.

As most housing providers know, traditional CCTV has relied on cameras sending images to locally-stored recording media which is then accessed as and when required. But this approach to CCTV management can be problematic; recorded images need to be safely stored, recording media may need to be rotated and are intrinsically insecure, and access to images for investigative purposes can be very slow and expensive. Cloud-based CCTV and surveillance removes all of these obstacles.



Adapter is the vital link that connects either existing or new cameras to our cloud-based management system and ensures authorised users have quick, easy access to footage when they want."

JAMES WICKES, CEO, CLOUDVIEW

James Wickes, CEO of Cloudview, said. "Among the issues affecting housing providers, anti-social behaviour, crime and security are recurring themes. The ability to upgrade existing CCTV or install new systems or cameras that combine value for money with easy access to footage via the internet, mean that housing providers can respond faster, more efficiently and cost-effectively to any incidents." Nigel Stanley from OpenSky added, "The advent of cloud-based CCTV, where images are uploaded in real time to a secure, web-based server can reduce management overheads and costs because there is no need to manage local media. Any access to images for an investigation can be done using any internet-enabled device."

Disadvantages of traditional CCTVAs mentioned above, 'traditional' CCTV



"All you need are cameras, a power supply and a broadband connection"

HOLLY SHEPPARD, TENANCY SUSTAINABILITY
MANAGER, ACCENT SOUTH

is a pre-internet relic that is often unreliable, insecure and expensive to run. Holly Sheppard, Accent South's tenancy sustainability manager, explained, "Traditional CCTV delivers poor-quality images and requires a contractor or trained member of staff to actually go on site in order to manually download footage; this is both costly and time consuming."

Wickes added, "The main disadvantage is that it is often very difficult to access footage from traditional CCTV. This normally entails specialists having to visit the site and physically download footage from a local hard-drive. Even then, the footage can be corrupted, poor quality or simply overwritten. Sometimes, because footage is stored in the camera itself or on a local storage device such as a DVR, these are often vandalised or stolen."

Vision-On Systems' managing director, Duncan Ross, emphasised the limitations of most housing providers' CCTV capabilities and said, "The very nature of traditional CCTV ties it to a physical site. Systems are often incompatible with each other and require staff to go to the site to retrieve data from the recorders, which are obviously often located in pretty inaccessible locations. If a camera or hard disk fails, the first anyone knows about it is often when it's most needed."

Bring on cloud-based CCTV

In contrast to traditional CCTV, cloud-based CCTV and surveillance is more affordable to set up (and can often use a housing provider's existing infrastructure and cameras), provides real-time, highly secure access to recorded footage and is much more reliable (Cloudview cites a reliability figure of 99.99999 per cent for its system).

As a user of the Cloudview system, Accent's Sheppard said, "Cloud-based CCTV gives us instant access to footage via the desktop, plus you can set very specific parameters to cut down the amount of footage you have to review. There is no risk of data being lost which isn't the case if you were downloading footage from a remote camera or storage device. Furthermore, we can pass on footage to the Police via secure email."

Adrian Brown from Visitor Aware said, "The advantage of a Cloudview CCTV recording system is that by accessing the CCTV system from a web browser, users can see at a glance the condition of the entire CCTV system and be confident that all the timestamps are correct. You can access any recordings, send them securely to anybody who needs to see them or put them into extended storage for up to a year. All this without the staff costs or instructing a service company to visit the property and incur day-rate charges."

Cloudview's Wickes said, "Footage stored in the cloud is much safer than recording to local hard drives which are susceptible to vandalism, tampering, faults and low-quality imagery. The Cloudview system has been designed from the outset to offer the very highest levels of security and reliability. Secure log-ins, passwords, bank-level encryption, transport-level security and image-hashing technology all mean that footage is transmitted and stored in the cloud securely. In fact, Cloudview is the only CCTV solution of any type that has been awarded the prestigious Police Preferred Specification status by Secured by Design.

"However, a key part of our solution is our Visual Network Adapter. This is the vital link that connects either existing or new cameras to our cloud-based management system and ensures authorised users have quick and easy access to footage whenever they want. This is in stark contrast to traditional CCTV where images have to be physically accessed without any image management system."

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Vision-On Systems' Ross added, "Because the Cloudview service is neither hardware nor software reliant, it can work with all analogue and the majority of IP CCTV systems. The lack of software needed to view, share or manage the recording means that Cloudview, subject to user login, ID and rights, allows users to quickly and easily access any CCTV video from anywhere that has an internet connection."



"Because Cloudview is so easy to use and intuitive, housing providers could also use it to monitor, for example, when bins need emptying or the general state of communal areas without needing to do a site visit, thereby cutting down on time and travel costs.."

ADRIAN BROWN, VISITOR AWAR

Cost advantages

As a very clear indication of a specific cost saving associated with cloud-based CCTV, Accent South reported that it previously cost around £100 to send a contractor out to download footage from a camera or storage device whereas with its Cloudview system, there is no cost because the footage can be viewed on any internetenabled device.

Accent's Sheppard said, "There is the annual subscription cost for Cloudview but when weighed against the time and costs of manually downloading footage, it definitely provides value for money, especially in terms of time saved and how quickly we can access footage and respond to incidents."

OpenSky's Stanley added, "In effect, the cloud model enables you to 'pay as you go'. There is no need to buy new recording equipment when further cameras are needed, upgrades are done remotely and, most importantly, there are no complex licensing arrangements to navigate."

Vision-On Systems' Ross said, "As an installer, I can only comment on the cost reductions that we can make by being able to remotely see and manage

the connections. We no longer have to send an engineer to a site just because a customer says 'my CCTV has stopped working'. I know that our customers save huge amounts of time and money by being able to remotely access the data wherever and whenever they need to."

Visitor Aware's Brown pointed out that, "Existing CCTV systems can easily and quickly be upgraded to Cloudview and access to broadband can be as simple as installing a 3G/4G router. The on-going costs of a Cloudview subscription can be as little as the annual cost of connecting an intruder alarm to an alarm receiving centre."

Building on existing infrastructure

As with other cloud-based services, Cloudview's CCTV and surveillance system requires very little technology infrastructure apart from the actual imagerecording devices. As Accent's Sheppard put it, "All you need are cameras, a power supply and a broadband connection."

OpenSky's Stanley explained, "One of the benefits of Cloudview is that the supporting infrastructure needn't be complex. As long as there is a local power supply then typically a Visual Network Adapter simply needs to be connected to a local broadband connection using a wired Ethernet connection or a wireless dongle. Once connected, the setup and configuration of the adapter will normally be automatic."



"The potential is enormous. In fact, the main problem we have when discussing applications for cloudbased CCTV with customers is throttling back their imaginations."

DUNCAN ROSS, MANAGING DIRECTOR

Not just ASB and crime

Cloud-based CCTV isn't just limited to the traditional role of CCTV to monitor antisocial behaviour and crime. As Vision-On Systems' Ross said, "The potential is enormous. In fact, the main problem we have when discussing applications for



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Brown from Visitor Aware said, "Because Cloudview is so easy to use and intuitive, housing providers could also use it to monitor, for example, when bins need emptying or the general state of communal areas without needing to do a site visit, thereby cutting down on time and travel costs."

Cloudview's Wickes concluded, "Cloud-based CCTV is already being used by many businesses to protect physical assets in remote locations. It is also an effective tool in protecting brands, either as a tool to monitor standards of service or where a brand has a physical presence, but not a personal one, such as vending machines. We are also developing new RFID applications for physical assets so they can be tracked and plotted on the Cloudview interface."

Housing Technology would like to thank Holly Sheppard (Accent South), James Wickes (Cloudview), Nigel Stanley (OpenSky), Duncan Ross (Vision-On Systems) and Adrian Brown (Visitor Aware) for their editorial contributions to this article.

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CASE STUDY - ACCENT SOUTH

HARNESSING THE POWER OF THE CLOUD TO PROTECT TENANTS

Accent Group is a national housing provider, managing over 20,000 properties across the country. It has been using and expanding its network of cloud-based visual surveillance cameras (VSaaS) to help protect both its tenants and its properties from anti-social behaviour.

Like many other housing providers, Accent South had previous experience of using traditional CCTV systems to combat anti-social behaviour (ASB), and it wasn't always positive. In fact, it had encountered many of the problems that Cloudview was created to solve.

To start with, it had a variety of incompatible cameras and systems installed across its portfolio. But more importantly, as Holly Sheppard, tenancy sustainability manager at Accent South, pointed out, "We had to get a contractor to go out every time we wanted to retrieve any footage."



"CLOUDVIEW IS DEFINITELY USER FRIENDLY, YOU CAN'T BREAK IT OR CLICK ON THE WRONG THING. AND BECAUSE ALL FOOTAGE IS CAPTURED IN THE CLOUD, IT CAN'T BE DAMAGED OR DELETED."

HOLLY SHEPPARD, TENANCY SUSTAINABILITY MANAGER, ACCENT SOUTH

This was because, as is typical with traditional CCTV, footage was recorded on local hard drives making it difficult to access. Specialist contractors had to be used to visit the site in question, access the recording device, download the footage and then pass it on to Accent South's staff. And often the images that came back were too poor quality to offer much assistance or provide hard evidence.

This severely compromised the effectiveness of CCTV in combatting anti-social behaviour. In one case, local police investigating a criminal act had to physically take away a CCTV recorder as evidence, rendering the overall system

inoperable until it was returned. Accent South therefore wanted to find a single visual surveillance solution that was easier to install, manage and run across multiple sites.

In its search for a suitable solution, it discovered the Cloudview visual surveillance system, which could upload images through an internet connection, then store them and make them accessible to authorised users via the cloud. This approach delivered many of the features Accent South was looking for, including real flexibility because it could be used to upgrade existing systems as well as completely replace old ones.

Vision-On Systems, who supply, install and maintain Cloudview networks, were quick to respond to an enquiry from Accent South. After a site visit and competitive quote, a pilot site was chosen for the installation of two movement-activated cameras connected to Cloudview via a BT internet line.

This pilot scheme proved a success. Accent South was impressed by the speed of installation of cameras, quality of imagery and by how easy the Cloudview system is to access and use. Commenting on the Cloudview user interface, Holly Sheppard said, "It's definitely user friendly. You can't break it or click on the wrong thing. And because all footage is captured in the cloud, it can't be damaged or deleted."

Following the initial pilot, the Cloudview system has been installed on a further three sites, including a temporary accommodation development housing a number of vulnerable people, which now has 12 Cloudview-enabled cameras monitoring communal entrances and car parks.

Richard Adlam, Accent South's ASB officer regularly checks footage in response to complaints from tenants. He has been impressed by the speed with which relevant footage can be found via the dashboard search function. He said, "It's so quick and easy to narrow footage down. It's all in front of you."



"IT'S SO QUICK AND EASY TO NARROW FOOTAGE DOWN. IT'S ALL IN FRONT OF YOU."

RICHARD ADLAM, ASB OFFICER, ACCENT SOUTH

Holly Sheppard added, "From our point of view, it means better customer service. We can get onto things really quickly, and securely send footage to the police."

Accent South is planning to introduce Cloudview in a staggered programme concentrating on key sites. It has also been sharing its experience about the benefits and effectiveness of cloud-based visual surveillance with the other regional Accent Group offices.

The housing provider is currently conducting a mobile working review and the accessibility of Cloudview by laptop, tablet and smartphone means the system can easily integrate with the findings of the review.

As Cloudview is designed not only to be upgradable but also to integrate with other systems it means that in the future, it could be used for new tasks such as integrated access control and improved reporting, with, for example, ASB reports automatically created with the relevant footage attached.

For further information: www.cloudview.co.

VISION-ON - THE ART OF CCTV



Duncan Ross is the managing director of Vision-On Systems, a business that consults with a range of clients to design, source, integrate, deliver and support effective visual surveillance solutions. He was introduced to the Cloudview system after a previous project had led him to investigate if it was possible to store surveillance footage off-site rather than on local hard drive-based recorders.

Having had previous experience in convergence via the early adoption of IP-based CCTV, he and his team were comfortable with using Cloudview's new technology, as long as it delivered results. He immediately understood the Cloudview approach of using its visual network adapters (VNA) to connect analogue or IP cameras quickly, easily and cost effectively to the cloud, providing immediate access to video footage.



"A LOT OF END-USERS ARE AT THE MERCY OF CONTRACTORS WHO JUST WANT TO SELL CAMERAS; WE'RE THE OPPOSITE – WE BELIEVE FEWER CAMERAS, MORE EFFICIENTLY USED, APERETTER"

DUNCAN ROSS, MANAGING DIRECTOR, VISION-ON SYSTEMS

Duncan is committed to providing a reliable, professional service and building an ongoing relationship with customers like Accent South. He said, "We always ask potential customers, 'what are you trying to achieve?'... A lot of endusers are at the mercy of contractors who just want to sell cameras; we're the opposite – we believe fewer cameras, more efficiently used, are better."

Vision-On Systems recognises that cloud-based CCTV is not a universal panacea. For example, much of their work has and continues to be using CCTV to protect trade vehicles from theft and break-in. In those situations, a more traditional, hard drive-based approach can be more suitable.

However, Duncan can see many areas where systems like Cloudview are ideal, from housing providers to student accommodation and landlords with multiple properties. He is currently pioneering a scheme for student housing which seeks to recognise and alert relevant parties if banned 'faces' are seen in protected areas.

Vision-On Systems is also championing a sustainable business model where cameras, installation, support and maintenance are managed on a monthly rental basis. It makes sense for customers because it reduces their capital expenditure, they can add or remove cameras as necessary and they don't have to worry about buying new hardware as technology advances.

It's also good for suppliers because they can build long-term, reliable revenue streams that are based on delivering good service, not just installing as many cameras as possible. For example, with the Cloudview service supplied to Accent South, if the cameras go offline, Vision-On Systems are immediately alerted. This ensures any potential faults can be investigated immediately; this is in stark contrast to many traditional CCTV set-ups where malfunctioning cameras are only discovered when they are accessed in response to an incident.

Duncan sees a positive future for cloud-based systems. The business is growing fast, enquiries are on the up and he is investing to ensure he provides the very highest standards nationwide.

Duncan said, "We take pride in what we do and only employ engineers who think the same. Everything is done properly, from the siting of the cameras to ensuring the reliability of the power supply to the overall system. And if clients are ever stuck, all they have to do is pick up the phone and ask for help."

For further information: www.vision-on-systems.co.uk



HEAD IN THE CLOUD

JAMES WICKES, CEO, CLOUDVIEW

CCTV doesn't have a glowing reputation with the general public. When the subject is raised, phrases such as 'big brother', 'surveillance society' and 'spycam' are often bandied about with a mixture of fear and disdain.

It's a pity, because as someone immersed in the new generation of visual surveillance, I like to think of a more positive outlook... one where 'empowerment', 'security' and 'peace of mind' are the buzzwords. One where organisations, businesses and individuals can count on flexible, agile and affordable visual surveillance systems to help make their lives safer and better.

Visual surveillance as a service

Of course, the immediate and entirely reasonable response to this ambition is: "well, you would say that, wouldn't you?" But here at Cloudview, we passionately believe in this idea. And the work we've done in developing the next generation of cutting edge, cloud-based visual surveillance as a service systems (VSaaS) continually confirms our belief.

At first, our goals were based on providing value for money, accessible and integrated networks of cameras that protected physical assets in remote locations in a way traditional CCTV couldn't. We were thinking of utility and engineering companies that keep expensive hardware in a myriad of sites that couldn't always be protected by physical security; Cloudview delivered on that perfectly.

Daily improvements in tenants' lives

However, the technology we have built is being used in many more ways, by many more organisations than we originally envisaged. And used in ways that make a real, direct difference to the lives of the people that these cameras watch over. Housing providers are a case in point, but care homes, university campuses, schools and business parks are all taking advantage of visual surveillance powered by 'the cloud'.

It's been fascinating to work with a number of housing providers to deliver visual surveillance networks that they can use on a day-to-day basis for the good of their tenants. And it's all possible because the advent of the internet and cloud computing has enabled a step change in the industry that means new systems bear as much resemblance to 'traditional' CCTV as a modern laptop bears to a Commodore 64 or ZX Spectrum.

Why are they so different, and so much better? There are a number of reasons, but there's one thing the housing providers we have worked with keep returning to. And you may very well be familiar with this experience yourself.

Disadvantages of traditional CCTV

Traditional CCTV uses analogue or digital cameras that record images locally onto a directly-connected digital recorder. Many organisations have a variety of these systems across multiple locations, all with different ways to access and download images. Using, managing and maintaining these takes time, effort and often the help and onsite assistance of a specialist CCTV company. What's more, the images, if and when found and recovered after endless searching through hours of footage, are often corrupted, or of such poor quality that they are virtually useless.

In contrast, with new VSaaS systems, digital-quality images are stored directly from cameras to the cloud on secure servers and made accessible to authorised stakeholders quickly and easily on demand. No delays. No degradation in picture quality. No specialist knowledge or assistance needed. All you need is internet access to the user-friendly dashboard via PC, laptop, tablet or even smartphone.

In our own case, we have also created a unique visual network adapter (VNA). This provides a secure and effective conduit between new and existing cameras of every type across a variety of locations, and our easy to use, cloud-based image management system.

Inexpensive, secure and shareable

Our image management system means reviewing footage is no longer expensive or time consuming. Images are searchable and securely shareable with relevant and authorised parties, such as the Police or social services. And they can't be damaged or destroyed by people tampering with the physical cameras, unlike traditional CCTV systems.

We've seen great success with Cloudview in combatting anti-social behaviour and criminal damage, but there are additional uses as well. For instance, VSaaS can be a valuable tool for the health and safety of staff working in tenants' properties and on estates. They can also help in the general upkeep of property portfolios and the protection of assets, with video images helping to pick up repairs that need addressing.

Automatic innovations and updates

VSaaS systems represent real value for money compared with traditional CCTV. They are quick to install and can be added to existing CCTV systems rather than ripping out and replacing. They cost less to maintain and, as the software they are based on resides in the cloud, upgrades, innovations and improvements can be made automatically, ensuring that systems are future proof. For instance, we are already exploring ways in which internet- and Bluetooth-enabled tags can help to keep track of physical assets, without the need to be watching them.

Visual surveillance as a service is a rapidly growing industry. And the reason that it is growing so quickly is because it is now delivering real, cost-effective results across the board thanks to the power of the cloud. And that's why we're not afraid to say that our heads are in the cloud. And yours should be too.

James Wickes is the CEO of Cloudview.

VIDEO SURVEILLANCE AS A SERVICE (VSAAS)

CLOUD-BASED MANAGEMENT AND MONITORING PLATFORM

KEY FEATURES & BENEFITS

SECURE CLOUD SERVERS

KEY FEATURES & BENEFITS

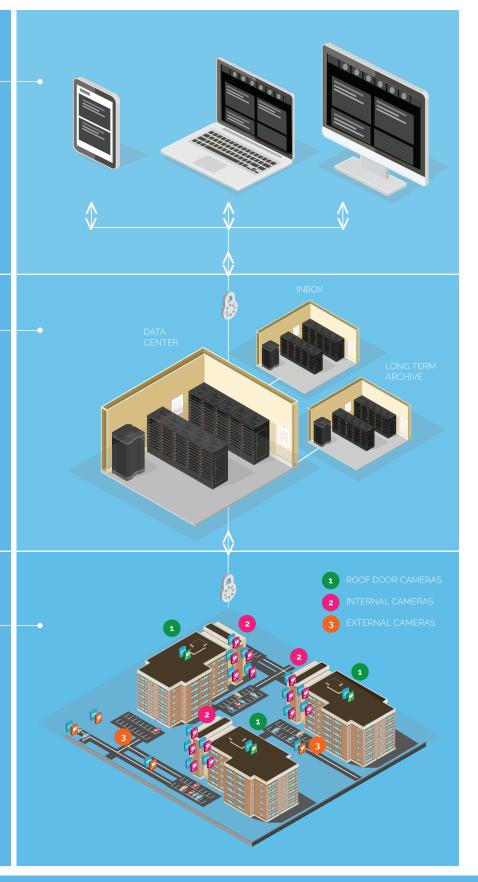
CAMERAS CONNECTED TO SECURE CLOUD SERVERS

KEY FEATURES & BENEFITS

RAPID DEPLOYMENT – wi-fi and 3G/4G wireless

something is happening

FAULT TOLERANT – records to SD card if the network connection is lost



ABOUT CLOUDVIEW

Cloudview is a leading pioneer of internetenabled, cloud-based visual surveillance systems. It is the only CCTV solution in the UK to have been awarded the prestigious Police Preferred Specification status by Secured by Design, the official UK Police flagship supporting the principles of 'designing out crime'.

Cloudview has been designed from the outset to meet the needs of the corporate market for a more reliable, flexible and cost-effective alternative to traditional CCTV. The convergence of internet-enabled devices, cloud-based technology, user-friendly interfaces and high quality, cost-effective cameras have made this an achievable goal.

As IT professionals with many years' experience, the founders of Cloudview understand the necessity for any new security technologies and services to be delivered intelligently, flawlessly and with integrity. Moreover, they are committed to working in partnership with the professional security industry to deliver measurable results and RoI for corporate clients.

Cloudview has a single-minded dedication to exploring and exploiting new ideas and technologies to design and build the infrastructure systems and peripherals that support and enhance the effectiveness, usability and purpose of visual surveillance.

The key to Cloudview's success has been the development of the visual network adapter (VNA) – a plug-in and play piece of hardware that can connect any camera to their cloudbased video management interface. This unique technology, exclusive to Cloudview, is the vital 'missing-link' needed to securely and reliably integrate cameras and the cloud.

The team responsible for the design and development of the VNA are a product of the hi-tech specialist suppliers that have grown up around the F1 motor-racing industry in Northamptonshire. The team has a track record in developing visual surveillance systems for drones and F1 cars and works closely with teams of experienced and innovative software developers across the globe.

Cloudview is the only CCTV solution of its type available in the market and is now being used successfully by a variety of organisations ranging from UK police forces to large corporate enterprises, financial institutions, housing providers and care homes.

The company is committed to an open and collaborative approach with customers, suppliers and developers. This fosters on-going innovations that will enhance the capability and scope of Cloudview and enable it to continue its aim of protecting assets, people and brands, now and into the future.



For further information cloudview.co.

ABOUT HOUSING TECHNOLOGY

/ ABOUT HOUSING TECHNOLOGY

Housing Technology is the no.1 provider of IT, technology and telecoms news, comment, information and research specifically for the UK social housing sector.

/ IT STRATEGY

Established in 2006, the bi-monthly Housing Technology magazine and the annual market intelligence report are required reading for anyone responsible for IT strategy and delivery within UK housing associations. Subscriptions to Housing Technology are free and available online from www.housing-technology.com.

✓ COMMUNITY NETWORKING

The annual Housing Technology conference and executive forum is now well-established as the leading technology event in the social housing sector. Housing Technology also runs a number of other smaller, topic-specific seminars and events throughout the year.

/ MARKET INTELLIGENCE

Housing Technology publishes a series of annual market intelligence reports, white papers and bespoke research on behalf of housing associations and IT suppliers.





EDITOR

Alastair Tweedie Email: alastair@housing-technology.com Office: 0208 336 2293

PUBLISHER

George Grant Email: george.grant@housing-technology.com Office: 0208 336 2293

REGISTERED OFFICE

The Intelligent Business Company Limited Hoppingwood Farm Robin Hood Way London, SW20 OAB

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