HOUSING TECHNOLOGY™

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Risk management in IT

Triaging, monitoring & mitigating technology risk in housing

Housing management
ICT governance, data maturity, UX & UI and the internet of things

Finance management
Modernising income teams, AI land mapping and tenant onboarding

Infrastructure
Cyber security & ransomware, data-centricity, fire safety technologies and cloud migration

Mobile working & repairs
VC funding and real-time repairs' tracking

Customer management
Housing complaints, tenant communications and telehealthcare

Risk management
Supply chains, IT procurement, data integrity, security and digital transformation

General news
Artificial intelligence, machine learning and hybrid working

Editor's Notes

September 2021

Untangling risk management

Risk management should be part of all housing providers' ongoing business operations, as we've focused on in our special feature on IT risk management (page 32); after all, taking risks and mitigating those risks is part and parcel of everyone's daily lives.

However, in the context of risk management, it's worth being a little more specific about what we mean, first to avoid confusion, and second as a way of imposing a framework of quantitative measurement and control over what is usually a loosely-defined and qualitative concept.

The line items usually covered within housing providers' risk management plans are, to be specific, hazards. These are simply potential sources of harm or damage. In an IT environment, the hazards might include catastrophic server failures, IT supplier bankruptcies or global pandemics through to IT staff leaving, intermittent internet outages, broken laptops or just a blown plug fuse. Everyone will (or should) have their own list of hazards, with varying degrees of granularity.

Each hazard, or potential source of harm/damage, then has two factors associated with it. The first is the severity of the potential harm caused by that hazard (catastrophic server failure = extreme severity, broken laptops = minor severity). The second factor is the probability of that hazard occurring.

Risk is then a function of a. the severity of a hazard and b. its probability of occurring. And again, everyone will have their own criteria for assessing and assigning a 'severity' and 'probability' metric to each of their hazards, as well as their own way of depicting and triaging those risks (a colour-coded table is a common way of illustrating the overall risk landscape).

Once you've found a way of illustrating your overall risk landscape, you can finally take better-informed steps to assigning the correct resources and/or measures to mitigate those risks, secure in the knowledge that your next steps will be based as far as possible on a quantitative assessment of your hazards' severity and their respective probabilities instead of a qualitative, intuitive view of your risk.

Forthcoming events

News

Housing Technology 2022
Annual conference & executive forum
In-person & digital broadcast

02-03 March 2022
The Oxford Belfry

housing-technology.com

HOUSING TECHNOLOGY 2022 | CONFERENCE AND EXECUTIVE FORUM

HOUSING TECHNOLOGY

INTELLIGENT AUTOMATION
05 october 2021

Intelligent Automation 2021
Live digital broadcast

05 October 2021

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TECHNOLOGY SHOWCASE

Please see housing-technology.com/showcase for more information

Hi, my name is **Neela,**
Aareon's Virtual Assistant.

I can't wait to meet you...

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Well, I'm flattered!
My colleagues would love a chat,
then we will meet soon!

www.aareon.co.uk

Aareon

Driving digital transformation with better UX

Libbie Coulson, UX/UI Designer, and Paul O'Reilly, Solution Manager, Aareon UK

As we write another quick message on WhatsApp or tap a virtual button to pay for groceries on our phone, it's easy to forget how far these technologies have come, even in the last decade. Not so long ago, most digital services, and particularly business management systems, were the preserve of technical specialists. In many instances, user interfaces were entirely character-based and needed a user manual or even extensive training to operate effectively.

Like many service industries, housing providers need to complete many complex processes while at the same time have staff dedicated to answering customers' inbound calls. Increasingly, housing providers are also offering customers the ability to self-serve using digital portals and apps. These scenarios require staff and residents to regularly use IT systems to enter or obtain information, and it's vital that they can do this quickly and easily.

Some organisations in our sector have a high staff turnover, resulting in a constant need to keep training new people on IT systems and their effective use. Housing providers need their housing management systems (HMS) to manage a wide range of activities, from housing management and allocations through to scheduling repairs and rent collection. Historically, these processes have been managed by complicated and often disparate systems which were neither intuitive nor easy to use.

User experience is key to digital transformation

Housing providers are realising that they need their systems to be easier to use, more accessible and integrated across their whole organisation as well as adaptable to changing needs. Users expect their IT systems to work in predictable and intuitive ways, just like the apps we use every day on our phones; anything that gets in the way of users completing tasks will cause frustration, inaccuracy and, not least, inefficiency.

Some of the impetus for digital transformation has come from forward-thinking housing providers, which has inspired innovative suppliers to develop cloud-based, browser-delivered systems with contemporary user experiences (UX) and user interfaces (UI).

> *Customer research and feedback are the key starting points for developing UX. It's important to understand how different users will use the system, what their priorities are and include stakeholders at every level.*
>
> **Libbie Coulson, UX Designer, Aareon**

To ensure that housing providers can achieve their digital transformations, housing solution providers such as Aareon are focusing on simplifying UX, ensuring that systems are process-driven and intuitive. A well-designed UX engages the user and encourages organisation-wide adoption, in turn helping to increase productivity, decrease training time and costs and, ultimately, allows staff to get on with their jobs, leading to greater job satisfaction.

A consistent approach to improving UX

Housing management systems must be able to carry out many different tasks and a consistent approach to the UI helps users develop familiarity and seamlessly complete tasks in different areas. We are all familiar with apps for

social media, email, Amazon, eBay and so on. These apps generally behave in a predictable manner which enables us to quickly understand how to use them. We need similar usability in housing systems to enable users to focus on getting their jobs done without frustrations or delays.

While many business management solutions cover a wide range of activities, housing providers have many specific requirements, alongside industry regulations that must be complied with and reported on. The services that housing providers deliver may be handled by different teams but are often linked, so it's important that key information, such as tenant accounts, are easy to navigate and can be accessed throughout the system. For example, if a tenant's contact details are updated, the change should be applied once and made available in real time throughout the system.

Aareon consider UX to be absolutely vital to our applications' designs so we've recruited a dedicated UX designer, Libbie Coulson, to support our deployment of improved design and functionality across all Aareon products. She brings a wealth of experience designing accessible and user-friendly enterprise applications with specialist functionalities for a variety of industries.

Good UX starts with users' needs
The importance of customer-facing UI design has been recognised and much better understood over the past five years or so. The best design decisions are based on detailed analysis and evidence, focused on the people who will actually be using the solution, rather than the people who are designing it; good UX isn't created through one person's opinion or developed in isolation.

> *Our focus as a software provider is on how the process should flow for our customers and their users, so the system fits the user's needs, rather than the user having to fit the system's design.*
>
> **Paul O'Reilly, Solution Manager, Aareon**

With a system such as Aareon's, which supports business processes across entire housing organisations, it's important to understand how different users will use it and what their priorities are. Consultation should include stakeholders at every level of the business, and any changes to the UI or the users' journeys should be tested with real users before they are implemented.

We have worked closely with our customers for over two years in the design of our new Aareon HMS solution and held many engagement workshops for the re-design of our digital solutions to craft an exciting single solution that is fully integrated both in functionality and look and feel. We find that answers are often 'in the room' if you ask the people the right questions and let them explain how they want the system to work for them. We are continuing to use this approach as we make further changes and refinements across the Aareon portfolio.

Prioritising access to important information
Large quantities of complex data often need to be handled and displayed, so the facility to quickly and easily understand what is on a particular screen is vital for staff to be effective in their roles. A system like Aareon's new browser-based HMS, with integrated digital solutions, is a single, fully-integrated system. Using a common look and feel, all the data that the business needs is shared throughout the system, but information is prioritised for different contexts.

For example, a tenancy record has hundreds of fields, but many have very specific uses and aren't always needed. The UI design must consider what is hidden or shown by default and how to order them into a 'process', rather than just a series of fields. This allows the user to focus on the process, not the screen layout as was the case with older systems. Our focus as a software provider is on the way the process should flow for our customers and their users, so the system fits the user's needs, rather than the user having to fit the system's design!

UX improvement at Aareon is an ever-evolving process as we enhance our solutions and use continual improvement to keep our system aligned to our customers' current and future needs.

In our experience, most housing providers are eager to embrace digital transformation and there's high demand for services in the cloud. For some, a more cautious approach has been selected, and they may not be keen to navigate a new user interface that they are not used to. It is our challenge to engage with all users and ensure their needs are supported by our future enhancements and that new interfaces are compelling as well as intuitive.

At Aareon, we are committed to driving progress and ensuring that our solutions deliver the best outcomes for our customers, their users and their tenants, so we always welcome and listen to feedback.

Our aim is to adopt a consistent UX approach across all Aareon products to deliver better service to all our users and help them have the information they need, when they need it, in a format that lets them focus on the task at hand.

Libbie Coulson is the UX/UI designer and Paul O'Reilly is the solution manager at Aareon UK.

FireAngel CONNECTED

The **Connected** solution for **Social Housing** that enables active fire risk management and prepares properties for a smarter future.
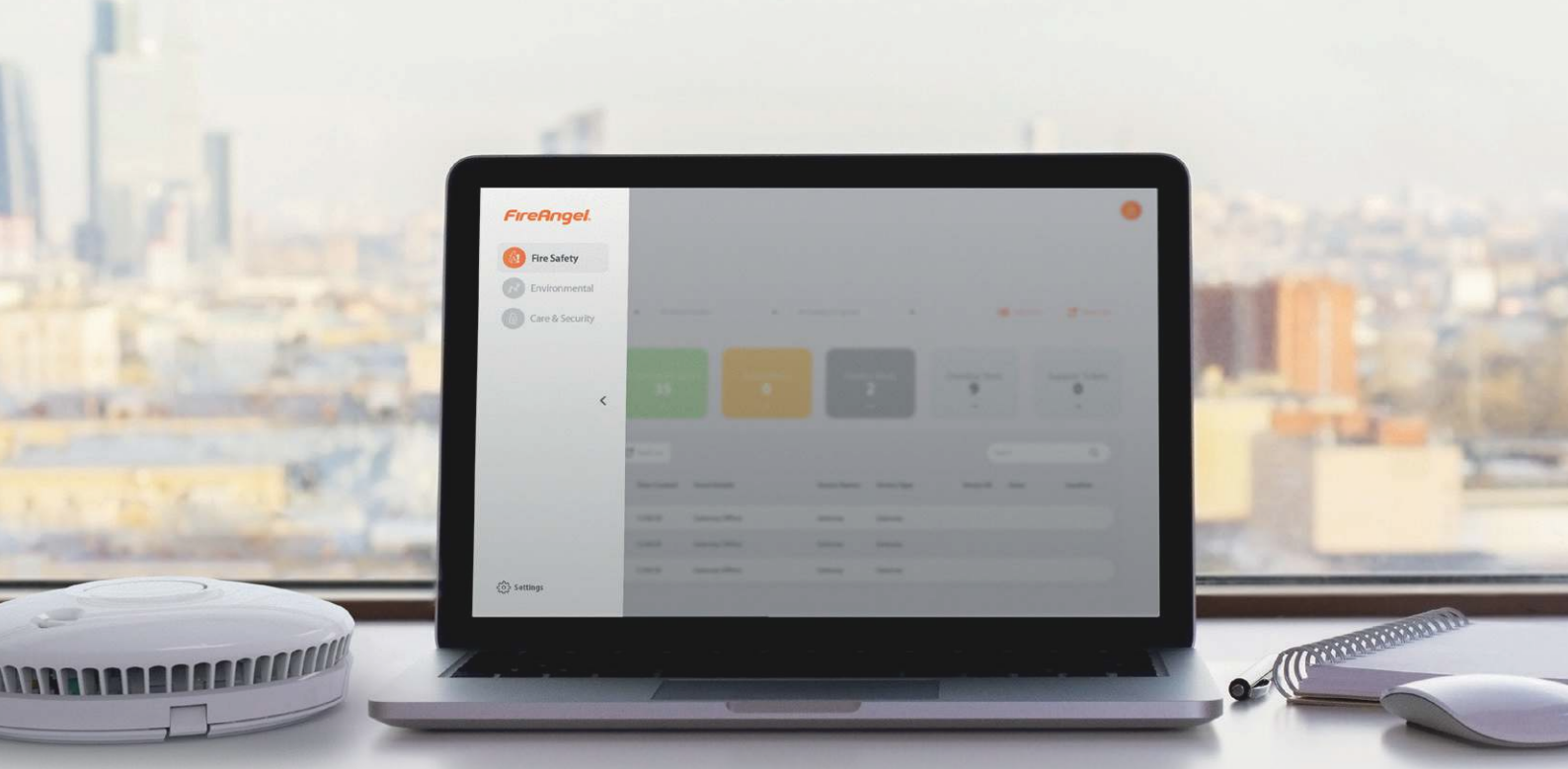
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Fire Risk Mitigation

FireAngel Predict™ provides an instant, real-time fire risk level unique to each property, allowing you to actively mitigate risk and prioritise intervention for those who need it most.

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Integrate data into your existing asset management system or use our dashboard to monitor conditions within the property or when devices are activated, are removed or require maintenance.

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Create a compliant network of protection that prepares properties for a smarter future and can be enhanced as resident needs evolve, with robust connectivity that doesn't depend on tenant Wi-Fi.

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Building data maturity

Dan Yarnold, Director, IntoZetta

One problem with traditional data maturity models is that they tend to use a common framework for all organisations, irrespective of market sector, current use of data and underlying data management challenges. A scale from 1-5 or a classification from 'explorer' to 'innovator' could be accused of being an over-simplification of issues which are often complex and always specific to each organisation.

A better approach might be to follow a series of practical steps that enable you to create a data maturity journey, specifically for your social housing business. A journey designed around the nuances of the housing sector, which will encourage the whole organisation to participate, and will provide a framework for measuring the resulting operational improvements as they are delivered.

Step one: Know your data

Sometimes it's 'data discovery', sometimes it's 'data archaeology', and sometimes housing providers already have a well-documented data landscape within well-managed core applications. However, in many large housing providers, their systems have evolved over decades, and often mergers have resulted in the duplication of systems and processes. These circumstances can be a recipe for poorly documented data assets which might be incomplete and/or fragmented across multiple systems. Further complexity is added by the proliferation of Excel spreadsheets, which either carry out bespoke departmental tasks and processes or store data that didn't quite fit into the application landscape at the time. All of that is before we even consider the unstructured data that exists within PDF documents or other file types within shared folders across the organisation.

With the right tools and the right expertise, it's possible to create an accurate map of the data landscape far faster than you might imagine. Metadata can be harvested from systems by data-profiling tools. Shared folders and PDF documents can be analysed and have their unstructured data turned into catalogued structured data.

Assuming the activity is carried out correctly, the data landscape should be consumable to all employees, not just a few individuals within the IT department.

If data is the fuel that runs every process in your organisation, everyone should understand their role in maintaining the quality and availability of that fuel.

Step two: Measure the quality of your data

It's relatively easy to measure gaps in data and report very basic data-quality metrics. However, it's a much more involved and complex exercise to create a comprehensive data-quality framework that measures more complex data-quality rules and then presents the findings via an easily consumable interface.

The Data Management Association (DAMA) identifies six dimensions of data quality; accuracy, completeness, consistency, timeliness, validity and uniqueness. By measuring these dimensions of data quality, it's possible to create a comprehensive data-quality framework that doesn't simply measure the obvious and easy things; it measures the overall quality of the fuel that runs your organisation.

Organisation

The organisational strategy drives the activity of every department and individual

Processes are created to ensure that activities support the overall organisational strategy

IT systems and the data contained within provide fuel that either supports or hinders each process and the overall strategy

STRATEGY

PROCESSES

DATA

The sheer size and scale of creating this measurement framework across all data assets is too great a task for most internal data teams. After all, most people prefer to buy or rent a house rather than build their own. Many data-quality tools are available on the market with a range of features and benefits, and some even contain existing data-quality rules' libraries for specific market sectors, including social housing, to radically reduce the time and effort needed to create a data-quality framework.

Step three: Link your data strategy to your organisational strategy

Measuring the quality of your data assets will help you to understand which areas of data are the lowest quality and which are the highest, but that won't tell you which data assets are most important and should therefore be prioritised for management and cleansing. Only by understanding how your data fuels your key processes and how these processes support your overall strategy can you begin to manage data based on its importance.

Software tools exist that allow you to create an organisation-wide process map showing the individual data items that are necessary to complete each process so that you can measure the effectiveness of your data as a fuel. You can calculate the efficiency of every process, and accurately measure and predict the number of times when the process will fail due to poor or missing data. You can even start to calculate the cost of poor data quality within key processes by connecting the volume of failures caused by poor data with the internal costs associated with rework, manual intervention and process failure.

Step four: Create metrics for buy-in and improvement

Each department, senior leader and employee should be driven by their personal objectives and the overall objectives of their team or department. By linking data-

quality issues to the processes that individuals and teams carry out every day, you can generate an appreciation of how the effective capture and use of data will improve individual performance and the performance of the organisation as a whole.

Data is rather a dry subject for most people, so asking them to contribute to the ongoing maintenance and improvement of data can be difficult. However, the conversation is completely different if you can translate the language and measurement into something that individual stakeholders care about and/or have responsibility for.

For example, finance directors are interested in (among other things) improvements in their ability to collect money and reduce arrears, housing directors are interested in improving their ability to contact tenants and complete maintenance jobs correctly, and call-centre operatives are interested in tenant satisfaction.

Data is the common fuel for all these processes and also for just about every process you can think of in a social housing environment.

By treating data as a fuel and by prioritising its management based on its importance to your organisation and its strategy, you can create an achievable data-maturity journey tailored to your unique data circumstances, challenges and opportunities.

Dan Yarnold is a director of IntoZetta

INTOZETTA

HOUSING TECHNOLOGY™

INTELLIGENT AUTOMATION
05 october 2021

Artificial Intelligence
Machine Learning
Predictive Analytics

Intelligent automation in housing is more than just chatbots and digital assistants; at the heart of intelligent automation is the goal of significantly lowering your organisational latency to do everything faster, better and cheaper.

With more and more housing providers having already taken their first steps in artificial intelligence and machine learning, Housing Technology's new 'Intelligent Automation 2021' digital broadcast will provide a snapshot of how your peers at other housing providers and specialist IT suppliers are using artificial intelligence, machine learning and predictive analytics to completely rethink their internal and external operations.

Registration for Intelligent Automation 2021 is now open at: housing-technology.com/event/intelligent-automation-2021.

Our speakers include Places for People, Vivid Homes, Project CHAI and our keynote, Dr Benjamin Coorey, founder and CEO of Archistar, with more speakers expected to be confirmed.

Join our live digital broadcast on **05 October 2021** (0900-1630) to find out more about:

- **Repairs, maintenance & asset management**
  Move towards self-diagnostics for repairs, predictive maintenance and near-real-time asset management.

- **Tenant services**
  More accurate tenant profiling, faster onboarding, faster and easier repairs and (of course) better customer service.

- **Internal operations**
  Improve staff morale by cutting mundane, error-prone repetitive tasks.

- **Finance**
  Lower arrears, fewer voids and more streamlined financial processes.

- **Infrastructure**
  The importance of solid data management practices for 'touch-free' straight-through processing.

- **Culture**
  Embracing the cultural shift and addressing staff fears of intelligent automation.

Reserve your place at Intelligent Automation 2021 at:
housing-technology.com/event/intelligent-automation-2021

Income teams & fear of change

Joe Sims, Pre-Sales Consultant, Flexys Solutions

In the economic squeeze triggered by the pandemic, there is more scrutiny on the millions of pounds tied up in tenants' arrears. Income teams are expected to collect more while controlling costs and avoiding bad publicity and reputational damage.

With visits, letters and phone calls falling out of favour, do housing providers' income teams have the right tools for the job? Many income teams 'get by' with antiquated debt management systems rooted in the pre-internet age that cost more and deliver less than a modern system.

Spreadsheets & Post-It notes…

Income teams have a difficult enough job without also having to wrestle with archaic systems and spreadsheet 'work-arounds'. Budgets are tight yet many organisations are pouring good money after bad; it's time to rip off the sticking plaster because there are better uses for housing providers' budgets than just 'keeping the lights on'.

It can be a big challenge. Income team managers might see advocating change as too much of a career risk, with some corporate cultures making it more attractive to keep your head down and not rock the boat. There's enough to do every day without disrupting the department – better the devil you know?

However, there is a danger that fear of change is stifling productivity and sapping resources. It's time for housing providers to support their income teams and deliver the modernisation they desperately need.

Slow service requests & upgrades

For their part, technology suppliers have too often relegated the housing sector to the bottom of their list of priorities. Once they have been sold a system, housing providers find themselves cut adrift and waiting endlessly for service requests to be actioned. This can seriously hamper their day-to-day activities. Some have even been told that their expensive system has come to the end of its life and will no longer be supported or upgraded.

How can you tell if your debt collection system has seen better days?

1. **You have to supplement it with spreadsheets and Post-It notes;**
2. **You have to get the supplier in to make even simple changes;**
3. **You've been waiting months or even years for upgrades;**
4. **If you have one small problem, the whole system comes crashing down;**
5. **You can't offer tenants a simple-to-use, self-service option for payments and debt arrangements.**

Housing providers had to act swiftly to overcome the challenges of the pandemic. The true ramifications will be felt most keenly as 2021 progresses and all government support measures end. Housing providers should use this time to assess their readiness for the challenges to come and decide whether their debt collection solutions actually hinder or support their efforts.

Joe Sims is a pre-sales consultant for Flexys Solutions.

IS YOUR DATA HOLDING YOU BACK?

INTO ZETTA

IntoZetta's unique combination of software and expert professional services is providing organisations across the housing sector with solutions to their data problems. Trusted by Clarion, L&Q, NHG, A2Dominion, Platform – the list goes on and on.

INTOZETTA MIGRATION

Failed Data Migration is the most common reason for programme delay and cancellation. IntoZetta has delivered many of the largest and most complex data migrations in the housing sector. Our Housing Data Migration software and experienced consultants have supported migrations to and from Dynamics 365, Northgate, OPENHousing, Universal Housing, Orchard and more.

INTOZETTA QUALITY FOR HOUSING

With over 1000 pre-configured housing data quality rules, we can create a complete picture of your organisations data quality within a few weeks. The Rules Library contains housing specific rules for Asset, Tenant, and Finance data as well as specific data reporting requirements for NROSH. The software allows rules to be grouped into business processes so that you can measure your ability to Maintain Assets, Collect Rent, Communicate with Tenants, and all other key processes.

INTOZETTA GOVERNANCE FOR HOUSING

Pre-configured with 100's of common housing data definitions that you can Accept or Modify to create your organisations Data Catalogue. The software allows you to build a comprehensive picture of where data exists, how it moves between systems, and where the Master source is held. You can manage data ownership, data policies, and provide your employees with an intuitive Data Search capability that democratises data and drives a wider appreciation of good data governance.
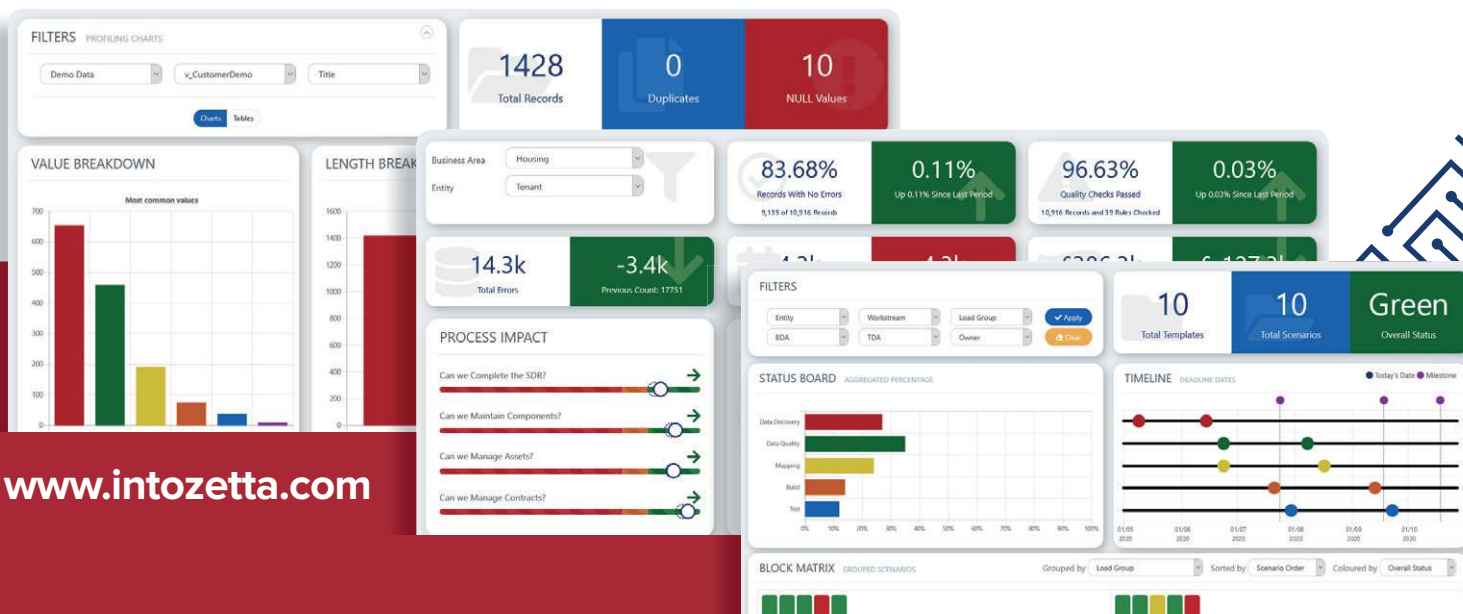
www.intozetta.com

Birmingham uses Urban Intelligence AI to find land for new homes

Urban Intelligence has been awarded a contract by Birmingham City Council to undertake a review of land across the city using ground-breaking digital methods. Using artificial intelligence, the council can assess many more sites at a much faster pace, making it easier to fulfil its housing targets.

Urban Intelligence's geospatial analysis software will increase the speed and scope of the council's land review. It will enable 330,000 sites to be reviewed, almost 300 times more than the 1,160 sites assessed by the council in 2017. The software will also reduce the time to produce a final list of sites from almost one year to just three months.

Birmingham City Council is currently considering its new development plan for 2022-2042, and finding enough land for housing is likely to become increasingly difficult. An examination of the council's current plan has already found that 38,000 of the 89,000 new dwellings can't be accommodated within the city's boundaries.

Urban Intelligence uses machine learning to appraise every land parcel across the city, maximising the chances of uncovering more sites suitable for housing. It will also enable scenario testing to assess the impact of policy decisions in preparation for the new Birmingham Development Plan.

Daniel Mohamed, founder and CEO, Urban Intelligence, said, "As the largest local authority in Europe, Birmingham will provide a fantastic opportunity to explore the use of geospatial methods for data-driven urban development at significant scale."

Urban Intelligence's technology has already been used in the London Borough of Hounslow, multiplying the number of sites typically assessed by a factor of almost 200. Urban Intelligence's work has uncovered 4,200 suitable sites, many of which are already council-owned and small, fulfilling the London Plan's new requirement for Hounslow to deliver 2,800 homes on sites under 0.25 hectares.

Launch of Checkboard for faster tenant onboarding

Checkboard has been launched to give housing providers a faster and more accurate way of onboarding new tenants, covering tenant identification, anti-money laundering, credit checks, affordability and open banking APIs.

James Owusu, founder, Checkboard, said, "We're building trust one check at a time. The whole system where tenants have to prove who they are and their financial background multiple times isn't exactly broken but it is slow and inefficient, with numerous gaps between processes.

"We realised that housing providers were between a rock and a hard place because they needed insights about whom to trust as being their next tenant. Referencing providers typically only do affordability and credit checks, unlike Checkboard.

We do identity, credit, AML and open banking checks, as well as searches against global registries, HM Land Registry (where applicable) and bankruptcy registers – in fact, eleven data points in total."

Checkboard integrates with many common CRM systems so that housing providers can easily pull in tenant data from their existing systems.

Yazad Bajina, sales and partnership director, Checkboard, said, "It only takes prospective tenants five minutes to use our solution; we can then automatically give precise, secure information to any housing provider who needs to verify them. So, no hassle for the users combined with seamless efficiency, instead of a three-day or more delay that is the norm.

"We can't guarantee to onboard a new tenant in five minutes, but we do know that once our solution is working 24/7 for a housing provider, their workflows and decision-making are enhanced, so the chance of them making the wrong decision about a prospective tenant is minimised."

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Bringing complaints into the 21st century

Jordan Wheat, New Business Consultant, Crimson

We heard from some residents that making a complaint can be difficult and take too long, and that it can sometimes take months for the complaint to be resolved or for the resident to be able to access the Housing Ombudsman.

The charter for social housing residents' whitepaper, released in 2020, highlighted the need to provide tenants with effective methods of raising their concerns. Housing providers must ensure that all residents can make complaints and can do so confidently. It's also important that tenants understand the procedures and how their complaints will progress over time. Housing providers face time constraints to handle complaints before the Housing Ombudsman or their local MP gets involved and a formal investigation is launched.

Antisocial behaviour & other complaints

Social housing tenants have an above-average chance of being victims of antisocial behaviour, and they have the right to feel safe, secure and stable in their homes without fear of antisocial behaviour. While local authorities and the police play a role in tackling antisocial behaviour, housing providers must also take responsibility for providing support and assistance.

The key to providing all tenants with the ability to confidently raise complaints is omni-channel engagement. As mentioned in my previous Housing Technology article (July 2021), omni-channel engagement is vital for great customer satisfaction and provides a rounded view of tenants. Therefore, tenants should be able to log complaints via several channels in order to cater to a variety of demographics, IT abilities and circumstances.

Using the Microsoft Stack

Tenant portals act as a central hub for queries, resources and complaints. Tenants can get in touch with contact centre staff, where complaints can be logged, amended and tracked, giving tenants clarity on their progress.

Some tenants may prefer to log their complaints via email or phone. Microsoft Power Platform's AI Builder can perform 'sentiment analysis' across emails and calls using AI to improve the speed and effectiveness of complaints handling. The AI builder can monitor and analyse whether emails or phone calls are positive, negative or neutral, thereby providing insights into tenants' views.

Virtual agents

Another method of logging complaints is via a virtual agent. Tenants can chat live with contact centre agents to ask questions, discuss complaints or be directed to the portal. Not only is this a faster response than the portal, but it's also more personal and builds greater rapport with tenants.

Throughout complaint processes, tenants will often need to upload photos to support their complaints. Microsoft Azure's Computer Vision can automate the photo reviewing process by recognising both faces and objects. This standardises complaints by objectively reviewing the complaints, which can then be passed onto the repairs team or other relevant department. Once again, this speeds up the complaints process and ensures fairness across all claims.

Following a complaint, housing providers need feedback from the complainants to learn from any mistakes and share successes in the form of testimonials. Customer Voice automates the feedback process and can automatically direct tenants to place a review on Google.

Robotic process automation (RPA) can manage the back-office side of the complaint-handling process by automatically bringing tenant data together from legacy systems by using low-code automation. RPA can also be used for automating manual processes relating to external applications, such as complaints received via the Housing Ombudsman or a local MP.

Choice of channel

By using a range of Microsoft solutions to deal with customer complaints, housing providers can build trust with tenants, all thanks to having a choice of channel. As previously mentioned, it is still important to manage omni-channel engagement effectively, to ensure all complaints are dealt with in a timely manner.

If you're interested in finding out more about using Microsoft products to handle complaints efficiently, come along to our next 'housing breakfast' webinar for in-depth demos of our Microsoft solutions.

Jordan Wheat is a new business consultant at Crimson.

Staying connected with telehealthcare

Zillah Moore, Director, Tunstall Healthcare

Cohesion between health and social care providers, local authorities and housing providers is crucial to enable the delivery of care to vulnerable people. Issues around collaboration between organisations in these sectors has been a challenge for some time and is limiting progress.
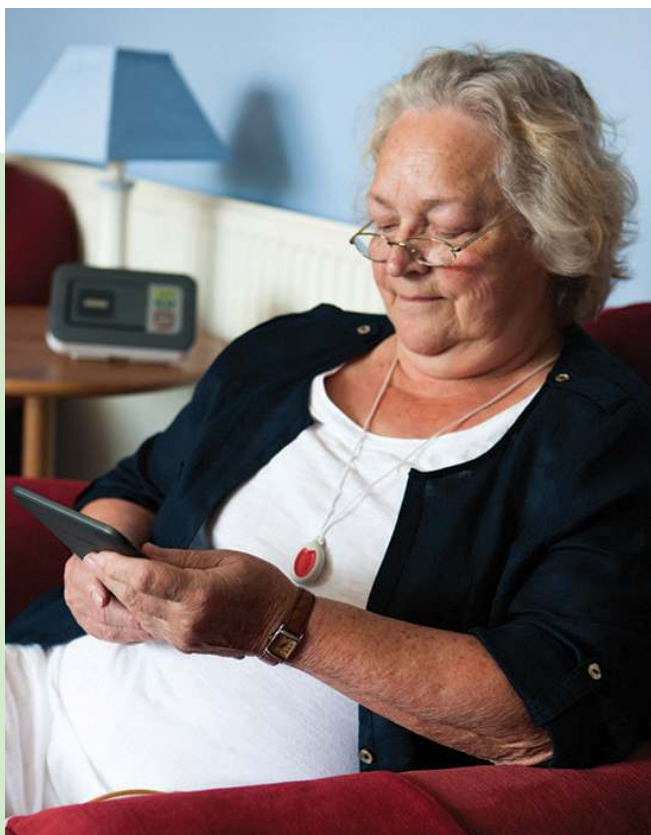
Why collaborate?

Collaboration is essential to enable the effective provision of proactive and predictive health and care services.

When collaboration works well, it can improve communication, save time, reduce duplication of effort, improve working relationships and provide a better experience for vulnerable people using housing services.

Collaboration also ensures that housing providers act in the best interests of tenants when making decisions about arranging health and care provision.

A collaborative approach requires professionals, typically from different agencies, to come together to share their knowledge and ideas on how best to care for the people who need it most. It's also important that collaboration includes communication with service users, to identify where improvements are required and, where possible, co-designing services.

The barriers to collaboration

However, there are numerous barriers to collaborative working, including the geographical areas covered by different stakeholders, statutory responsibilities, contrasting priorities and cultures, and siloed approaches which can't be successfully replicated across different organisations and sectors.

Health, housing and social care providers don't have an innovation problem; they have a replication problem which has been exacerbated by the lack of collaboration. We've found that successful projects are rarely reproduced elsewhere in the system.

Technology is crucial in enabling collaborative approaches, yet it's often an afterthought when planning new services. Technologies are rarely integrated into housing developments, and we're still grappling with the introduction of a 'personal care record', where information from numerous devices and interactions with the NHS and care sector is held together.

The role of technology

As highlighted in the government's recent white paper, "Working together to improve health and social care for all", technology will play a key role in establishing a modern care platform which is able to meet the needs of a technology-enabled population.

The rapid uptake of technology owing to the pandemic has led to increased acceptance of the role that technology plays in service provision. Whether it's the use of virtual care platforms, remote monitoring solutions, communication tools, digital apps or sophisticated data platforms, services are entering a new phase of digital maturity.

A health, housing and care system fit for the 21st century must have digital innovation at its core. The digitalisation of care offers incredible opportunities for the health and wellbeing of our population, and for patient outcomes to be dramatically improved.

Health and care technology solutions also provide benefits for staff and care providers within housing developments.

Not only can digital solutions streamline workloads and benefit users, but they can also provide a greater sense of job satisfaction, reduced travel and more reassurance that they'll be alerted in the case of an incident.

Not only can the digitalisation of services improve care models, but it can also encourage tenants to engage in their own health and wellbeing and provide opportunities to deliver community and person-centred care tailored to the specific needs of individuals.

Looking ahead

Following the technology acceleration due to the pandemic, we're beginning to see the next generation of predictive care technologies. Over the next few years, those will encompass integration that enables diverse and scalable models of health and social care. Using AI and taking data-driven insights from multiple sources, providers will use this next generation of solutions to optimise health management programmes by providing personalised and anticipatory care.

There's never been a more crucial time for service providers, housing organisations and local authorities to collaborate and set out a new vision and commitment to creating a healthy population, with the effective use of technology at its core.

As we recover from the pandemic, these proposals can help us look to the decades ahead with confidence. This is a unique moment when we must continue to build on the bold legacy that makes care and housing provision the very best of Britain – we must seize it.

Zillah Moore is a director at Tunstall Healthcare.

WCH's real-time repairs' tracking with Localz

Watford Community Housing has teamed up with Localz to roll out real-time operative tracking, with the aim of delivering faster and more flexible repair processes for both its tenants and its repair workers.

On the day of their appointment, tenants receive a message when their operative is on their way, with a link to a live map, much like Uber or Deliveroo. Customers can also message the operative to give directions on how to access the property, including any covid-related details. Automated communications powered by Localz's workflows give tenants real-time updates on the ETA of their repairs operative.

As a result of the real-time visibility around appointments and the tracking capability of Localz's software, WCH expects that the first-time access rate for its repairs staff will increase so that more repairs can be completed by each operative.

Automated communications and self-service appointment details are also expected to lead to fewer calls to Watford Community Housing because tenants are automatically kept informed about the status of their repairs and the whereabouts of their operatives.

Plentific raises $100m funding for expansion

Plentific has raised $100m (£72 million) in 'Series C' funding from new investors Highland Europe, Brookfield Technology Partners, Mubadala Investment Company and RXR Digital Ventures alongside existing investors A/O PropTech and Target Global.

Plentific plans to use the investment to expand its global footprint and to accelerate its product development around digital transformation in property (including social housing) and facilities management.

Cem Savas, CEO and co-founder, Plentific, said, "We had a phenomenal year of growth, more than doubling our staff to almost 200 employees, opening an office in the United States and cementing our position in the UK and German markets.

"Our next step is to rapidly expand in the US, as well as look to begin operating in new geographies. We have only just scratched the surface of a $2.5 trillion potential market opportunity. We will now be rapidly expanding both our global footprint and the solutions we offer to become the de facto digital partner for housing providers and service providers across the world."

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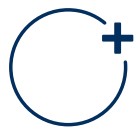
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Building safety & tenant engagement

Alex Oldman, Client Relationship Manager, Civica

Civica's client relationship manager, Alex Oldman, shares his thoughts on what housing providers can do to prepare residents for action and to improve safety.

After the tragic events of Grenfell Tower in 2017, the release of the Hackitt report and the introduction of the Fire Safety Act 2020, building safety managers have been challenged to improve and maintain the safe occupation of high-rise residential buildings.

Understanding residents' behaviour

Resident engagement is important to ensure that people have sufficient information to react appropriately in any given situation. But how best to gauge residents' perception of fire risk? Research by Gary Glauberman on fire-risk behaviours in high-rise buildings shows that residents closer to the ground floor are less inclined to prepare for evacuation or evaluate immediately in the event of an alarm.

Glauberman highlights that prior experience of high-rise fires also has a major impact on how individuals think about fire safety. One individual reported that after experiencing a fire in her building, her family created a detailed emergency plan including details of how to contact people, meeting places, insurance and a financial cushion.

Many residents will say that fitting sprinklers will make them feel safer. But once faced with the price, they may argue that the cost outweighs the benefit.

Putting 'building safety leadership' in place will focus residents' minds on preparedness. Building safety managers are highly skilled and experienced individuals, combining cross-domain technical knowledge with the ability to communicate, and providing the right tools for effective communication is vital.

Testing your emergency planning

How likely are residents to take emergency cues? We've all been in offices or hotels when an unplanned alarm activates. What do you do? For many of us, the initial reaction is to sit and wait to see if it's a false alarm, and perhaps observe people around us to see how they react. In effect, we become sheep, just observing other people and following their actions. In these circumstances, it takes a leader to decide to evacuate for others to follow (voice evacuation systems can help with this).

Once a community has been rehearsed for evacuation, the decision to evacuate becomes more automatic. In the pre-pandemic days, you might recall office fire evacuation exercises. The importance of rehearsing building evacuation is critical to individuals' ability to take action in response to a previously-rehearsed cue.

What about taking action not in an emergency? How likely is a resident to immediately mitigate a risk on spotting it, such as ensuring that escape routes are clear and unobstructed or reporting a problem with signage, or even asking for permission for their own DIY and then ensuring that the work is completed to the required standards?

Influencing residents' behaviour

What about the information requirements – what is the most effective way to communicate pertinent information?

Housing providers should consider having a single and easily accessible source of all relevant information regarding emergency preparedness. This could be a website, portal or application, with consideration given to residents' demographics, such as age, culture and language.

What's the best approach to engage with residents on fire safety and technical issues? We recommend that you share information and check their subsequent understanding, including clarifying the housing provider and residents' respective responsibilities. Communicate what action to take in the event of a fire in terms of raising the alarm, tackling the fire and evacuation routes.

Communicating essential information

Essential information can be communicated at the start of each tenancy as part of the welcome pack, and community notice boards can share the latest information. But update the notices regularly to keep people looking and consider having notices in stairwells and lifts. Use enhanced communications such as letters, emails or text messages, and participate in community days or run pop-up events. In addition, many residents' groups have access to portals and mobile applications which can be used to push information, such as a building fire alarm test, to residents. And of course, social media is a vital channel to communicate about fire safety, again taking into account the different social media platforms used by residents.

Special consideration should be made for older or more vulnerable residents who might not get out as much or be able to access technology. Civica's 'A word from the wise' report revealed a large upsurge in the number of over 70s using digital technologies as a consequence of the lockdowns.

However, this doesn't mean that digital channels are always the best way to reach each resident; the personal touch still matters. Why not arrange to visit each household? Even in these pandemic times, a doorstep meeting might be acceptable. Work with vulnerable residents to provide personal emergency evacuation plans (PEEPS) which detail specific arrangements according to each vulnerable resident's needs.

Key contact details for the building safety manager should be available to all residents. The contact details should be easy to find via information boards, mobile apps and portals.

Reporting fire-critical faults & repairs

The Hackitt report highlighted the need to engage with all stakeholders and bring them to the decision-making table. There should be a clear and simple process for reporting faults or repairs relating to building safety.

Other points to consider include: how will visitors to the building be made aware of the fire plan; is the fire plan displayed publicly; how good is the signage?

Emergency service responders could be included in the communication events. Most fire services will actively engage with high-rise communities to carry out risk assessments, give advice and be part of any emergency preparations. Furthermore, do they have access to critical emergency response information while in transit to the building?

Where requested, residents might also require access to information about current and historic fire risk assessments, upcoming planned maintenance, building servicing and inspection regimes, details of any preventative measures, fire protection and prevention, structural assessments and planned and historic changes to the building.

In conclusion, there is much that a housing provider can do to prepare residents for action and to improve safety through changing residents' behaviour. Managing two-way communications is critical, and technology can help with sharing important information about emergency plans and checking that people have understood it. Above all, consideration needs to be made to how residents receive information, how they retain it and how they might act in an emergency.

Alex Oldman is a client relationship manager at Civica.

CIVICA

A clear and present danger

James Tickell, Partner, Campbell Tickell

For many boards and executives, cyber security is a matter for the IT crowd. It's mildly interesting, and we read the news with mixed horror and fascination about ransom attacks on large companies. It's probably there somewhere on the risk map and gets occasional attention from the risk and audit committee. But recent events have surely pushed cyber security right up the governance agenda. Housing providers, charities and local government have all been hit by ransom attacks. Others have experienced serious data breaches, sometimes without any malign external agency – unforced errors, as it were.

As it turns out, the first ransom attack was in 1989, using floppy disks. The risk of an attack has risen ever since and quadrupled in the last decade, not least because of certain authoritarian states which sponsor, or at least tolerate, cyber crime. A few weeks ago, the entire health system in the Republic of Ireland was affected by an attack. For some companies, cyber crime has proved an existential risk, with insolvency the eventual consequence.

Weapons of war

On the international stage, cyber attacks have effectively become a weapon of war – just remember the Israeli sabotage of the Iranian nuclear programme. It's even conceivable that an attack could bring down a major financial institution or, in an extreme case, the entire financial system. To make it more personal, how much would you pay to be released from imprisonment in your smart car or even from your smart home?

The consequences of an attack can therefore be serious. Lives could be lost. Paying the ransom might turn out to be the lesser of various evils, and some UK and other firms have already paid vast sums in crypto-currency ransoms. Personal data can be lost or abused, with business processes disrupted for weeks or even months. Litigation can often follow. The costs and disruption can be huge. And the risk is not just to organisations, but to tenants and service users as well.

A global dark industry at work

Cyber crime has become a global dark industry, alongside illegal drugs, people smuggling and extortion. It is parasitical, remorseless and powerful. Annual 'turnover' may be as much as $20 billion, although that is hard to quantify for obvious reasons. As with any other industry, there is assiduous attention to branding; we have all now heard of 'SolarWinds', 'NotPetya', 'SoBig', 'WannaCry' and many more besides. And the pandemic, with so much remote working, has opened up new vulnerabilities which have been eagerly exploited.

The key point here is that there can be no fully-effective protection from attack. Precautions are important, of course, but there are many points of vulnerability, some of them inherent in the software systems we use. Human error and corner-cutting add to the risk and can never be eliminated completely. It's therefore necessary to assume that every organisation may be affected at some point in the future and perhaps held to ransom for its data. Several of our clients, in housing and other sectors, have already been affected in various ways.

What's to be done? First of all, every housing board and their relevant committees need to give this their full attention. To do this, they will need access to deep expertise. Indeed, it's becoming highly desirable, if not essential, to have such skills represented among non-

executives. Leadership skills are also important; more and more organisations are creating executive-level posts for the chief information officer. Relentless curiosity, scrutiny and questioning need to become the order of the day.

Assume the inevitable

We must assume that cyber crime will happen to us one day. So part of the agenda should be about preparing for such an event; there is some excellent guidance in earlier editions of Housing Technology about the best ways of reacting once the enemy has already breached the outer walls. And don't use emails to communicate about it – the enemy can read them!

Strong defences should help, but the hackers are smart and well resourced; as the saying goes, it's more fun to be a pirate than a coastguard. Now is the time to start thinking about back-ups and contingency plans. It would be a good idea to 'war game' some scenarios at governance and operational levels. For example, if all of your data were held to ransom and you had to start again from a back-up that was, say, two-months old, how would you go about achieving that? It's not easy going back now to the Jurassic era of index cards. Ideally, if your data were held to ransom, you would be able to resist the extortionate Bitcoin demand and get back in business relatively quickly, with expenditure and disruption contained within reasonable levels.

It's about governance, not IT

For boards and risk committees, there are some important questions to consider. One obvious one – are your cyber defences as good as they can be? It may be worth getting some external agency to test them, trying to simulate a hacker attack. A strong and compliant organisational culture is another important line of defence, and this has also been well discussed in previous articles in Housing Technology. However, it goes beyond just your own defences; you also need to consider those of your suppliers and third parties, such as your maintenance contractors with access to some of your systems. Third-party software systems can also be a problem, such as those used for mass mailings.

Another area for attention is that of insurance. After a ransom attack, dealings with insurance companies often becomes contentious because they inevitably look for reasons not to make good the losses. It's well worth looking at the detail of the relevant policies and also at the track record of your insurance provider in dealing with other clients. As an aside, a recent high-profile victim of a successful ransom attack was in fact one of the major insurers covering cyber risk – and they had to pay up!

Governance bandwidth

The over-riding message here is that this important subject now deserves serious governance bandwidth, based on having access to the necessary expertise and advice, so that proper scrutiny can be done.

The enemy is powerful, well-resourced and busy scanning advanced economies for easy targets. They are the wolves and we are the prey. Housing providers haven't yet been the main focus but could easily become so.

Now is the time to prepare, test and scrutinise. Yes, it may never happen, but if and when it does, you must be as ready as you can. The danger is indeed clear and present.

James Tickell is a partner at Campbell Tickell.

Pinpointing high-risk residents with IoT

Nick Rutter, Chief Product Officer, FireAngel

Nick Rutter, chief product officer at FireAngel, explores how housing providers can use the internet of things (IoT) to identify those most at risk of a fire in our communities and intervene to prevent future incidents.

In the past year, purpose-built properties had around 7,000 fires reported, according to government figures. However, it's estimated that this number represents just a quarter of annual fires, due to either the fire dying out or residents extinguishing it themselves without calling the fire service.

By introducing smart technology such as the internet of things (IoT) and artificial intelligence (AI), to gather data on all fire events, including those unreported, housing providers can reduce the number of fires through proactive intervention.

The intelligent way to catch near misses

When only 25 per cent of fires are known to the UK fire services, pinpointing those at risk can be difficult. However, connected technology can be used to expose these unrecorded fires in communities, and is already being used to do so in many property portfolios across the UK.

In a public appeal, Northamptonshire Fire & Rescue Service's prevention team leader, Tina Collett, explained why preventing these near misses is so important; she said, "We have seen a series of near-miss incidents recently which could have been so much worse. We urge people not to leave it to chance and to have an eye out for warning signs that perhaps cooking is being forgotten, smoking is unsafe or indicators that, if a fire was to break out, someone wouldn't be able to get out safely."

By using connected technology in properties, housing providers can receive instant alarm activation alerts to support rapid containment of a fire and contact the fire service or, if needed, prioritise the evacuation of residents.

These rapid alerts would also provide vital cost-effective support and potentially reduce the need for the 400 'waking watch' crews deployed across the country (each costing around £18,000 per building per month) and enable housing providers to establish a more holistic approach to the safety of their residents.

Resident-centric intervention

The past 18 months has proved there has never been a greater need for remote monitoring to mitigate risk. With many families unable to visit loved ones due to the pandemic, changing behaviours may have been missed and an individual showing the early signs of an illness such as dementia, which can lead to an increased fire risk, could have easily slipped through the gaps.

However, with IoT-based property data monitoring over time, housing providers can be aware of trends and be informed when they need to check in with residents.

By integrating with other telecare systems, this smart technology can help to provide holistic care and support for tenants who need it most. It also helps to highlight unidentified vulnerable tenants, including those suffering from other conditions which affect their safety.

For example, up to 30 per cent of fire deaths in the UK are related to hoarding, with 16,000 homes deemed a fire risk by the fire services. The remote monitoring capabilities of connected technologies ensure residents are still protected without requiring access to their properties.

A time-saving alternative to spreadsheets

Many housing providers are already drowning in data and often can't allocate swamped staff with the task of manually sifting through spreadsheets to decipher it.

Connected technology can support busy teams by integrating with other asset management systems, enabling data to be accessed via one centralised dashboard and removing the burden of manual data trawls.

Pairing this connected technology with predictive analytics can also support active interventions to reduce the probability of future fire incidents. By processing, sorting and structuring data in real time, housing providers can instantly identify the residents most at risk in individual properties.

This clear, tiered risk assessment for each property means there can be an instant, targeted response.

The National Fire Chiefs' Council lead, Dan Daly, reflected on the role connected technology and predictive analytics will play in fire prevention and protection; he said, "Fire services have adapted the way we conduct our prevention and protection activities, working with partners to continue to support our most vulnerable and target those premises that present the highest risk through virtual delivery and desktop approaches, among other activities.

"Connected technologies play an essential role in how businesses have adapted, presenting an intelligence-led way for service delivery by using remote monitoring of residents, systems and facilities to reduce physical checks and only responding to issues that are identified.

"It's important that we evolve to the challenges presented during the past 18-months and that we take the opportunity to evaluate what worked well, not only so we are better placed to meet this sort of challenge in the future but also to improve the reach and coverage of vital services to vulnerable people and the targeting of risk for essential services."

By combining intelligent, connected technology such as IoT and AI with remote monitoring and predictive analytics, housing providers can provide a higher level of fire protection and prevention within current resources.

Highlight high-risk properties with FireAngel Predict

Developed with support from the UK Fire and Rescue Service, FireAngel Predict™ runs a unique algorithm with a patented application that spots trends of behaviours logged by smoke and heat alarms, creating a map of fire safety triggers and categorising properties as high or low risk.

Talking about the impact Predict will have in the industry, Humberside Fire & Rescue Services' director of service support, Steve Topman, said, "FireAngel Predict will provide a step change in fire safety. This unique cloud-based technology evaluates numerous criteria in real time, allowing us to pinpoint high-risk scenarios and intervene to prevent fires before they start."

Tried, tested and trusted after 10 years' development, FireAngel Predict gives visibility of previously hidden trends within social housing properties, such as alarms activating through the night or devices being removed.

Automatically highlighting these potentially dangerous behaviours to housing providers enables active interventions to mitigate risk with a personalised 'safe and well' check by the resident safety team or the fire service to help prevent a life-threatening event.

To find out how FireAngel's extensive range of connected fire safety solutions can suit your housing portfolio or to discover more about FireAngel Predict, get in touch with our team of specialists by visiting fireangel. co.uk/connected-contact.

Nick Rutter is the co-founder and chief product officer at FireAngel.

Supporting your remote workforce

Cloud migration in five steps

Andrew Rigg, Head of Managed Services Solution Architecture, Perfect Image

Many businesses are already using the cloud in some way, with 61 per cent moving their workloads into the cloud in 2020. However, many are yet to carry out their full cloud migration.

For some, the migration was accelerated by the pandemic. The WFH order saw many businesses rushing to implement cloud solutions to allow their staff to work remotely. In fact, 51 per cent of decision makers whose business migrated during the pandemic said it saved their organisation from collapse.

If your organisation has yet to complete its move to the cloud, there are a number of steps you'll need to take to ensure it's smooth and cost-effective; we cover those steps below.

1. Understand why you're moving to the cloud
There are so many reasons businesses choose to migrate to the cloud, including:

• Reduced cost of ownership;
• Facilitating remote working;
• Higher system availability;
• More stringent security protocols;
• Increased productivity and efficiency.

Having these goals at the forefront of your preparation means you'll be able to migrate in a way that helps you achieve those goals. You may want to achieve all of them, but it's likely that some are higher priorities than others. For example, you might want to prioritise data security because your on-premise system was recently breached, so that should be your main focus when planning and completing your migration.

2. Decide which applications you're migrating
In an ideal world, a cloud migration would involve moving all of your business-critical apps to the cloud in one go. However, it's not that straightforward in reality.

Most businesses will still have ageing legacy systems that, for many reasons, can't be moved to the cloud. It's well established that maintaining legacy systems is significantly more expensive than switching to new systems. For example, the government's public accounts committee found that HMRC spent 80 per cent of its coronavirus budget on maintaining its aged IT systems, which accounted for a huge £53 million. However, it can be daunting to switch, especially if your legacy system is bespoke.

Your first step in your cloud migration journey is to identify which applications you can migrate to the cloud. We also recommend reviewing your expensive legacy systems to see if there are any existing cloud-based alternatives that could replace them.

3. Determine your migration strategy
Once you've assessed all your applications, you'll need to determine how you'll undertake the migration, even for those applications that you aren't migrating right now. There are a number of ways you can complete your cloud migration, and most businesses will use a combination of strategies which are commonly known as the 6 Rs:

1. **Rehost:** moving applications with no changes;
2. **Re-platform:** moving applications, with small modifications based on their new cloud environment;
3. **Repurchase:** replacing your legacy systems with newer, cloud-based alternatives and operating a software-as-a-service (SaaS) model;
4. **Re-architect:** redeveloping an application, which can involve using new cloud features;
5. **Retire:** eliminating a system from your IT portfolio;
6. **Retain:** leaving an application as-is and revisiting it at a later date.

It's unlikely that you'll only use one of these methods, so once you've determined the applications you're migrating to the cloud and the ones you aren't, decide which of these methods you'll use.

4. Choose your cloud services provider

A question that many people ask is: who is the best cloud provider? The answer isn't as simple as giving you one provider; each will have its own benefits. You might want to use multiple providers so that their combined solutions meet your specific requirements.

If the systems you're migrating use a lot of data, you'll need a cloud service provider who can keep up with those demands. If you're migrating applications that store a lot of personal or sensitive customer data, you'll need one that has strong security certifications. If scalability is important, make sure the provider you opt for can provide this service easily.

The hybrid cloud, a combination of on-premise servers, public cloud platforms and private cloud platforms, is the solution most businesses will opt for. Public cloud options such as Amazon Web Services and Microsoft Azure are trusted because of their rigid security protocols. Private clouds, meanwhile, allow you more customisation and you can choose whether to manage them yourself or outsource this to a third-party provider.

5. Tap into a cloud consultancy expert provider

Reducing costs is one of the main reasons many businesses move to the cloud, with a Microsoft survey identifying this as a top benefit of cloud migration.

However, the cost of the migration project itself also needs to be taken into consideration.

Some businesses will undertake this exercise in-house if they have an IT team that's big and experienced enough to take on the project or to keep costs low. But if your internal IT team is small or you already use managed IT services, we'd recommend using a third-party provider.

A business with expertise in cloud consultancy will manage the entire process for you and ensure that your migration goes as smoothly as possible. Their experience in deploying cloud solutions and migrations means you'll experience a smoother journey to cloud computing.

While carrying out this project in-house might seem more cost-effective on the face of it, cloud experts will help you to reduce costs by considering every possibility and mitigating any potential risks.

Moving workloads to the cloud is an essential step for businesses that are looking to reduce IT operating costs, increase security and improve efficiency and productivity. It's a project that requires a number of steps to ensure a smooth, efficient, and cost-effective migration. By taking these steps, you can ensure your cloud migration is as seamless as possible.

Andrew Rigg is the head of managed services solution architecture at Perfect Image.

Stonewater's data focus with 3C & Blackwater Software

With support from 3C Consultants and Blacklight Software, Stonewater has transformed its data management processes as part of an enterprise-wide solution to improve how it deals with all forms of data, including an upgrade of its analogue data-handling solutions.

With more than 75,000 tenants, Stonewater generates a huge volume of data and documentation relating to payments, maintenance, tenancies management and other areas of housing. The aim of the project was to improve accessibility to Stonewater's systems while also meeting strict compliance and security requirements.

Amit Patel, director of IT, Stonewater, said, "To support our digital transformation goals, we needed to move from our existing Documotive EDRMS, e-post and invoice processing systems towards complete digital integration of our housing and asset management systems.

Darren Regis-Williams, quality assurance analyst in Stonewater's IT governance team, using the new system.

"Although we couldn't find any other examples of that having been done by any other housing providers, we were determined to implement systems with electronic post and purchase to pay (P2P) capability that would integrate with our SharePoint platform."

3C has worked with Stonewater for a number of years, including the integration of two of its cornerstone business applications to improve how the housing provider's development data is managed and processed.

Charles Brooks, consulting director and partner, 3C Consultants, said, "It was important that a project of this size had the appropriate governance in place. We worked alongside Stonewater's internal team to map out and deliver the transition over a two-year period, most of which was achieved remotely owing to the pandemic."

Ian Heuston, technical director, Blacklight Software, said, "The combination of a cloud-based strategy and the introduction of AI tightly aligned to existing software and processes were key.

"We started this project before the pandemic and our cloud strategy proved invaluable when it hit; embedding AI into Stonewater's processes has been invaluable not only in view of the current situation but also positions Stonewater well for the future."

Patel said, "When our suppliers upload their invoices onto our DigiPay payment portal, Microsoft's AI can extract the data from the suppliers' invoices to match to orders, gain approvals and then integrate the information into our Microsoft Dynamics GP finance system. We've found that the only time human intervention is needed is if there's a reported mismatch or data error, but even then, the queries can generally be resolved online.

"The changes have also dramatically improved how our colleagues access any systems and information they might need while working either on-site or remotely, which has become increasingly important following our transition to hybrid working."

Simpson Associates buys Bleam Cyber Security

Simpson Associates, a data-analytics consultancy with a strong focus on the housing sector, has bought Bleam Cyber Security.

Bleam Cyber Security will continue to operate as a separate division of Simpson Associates. Investment will be made through the development of additional cyber security propositions and managed security services, including managed detection and response, to complement the managed data services that Simpson Associates already provides.

Giles Horwood, managing director, Simpson Associates, said, "This acquisition gives us deep expertise in cyber security. Due to the sectors that we operate in, such as housing, policing, the NHS and local government, security is a vitally important part of any solution we deliver. Through our acquisition of Bleam, we can give our customers extra levels of expertise and ensure that we continue to offer ongoing support through a range of managed security services."

Aico engages Poplar HARCA's tenants

Poplar HARCA is about to deploy Aico's IoT-based environmental sensors which will monitor temperature, humidity and carbon dioxide across its housing portfolio. As part of its implementation plan, Aico recently hosted a two-day tenant engagement session with the housing provider and some of its tenants, where they discussed the importance of fire safety and walked tenants through the basics of alarm testing and maintenance.

The Aico team gave a demonstration of the company's new resident app, which will enable Poplar HARCA's tenants to monitor condensation, damp and mould using live data from Aico's environmental sensors.

Clarizza Murray, compliance co-ordinator, Poplar HARCA, said, "I had the pleasure of working with Aico and HomeLink for our team's first in-person resident engagement, covid-safe event this year. We're pleased to be installing IoT devices in our tenants' homes, and when we demonstrated the app, it didn't take much convincing to get tenants interested."

Mark Wood, regional specification manager for East London, Aico, said, "It was great spending two days with Poplar HARCA on our mobile display unit. We engaged with tenants over both days to discuss fire safety and the importance of testing the alarms.

"Because Poplar HARCA is beginning to install Aico's environmental sensors throughout its housing stock, we gave tenants a live demonstration of our new resident app and signed them up to having the sensors fitted in their properties."

Dorset's housing services transform with Huume

Dorset Council has partnered with Huume to implement homelessness, housing register, lettings management and performance-monitoring services based around a single shared specification.

The Huume platform is built around people and cases relating to each individual, ensuring that the customer journey between different housing functions is seamless, with a similar look and feel to gov.uk online services to aid familiarity.

Andrew Billany, corporate director for housing and community safety, Dorset Council, said, "The Huume solution offers us great flexibility to configure the system and maintain its ongoing design ourselves. This will allow us to adapt and amend the system at our own pace and for it to evolve alongside our processes.

"Huume also offers open APIs, giving us greater opportunities for the housing system to link into our other systems in future."

IT risk in housing

Housing Technology interviewed senior executives from CalQRisk, Civica, Decision Time, FLS (Fast Lean Smart), Futr AI, NDL and NEC Software Solutions on the risk management side of IT, how to measure, triage and mitigate it, the 'human factors' of IT risk and its impact on housing providers' wider business activities.

What are the IT risks specific to social housing?

Gerard Joyce, chief technology officer, CalQRisk, said, "All IT departments, across all sectors, grapple with the common risks of cyber attack, data breaches and system failures, but in social housing I would add technical skills shortages, misalignment of IT strategies with organisational strategies, underfunding of the IT elements of business initiatives, leading to poor technical foundations and deficient reporting."

> *High on housing providers' risk list should be resilience, performance, security and the ability to deliver services digitally and remotely. These need careful consideration, management and mitigation at all times.*
>
> Helen Rogers, Product Director for Housing, Civica

Helen Rogers, product director for housing, Civica, said, "There are several factors associated with risk in IT for any housing provider due to the critical services they provide. High on the list would be resilience, performance, security and the ability to deliver services digitally and remotely. These need careful consideration, management and mitigation at all times."

David Braziel, technical director, Decision Time, said, "The big risks for housing providers are the same as for almost any organisation – reputational and financial damage from cyber security incidents, data breaches or systems failures. Ransomware attacks are on the increase and the regulatory and financial penalties around data breaches, GDPR and information security are significant.

"However, focusing on the specific risks that we are aware of can be a problem; I don't think any of us had 'global pandemic' on our risk registers two years ago, so building general resilience and flexibility to match unknown risks is vital."

Kitty Hadaway, head of sales for housing, Futr AI, said, "The increase in the volume and complexity of demand means that housing providers' existing IT infrastructures and tools are no longer fit for purpose. Their siloed data stacks and lack of interoperability mean that every tenant interaction creates a deeper hole.

"Housing providers who have recognised this quickly and fast-tracked their digital transformations are the winners in this paradigm shift, reducing their IT and operational risk, winning awards for their customer engagement and future-proofing themselves against other unexpected developments."

How can housing providers measure, triage and mitigate their IT risks?

Trevor Hampton, director of housing solutions, NEC Software Solutions, said, "Potential risks need to be considered as part of corporate governance as well as the business and strategic plan. It's important to ensure that 'risk' is a standing item on the agendas of the weekly and monthly operational and executive meetings. This gives you a designated time to consider the probability of an occurrence as well as its potential impact, making it easier to triage risks accordingly and reduce your vulnerability to threats and hazards."

> *Housing providers don't focus on IT risk; they focus on where their funding is coming from and how they can ensure best use of those funds.*
>
> Gerard Joyce, Chief Technology Officer, CalQRisk

CalQRisk's Joyce said, "I would suggest that housing providers' senior management teams see IT as an enabler of business functions and that any projects or initiatives include details of their IT requirements. The IT risks will thus be identified earlier and the prioritisation

> *I don't think any of us had 'global pandemic' on our risk registers two years ago, so having resilience and flexibility to meet unknown risks is vital.*
>
> David Braziel, Technical Director, Decision Time

for addressing those risks will therefore be project- or business-driven.

"Where necessary, funding for the mitigation of risks can be linked to the function or service associated with those particular risks and thus ensure they are correctly prioritised. For example, the main regulatory risk is about demonstrating compliance with legal requirements; to do this in a cost-effective manner demands technology that can gather the necessary information from many sources and deliver it in a format that satisfies the regulator."

Decision Time's Braziel said, "The known risks can be dealt with by a set of layered controls. Taking cyber security as an example, a solid set of security tools (software and hardware) wrapped in a well-designed set of policies and procedures with a working audit and assurance process in place will significantly reduce the likelihood and impact of those risks.

"The unknown risks are harder to meet, but housing providers need to be building spare capacity and flexibility into their systems and processes to be ready for them. For example, housing providers who had already adopted cloud, mobile working and online payments were better prepared for the pandemic than those who had outdated, monolithic or inflexible systems."

Do housing providers focus on IT risk?

Jeremy Squire, managing director, FLS (Fast Lean Smart), said, "Some housing providers still consider risk management merely as a compliance tickbox, whereas thorough risk management strategies offer the potential to really improve business performance. The biggest risk for housing providers is therefore not exploring the specialist technology options available in order to drive value for money and business efficiency."

CalQRisk's Joyce said, "Housing providers don't focus on IT risk; they focus on where their funding is coming from and how they can ensure best use of those funds. The IT function is thought of as a business enabler and is expected to provide the technology solutions as needed.

"Not enough housing providers take a holistic view and align their IT strategy with their business strategy, compounded by few board members having the skills and knowledge to ensure that their organisation's IT and business strategies are actually aligned."

> *The human factor has always been hugely important in IT risk, and even more so today with our fluid working environments.*
>
> Kitty Hadaway, Head of Sales for Housing, Futr AI

Decision Time's Braziel said, "Most housing providers have a good grasp of their known risks, but many struggle to build a matching set of controls, actions and review processes to mitigate them fully. Without an embedded risk management framework, it's hard to ensure that controls are multi-layered, actions are completed and reviews are carried out. Managing this multi-layered information stack across multi-disciplined groups of people in an organisation is difficult, especially if you're still trying to do it via a spreadsheet or Word document."

NEC Software Solutions' Hampton said, "On the one hand, housing providers are now much more aware of the dangers and consequences of, say, a ransomware attack, so business continuity and disaster recovery are now priorities.

"On the other hand, housing providers' business functions often prioritise departmental requirements above the 'whole system' view, and in some cases, the business functions don't associate IT risk with their operational decisions. For example, one department might be using a separate system for asset management that requires integration into the main IT system rather than using just one consolidated system to reduce the IT risk."

How does IT risk affect housing providers' wider business operations?

Civica's Rogers said, "Quite simply, IT is the backbone to housing providers' business operations. There are many business-critical systems including integrated housing, asset, contractor management as well as customer portals which are essential to the running of the business. Without robust, scalable and resilient IT systems, the risk of failure is huge."

Futr AI's Hadaway said, "All of the services that housing providers offer are delivered or at least underpinned by technology. As such, it's no understatement to say that IT risk should be one of the primary risk considerations for housing providers."

> *Data quality and security must be managed as potential areas of risk. Digital transformation should result in clear, structured and accurate data – fewer human interventions means fewer opportunities for errors.*
>
> Tom Wright, Head of Digital Engagement, NDL

NEC Software Solutions' Hampton said, "As housing providers have had to rapidly introduce digital channels in customer service and income, asset and compliance management, this increases the level of risk for the business. All of these elements rely on IT, so an integration or back-up failure could make these essential areas more vulnerable.

"Looking ahead, the adoption of new technologies, such as artificial intelligence and the internet of things, have the potential to bring new risks, so careful forward planning, budgeting and resourcing are needed to mitigate potential threats."

How important is the 'human factor' in IT risk?

CalQRisk's Joyce said, "If you think that cyber security is an IT problem then you have a problem. IT can only protect the organisation so far; the weakest link is always human. We are often curious and too trusting, and that curiosity and trust gets abused via social engineering techniques. We reveal information we shouldn't, we click on links we shouldn't… and then it all kicks off."

Futr AI's Hadaway said, "The human factor has always been hugely important in IT risk, and even more so today with our fluid working environments. Having the right policies is a start, but it's critical to reinforce those with proper training and technologies which provide both oversight and visibility."

NEC Software Solutions' Hampton said, "The human factor is everything – for example, the obvious risk is a data breach. Technology should empower and motivate staff but it's essential to make sure people can't access or provide data by accident, so close attention needs to be paid to security privileges to reduce the chance of human error."

Can housing providers' IT departments help with non-IT areas of risk?

Civica's Rogers said, "IT teams must always take the time to understand business needs. Often data is the responsibility of the business yet the IT department takes ownership of it. Data is one of a housing provider's most important assets and if it isn't secure or maintained to high standards, the risk of failure is high. Therefore, IT teams need to engage with business departments to understand how to mitigate any unforeseen problems which non-technical people wouldn't necessarily be aware of."

Futr AI's Hadaway said, "Every department has their own primary objectives but a key characteristic of an efficient organisation with engaged employees is one that offers visibility into how individual and departmental objectives and results feed into the wider organisation. Risk is an important part of that because very few processes, workflows or outcomes stand in siloed isolation."

What has the pandemic taught IT teams about IT risk?

Tom Wright, head of digital engagement, NDL, said, "The unpredictable nature of the pandemic has highlighted the importance of remaining adaptable. IT processes need to have room for adjustment to ensure that the right lines of communication remain open and data management

> *Some housing providers consider risk management as a compliance tickbox, whereas thorough risk management strategies can really improve business performance.*
>
> Jeremy Squire, Managing Director, FLS (Fast Lean Smart)

solutions have the required flexibility to adjust to changing circumstances.

"As part of establishing effective IT processes, it's essential that data quality and security are carefully managed as potential areas of risk. Digital transformation supports housing providers to ensure they maintain clear, structured and accurate data – less human intervention means fewer opportunities for errors. This then ensures the usefulness and agility of data between systems or departments. Similarly, maintaining strict security parameters is vital; data loss or GDPR risks can compromise critical processes at the most crucial times.

"Efficiency is of paramount importance during a crisis, especially when resources are stretched beyond their usual limits. For example, robotic process automation (RPA) can drive huge efficiencies for teams by automating repetitive administrative tasks. This can make a major difference to a team's ability to direct their time and skills where they are most needed."

Decision Time's Braziel said, "The housing providers who coped best with the pandemic were those who had already implemented online, cloud-based solutions and working practices. Having services available online made an enormous difference when offices had to close, and something as simple as a policy of providing laptops rather than desktop computers and having a modern, cloud-based phone system also had a huge benefit when staff had to work from home."

NEC Software Solutions' Hampton said, "The pandemic has been a stark reminder to us all to constantly review our business continuity plans. This might have previously seemed like a tickbox exercise but the last 18 months has taught us to prepare for everything.

"It's essential to fully test every eventuality and to believe each eventuality could happen. IT is a fundamental part of this, and we need to consider worst-case scenarios such as how would your organisation continue to operate if you lost access to your office and your core IT infrastructure?"

> *Housing providers' business functions often prioritise departmental requirements above a 'whole system' view; business functions sometimes don't associate IT risk with their operational decisions.*
>
> Trevor Hampton, Director of Housing Solutions, NEC Software Solutions

FLS's Squire said, "Housing providers' contingency plans to manage risks were severely tested during the pandemic, but many demonstrated that they could move much, much faster than they ever thought possible. The pandemic has accelerated housing providers' digital ambitions, teaching us all the benefits of automation and the power of technology to avert risk."

Housing Technology would like to thank Gerard Joyce (CalQRisk), Helen Rogers (Civica), David Braziel (Decision Time), Jeremy Squire (Fast Lean Smart), Kitty Hadaway (Futr AI), Tom Wright (NDL) and Trevor Hampton (NEC Software Solutions) for their comments and editorial contributions to this article.

Technology supply-chain risk

What should you ask to minimise risk before onboarding a new IT supplier?

Daniel Little, National Sales Manager, Aico

Talk to your current suppliers

Before onboarding a new technology supplier, it's worth discussing the matter with your current suppliers to see if they can offer the solution(s) you need. Your existing suppliers will have already passed all of your internal checks, plus you can gain internal references from your colleagues on the quality of the company's products and their service levels, removing much of the risk.

In contrast, with a new supplier, it's only as you move through your procurement cycle, from their initial sales pitch through to onboarding you as a customer, that you can assess their service levels. Most companies will have experienced a disconnect between what was promised as a prospective customer and what is actually received as a customer; this is a risk that will tie up time, money and resources.

What about financial stability?

The financial stability of a company should be considered before onboarding a new supplier. For example, if you are looking at products with a ten-year lifespan, the questions should concern the likelihood that the prospective supplier will still be trading in 10 years' time.

Are they financially robust enough to navigate the inevitable ups and downs of the market? If a supplier does fold partway through a roll-out, you may end up with products which have reduced functionality or cease to work at all. In addition, the support and warranties/guarantees will also be withdrawn. This presents a significant risk if the roll-out is over thousands of properties over multiple years.

When assessing a company's financial stability, you may choose to look at their credit score and financial returns (via Companies House, among others). This will give you an insight into their turnover, cash and bank reserves, working capital, current assets, liabilities and profits.

You can also check when large businesses pay their suppliers through the government website (gov.uk/check-when-businesses-pay-invoices), allowing you to see their payment performance by looking at the invoices not paid within agreed terms. A significant number of 'out of term' invoices might indicate a risky supplier.

A final way of examining financial stability is through a stock market check. If a company is listed on a stock market, you can access information on the company's performance over time and their market capitalisation.

Ability to scale

The technology space is incredibly exciting and full of great minds with fantastic ideas, but a key question to ask is does the supplier have the ability to scale their idea?

Have they previously taken a product from concept through to production? And if so, what was the scale of that production? Producing a batch of just a few hundred units for a trial is one thing, but what happens if you need 1,000 units over a set period of time? This could overlap with other customers' requirements, so the supplier might need to produce, say, 10,000 or more units per year or month. It's said that only after the manufacture of one million units are the true efficiencies within the supply chain apparent.

A company's ability to scale is more than just the ability to manufacture; all of the company's other departments must also be able to scale to support increased demand. Scaling is resource-heavy, requiring significant capital to succeed; a company that has already demonstrated this will present a lower risk.

Cost control in the supply chain

Supply chains are now more stretched than ever, potentially leading to longer supply chains and price increases. More steps in a supply chain increases the number of potential price rises, therefore reducing cost controls and increasing supply-chain risk.

Suppliers who sell other suppliers' products into a different market, in a different way or with a bespoke software package also present a greater risk because they have little or no control over their supply-chain costs.

Other suppliers may use third-party manufacturing facilities, which presents similar risks. The price paid will be set by when the purchase order is raised by your supplier, which could vary from order to order unless large volumes are placed on backorder.

The supplier with the best control over cost is one that manufactures themselves; there are fewer steps in the supply chain and, more importantly, because the supplier is buying at the component level, they can purchase large volumes upfront, flattening out any large price fluctuations.

Quality control in the supply chain

This is similar to the previous area around cost control; any supplier other than a direct manufacturer increases risk. A third-party manufacturer or supplier could reduce its quality to increase its profit without agreement further down the supply chain. Working with a company that directly manufactures the products reduces this risk.

Some hardware manufacturers may opt for batch testing over individual unit tests. Working with a manufacturer who tests each unit individually will reduce the risk because they have tighter control over the units' quality.

When considering quality, it's always worth considering whether the products you are looking at have been third-party tested. These tests ensure that the products are designed and manufactured in line with published standards. An example of this would be BSI which offers a range of testing and certification services; a product that has passed the relevant BSI tests could then carry the BSI 'kitemark' certification.

Summary

Some simple questions should be asked before onboarding any new technology supplier to reduce risk. Your current suppliers are a great place to start because they should have already passed your internal checks and considerations.

From here, whether considering a current or new supplier, you need to assess their ability to scale, their financial stability and their cost- and quality-control measures in order to enable you to successfully reduce your organisation's supplier risk.

Daniel Little is the national sales manager at Aico.
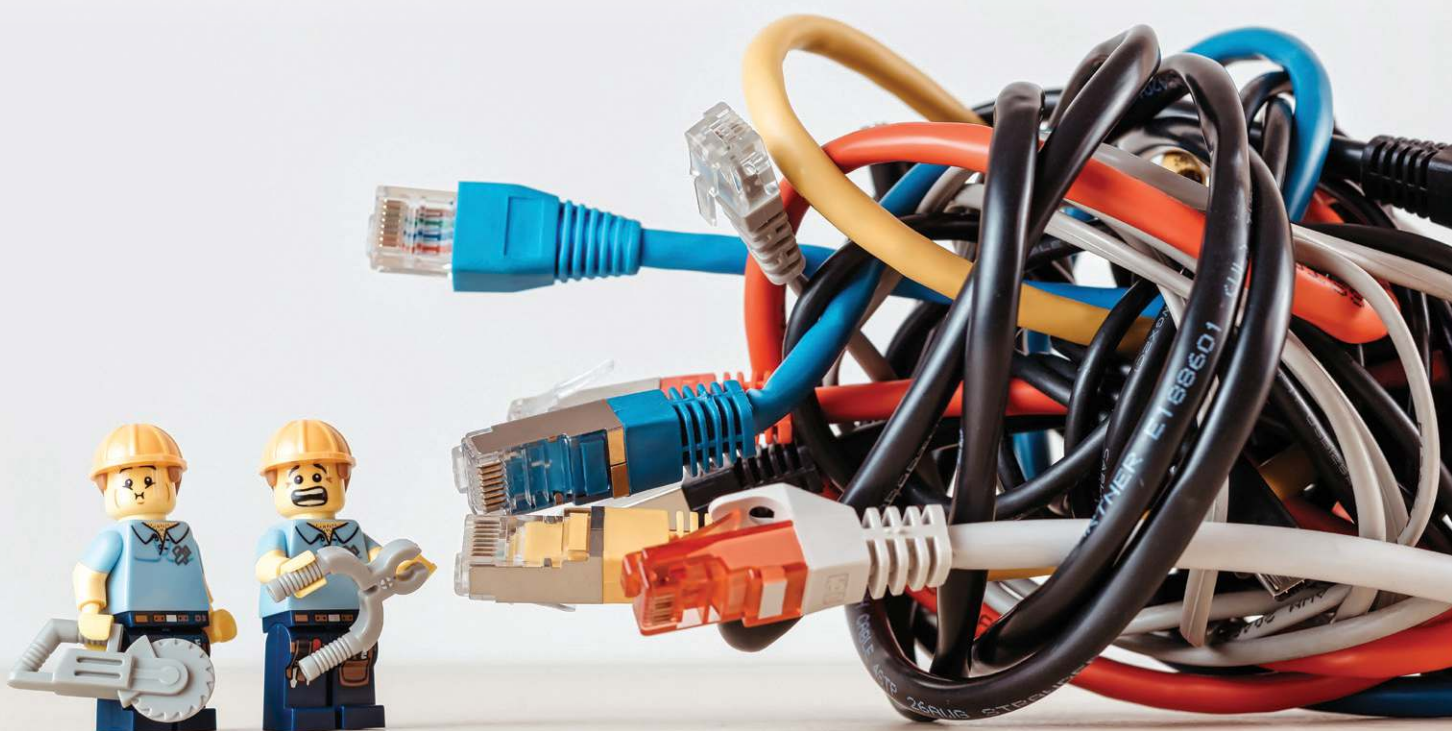
Is IT procurement a risky business?

Kirsty Marsden, Housing Service Senior Design Lead, TSG

We all aspire to be light on our feet, increase the pace of change, fail fast and adopt cloud computing, but are traditional procurement methods and routes to market holding us back? Or is the old guard standing fast?

Having had a commercial role for nearly 30 years, I've seen many different procurement processes in my time in the private sector, but that's nothing compared to the complexity of procurement processes I've seen in housing.

Total public sector expenditure in the UK stands at £290 billion, of which £21 billion is from housing providers, whether it's expenditure within standing orders, a quick quote, a full-blown tender or the use of a framework such as G-cloud or DPS; to say it can be a minefield is an understatement! Add in a few CPVs, OJEU, PQQs, RFIs, EOIs and SAQs and the mind soon becomes discombobulated!

A break from tradition
Take the traditional approach – you might have an idea of what you need and engage a consultant (and there are some amazing digital consultants in our sector). This will probably lead to requirements analysis, process mapping, a tender document and a procurement pack written on your behalf, or you may write your own documentation. So far, so good, eh? That's what we are all used to.

However, here come the 'gotchas'… some of the tenders we see don't appear to be built for cloud services such as Microsoft 365, Dynamics or Azure. For the potential vendors, this then gives them 30-50 questions in a document related to security/hosting/data in transit/ SLAs up time/down time/rock around the clock time, which all basically have an answer that says, "see Microsoft.com." Why not just have a box to tick, "SaaS solution hosted by Microsoft"?

There also seems to be at least five different ways to ask the same question in some tenders and again, they're aimed at actual products or complex housing management systems, not some of the Microsoft platforms we configure to aid digital transformation.

Integration requirements
Then we have the integration requirements (what a delight…); I can't tell you how many times I've seen integration being asked for in the tender documents, despite the third-party IT supplier we're being asked to integrate with not even having an integration method! To top it all off, can I mention the delight of being asked for a fixed timescale and cost that can't be amended subject to clarity of information or further scoping? We then have to work out the potential value and risk versus the cost to bid and work out the balance that the customer is looking for between cost and quality.

"So what?", you might think, poor vendors having to jump through hoops. The 'so what?' reflects the impact that these risks have on your procurement outcomes. The 'so what?' means a preferred partner may pull out of a bid because of its diligent approach, so the number of suppliers bidding for the contract is reduced, resulting in the costs/value not being properly represented due to the limitations set.

Across the sector, we hear about projects going over budget, not being delivered within the timescale agreed and functionality that was expected not actually being provided. We must all have a conscience around the fact that this money could have been better spent elsewhere, such as improving the tenant experience or building new homes. The cost and timescales of an unnecessarily drawn-out procurement process should ideally be redirected back towards the value and outcomes that the procurement was trying to achieve in the first place.

Traditional procurements methods don't lend themselves to agile/fail-fast cultures where innovation is critical; traditional procurement methods lend themselves to long waterfall projects with generous timescales. We're

frequently seeing agile working practices being adopted in our sector which need to be supported by improved and faster procurement practices.

A better way of working

Two years ago, after we were asked by some housing customers if we were on the government's G-Cloud framework, we made the commitment to become G-Cloud accredited. Helped by a bunch of TSG colleagues, I duly spent a week onboarding us onto G-Cloud 11, which was subsequently superseded by G-Cloud 12.

Not much happened for six months until I started tentatively mentioning it in every conversation – "By the way, we're on G-Cloud if you want to find out more about that procurement route." We started to open discussions and promote the benefits and now have a number of clients procuring this way.

G-Cloud 12 offers agile benefits, faster and more cost-effective procurement routes to tested, vetted and pre-negotiated top-tier IT suppliers including, but not limited to, TSG.

G-Cloud 12 offers public sector organisations a straightforward and compliant way to purchase cloud-based services, such as hosting, software and support. This is provided through an online catalogue called the Digital Marketplace. Services now include service definition documents, which provide detailed service information to support the evaluation of services, empowering you to make better buying decisions.

The benefits of using G-Cloud 12 include:

• Fully compliant;
• Value for money outcomes;
• Reduced cost of procurement;
• Straightforward awarding of contracts using a simple six-step process;
• Access to the latest innovations and technologies;
• Ready-to-go contracts and terms.

As well as all of the above, there's practical advice such as a simple buyer's guide to walk you through the process.

All terms are pre-agreed and suppliers' quality and delivery capabilities are assessed and checked; in other words, you can have complete confidence in who you are dealing with.

Reduced risk & costs

However, the most beneficial element is the reduced risk profile and lower procurement costs. You can put any value on a G-Cloud call-off contract over a two-year period and have no commitment to spend anything.

Now, we aren't saying rush into procurement – you can still follow a diligent process with a consultant if needed, re-engineer processes, do all of your supplier checks, arrange demonstrations, get an idea of the cost profile for the services you might procure and then use G-Cloud. Bob's your uncle… suddenly a six-month procurement timeframe is shortened to a matter of weeks and it's fully compliant!

Importantly, G-Cloud 12 enables you to try before you buy. You can make a small investment at first and then scale up once you are satisfied with the company, the people and their ability to deliver for you.

Finally, we've been delighted to read about the government's proposed procurement reforms outlined in its green consultation paper, "Transforming public procurement". The key changes are worth getting your head around; for example, the concept of MEAT (most economically advantageous tender) will be replaced with MAT (most advantageous tender).

I think this will be welcome news to everyone because procurements will have more flexibility to balance price against other considerations such as quality and community benefits. In addition, the transformation to procurement regulations will result in faster, simpler and more transparent procurement processes which are more inclusive.

Will it ever be easy? No, probably not. However, can we take steps as a sector to minimise procurement risk? Yes, we can!

Kirsty Marsden is the housing service senior design lead at TSG.

Ready for data-risk management?

Shendi Keshet, Board Member, and Martin Warhurst, Executive Director of Resources, Wakefield District Housing

Poor data management can lead to poor decision-making. While audit and risk committees across the UK receive reports every year on the effectiveness of their internal control systems, little thought generally goes into the data issues that decision-makers face every day. Data is often out of date and frequently there are multiple sets of similar data, resulting in data conflicts and manual work-arounds.

Having a data-risk management strategy goes a long way to support housing providers in their quest for a straightforward and structured approach to understanding their data risks and to prioritise their responses. By their very nature, data issues aren't specific to a single IT application, thus the strategy needs to enable processes which allow the business to verify data, ensure it is up-to-date and correct, and in a consistent format. All of the data-related components need to be aligned; how data needs are identified, how data is processed and stored, and how it is governed.

Avoiding 'out of system' analysis

A housing provider's strategic aims should include a focus on optimising the use of system functionality so that the right data is collected at the source of any transactions. By doing this, users of the data can 'slice and dice' the data without the need to create 'out of system' analysis. It's also helpful to understand the data needs of multiple stakeholders and to create tools such as heat maps to assess team and system capability in managing data.

Where should data-risk management sit within an organisation? Practically, the management of data should rest with the teams who create it. By doing so, accountability and responsibility are appropriately positioned. The oversight of data governance itself often sits in the governance team, informed by the IT and finance departments.

When good data goes bad...

If data is shared or collected without proper authorisation or insecurely stored, it's vulnerable to hacks and may be used for purposes other than what was originally intended. If data universes are inaccurate or not representative, they are devilishly difficult and expensive to rectify. Even with mitigations in place, the quality of data can be eroded (at best) or be unusable (at worst). Data remanence, comprising residual data which hasn't been fully deleted, is troublesome and can result in data which may be unintentionally recoverable.

What can we do if data is compromised or just plain missing? Completing a data-risk review beforehand enables teams to set up quality control measures which support their understanding of what can go wrong and the effects on the business.

Systemic errors & users' errors

Data errors may be categorised in two ways – systemic issues and user-generated issues. Systemic data errors happen when coding is faulty or invalid data is not identified and removed from data sets. Sometimes data errors are random too. Electronic glitches or corrupted data tend not to be obvious. Standardising dataset formats and embedding checks help in finding and resolving mistakes and anomalies. When system software is amended to be more bespoke for the business, there's a risk that inbuilt data functionality could be compromised. To mitigate this risk, a thorough understanding of how data is manipulated and used by the system itself is necessary.

Data errors arising from users themselves often relates to uncollected data, incorrectly-keyed data, duplicated data or mismatched data. Enforcing data quality at the source of transactions (by using drop-down menus, for example) minimises the risk of aliases, misspellings or capitalisation problems. Simple errors arising from analysing data using different scales (such as reporting numbers in £'000s instead of whole numbers) can be easily fixed by using the functionality in Excel.

Building confidence

Having confidence in the reliability of the data is also a key factor in mitigating risk. Perversely, as AI and other data analysis software are being more widely adopted, the amount of people who have direct access to and can analyse the raw data remains small. If the data is out of reach or access is limited, business managers may feel they need to resort to making decisions based only on their own experience or intuition.

Some easy ways to build trust in and extend the use of system data is to:

- Make it easy for managers to analyse and manipulate data by using industry-standard data interrogation software;
- Standardise reporting to enable multiple uses;
- Make data access 'real time', arguably providing speed at the expense of greater accuracy;
- Focus on quality and centralised, single 'point of truth' data repositories with built-in checks and controls.

Finally, decision-makers should be mindful of the role proportionality plays in developing mitigation plans and safeguards to control data risk. While risks can be assessed around specific processing activities, such as the collection, sharing and usage of data, there also needs to be consideration regarding how long it should be stored for or used for purposes not originally intended.

Shendi Keshet is a board member of Wakefield District Housing, in collaboration with Martin Warhurst, the executive director of resources at Wakefield District Housing.

Authors' note: This article does not focus on GDPR compliance; it should be implicit in all aspects of data management.

Managing your digital risks

Ninesh Muthiah, Founder & CEO, Home Connections

In today's world, digital transformation isn't something any organisation can afford to neglect. On the whole, housing providers haven't been seen as particularly tech-savvy, but with the pandemic pushing them into remote working, they have emerged digitally stronger. However, while digitalisation offers many benefits, it also carries serious risks.

In my 20+ years in the housing sector, I've never seen such momentum for digital transformation. However, with pandemic-inspired digital transformations specifically, new opportunities have emerged for hackers, based on the vast amounts of data held by housing providers allied to the chaos resulting from housing providers having had to rethink and re-engineer their processes very quickly. So, one of the key challenges of the next year or so will be how to embrace digital transformation while ensuring it isn't detrimental to your organisation's security.

New processes & new risks

As 99 per cent of housing providers plan to move to a hybrid working model, now's the time to review these newly-implemented solutions in the light of data governance, regulatory compliance and security. Ask yourself, are the solutions the right fit in the longer term?

Whether you implemented a new IT system or changed a business process, continuous testing of your digital infrastructure for vulnerabilities is indispensable. Part of this evaluation is to ensure that your staff are 'cyber aware' and a strong culture of security awareness pervades the organisation.

Implementing guidelines for staff can ensure they can work from home securely. Over 700 data breaches were reported by local councils last year, according to FoI

research by Redscan. However, the same report revealed that only half of council employees received cyber training. This is concerning – if your staff are unaware or not carrying out your cyber security protocols, your organisation's security is at risk of crumbling. For example, in our case, we carry out GDPR training at least twice a year for all staff.

Secure by design

As an IT company, cyber security is deeply embedded in our business decisions. We recognise cyber security as a business risk as much as an ICT risk. A 'secure by design' approach can protect you against potential attacks, data breaches and any impact on your services' users. Risks must be considered throughout all of your digital projects' lifecycles, from planning and design through to implementation, testing and deployment.

Murphy's Law...

In my experience, adopting a proactive approach is vital for managing digital risks. Starts by adopting Murphy's Law, identifying your risks and potential vulnerabilities on the basis of 'what could go wrong will go wrong'. Which assets do you want to evaluate? Are you confident in the processes adopted by the third-party hosted systems managing your data? Are the newly-created access paths protected?

For example, here at Home Connections we follow a range of security protocols and provisions, with a high level of data encryption. Through automated penetration test tools, we perform continuous testing of our systems. Our solutions are all cloud-based and accredited to key ISO standards, adding increased reliability and security to our choice-based lettings and other systems as well as the information processed by them.

A range of external tools is available to help your organisation deliver a successful vulnerability assessment. For example, automated scanning software uses threat intelligence to actively scan your systems and analyse them against known security risks from vulnerability databases.

Regular IT & risk assessments

The frequency of risk assessments is important to secure your organisation's digital infrastructure. It is not at all surprising to see the lack of regular IT health checks and the use of legacy technology as two of the main digital risks the housing sector faces, according to a recent report by the Ministry of Housing, Communities and Government. Information security and data quality are others.

However, beyond identifying vulnerabilities, you must take a closer look at the reasons behind them, the possible impact and how they can be alleviated. Creating a risk mitigation plan might sound daunting, but it's especially important in the context of digital transformation.

Follow-up audits verify if any potential threats have been eliminated as well as provide lessons to help you improve your control frameworks.

Digital risks naturally increase as we increasingly rely on technology. Remember – cyber criminals only need one exposure.

Being cyber aware, having the correct procedures and adopting a business culture that values cyber security as a strategy are the tools to avoid disruption to the essential services you deliver as a housing provider.

Ninesh Muthiah is the founder & CEO of Home Connections.

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Interview
Creating connections at Wrekin Housing

Edward Thomas, Group Head of Marketing & Communications, Wrekin Housing

Housing Technology interviewed Wrekin Housing's group head of marketing and communications, Edward Thomas, about how the housing provider coped with the pandemic, digital transformation and the importance of maintaining connections with its staff, tenants, contractors and external agencies.

How did Wrekin Housing support its staff during the pandemic?

Success for us means providing the best services and support to all of our customers, some of whom are very vulnerable, but every service we deliver starts with our staff.

When the pandemic began, we realised we needed a better way to help our employees remain connected to us and to one another as well as share vital information as the pandemic-related rules and guidelines changed.

We needed a platform that enabled all our employees to connect, no matter their job title or role within the company, and share updates, news and critical information. Facebook's Workplace did that for us and helped us to connect every employee, with even those on the frontline able to connect via the app on their phones.

We needed to find a way to maintain a sense of human connection, and Workplace let us do just that. We now have a vibrant online community of staff, from formal groups for company updates through to more informal, staff-led themed groups, including gardening and sports, that have helped to replace 'water cooler moments'. Overall, we've used Workplace to reach our employees at a time when our culture really demanded a genuine focus on our employees' welfare.

How did you support Wrekin's front-line workers' critical activities during the pandemic?

Around 70 per cent of Wrekin Housing's staff are on the front line, from support workers to bricklayers, roofers, plumbers and other operatives maintaining more than 13,000 homes. Ensuring that everyone in the organisation feels involved and engaged in our overall mission is very important to us, and this mustn't be limited by someone's proximity (or not) to our main offices in Telford or if they're sat behind a computer screen at home.

Connecting everyone with Workplace helped us level the playing field, enabling everyone across the entire organisation to connect in a way that they'd never been able to previously, even before the pandemic.

On the first day of lockdown, we had no easy way of sending a message to each member of our staff, with confidence that the information would actually reach them all. With Workplace, we can reach staff in seconds when it really counts. For example, if I need to send out an emergency message, I can mark it as 'important' and be confident that it will be seen across the organisation.

However, the main goal for us was to give our people real human connections with their colleagues, despite being separated by the pandemic. At the same time as supporting front-line workers delivering critical services, we were also able to create a space to share 'exceptional work'.

With employees congratulating one another and sharing their own experiences, this helped everyone to feel more connected to one another. Since implementation, Workplace has been used to announce changes to Covid-19 rules and guidelines, host live Q&As with our CEO, share strategy updates, host a staff conference and develop Wrekin Housing's family culture by keeping everyone engaged.

Where's the next stop on Wrekin's digital journey?

Even before we launched Workplace, we had an eye on the future development of the community, encouraged by the team at Work Networks (one of our IT suppliers). Until recently, we've been focused on ensuring the widespread uptake of Workplace, and we now plan to embed Workplace even more into our daily operations.

For example, we have a monthly 'Ask Wayne' live video session with Wayne Gethings, our group chief executive,

where we discuss a topic and encourage employees to share any questions to be answered live.

We've seen huge engagement with these group-wide sessions, with employees submitting lots of questions and having great debates. As a result, these enable our senior leadership team to make better decisions because we can actually see what employees want.

Ultimately, by implementing digital tools to empower our employees and serve our communities, we'll be able to keep delivering the best possible care for the people who need it most.

Edward Thomas is the group head of marketing and communications at Wrekin Housing Group.

Housing Technology Guide to AI & Machine Learning

If you've not already done so, the Housing Technology Guide to Artificial Intelligence & Machine Learning 2021 is now available for downloading from housing-technology.com/research.

Artificial intelligence and machine learning have moved from being very niche, embryonic technologies only considered by a very small number of far-sighted UK social housing providers to become much more widespread, particularly with the inclusion of AI-powered services 'out of the box' with more and more core housing software, as explained by Aareon UK, Flagship Group, Housing Solutions, LiveWest, Ongo and University of Reading.

The contents of Housing Technology's free guide include:

• **Aareon** explains about how AI can get you so much closer to your tenants, in terms of not only the services you provide for them but also understanding their behaviours, demographics and particular needs. In addition, Aareon's virtual assistant Neela has graduated from her first job as a coronavirus support bot and has now been assigned to wider duties including repairs reporting, wellbeing checks on vulnerable tenants and triaging customer-service cases.

• **Flagship Housing** is using AI to automate its analysis of customer feedback, a step up from just using AI and online tools to gather the raw feedback data, with a view to using AI-automated analysis across other areas of its operations.

• **Housing Solutions** has replaced its previous 'live chat' function with a bespoke chatbot that now handles at least 90 per cent of all online conversations with its tenants as well as an AI-powered repairs diagnostics solution.

• **LiveWest** discusses the importance of having accurate data, often from disparate sources, to provide the right foundations for any AI or predictive analytics project, as well as its introduction of augmented reality for repairs and maintenance.

• Already on its second generation of AI, **Ongo** is moving beyond just chatbots and automated messages, with the aim of delivering an AI-powered customer-contact service that can match humans' decision-making abilities in terms of housing queries.

• In a logical continuation of Housing Technology's original involvement with the **University of Reading** (and other European institutions) on IoT in housing (2017), the EU-funded Cyber Hygiene in AI-Enabled Domestic Life (CHAI) project is looking at the threats introduced by AI in the home and addresses the challenge of figuring out how to best help users protect themselves against the security risks they will face in a world supported by AI.

You can download the Housing Technology Guide to Artificial Intelligence & Machine Learning 2021 now from housing-technology.com/research.

HOUSING TECHNOLOGY ON DEMAND

ON DEMAND

HOUSING TECHNOLOGY ON DEMAND – NEW INTERVIEWS, DEMOS AND PRESENTATIONS

We have just added a bunch of great new uploads to Housing Technology On Demand, our dedicated hub for learning about the latest technologies in housing through interviews, discussions, event replays, demos and presentations from leading housing providers and technology suppliers.

On Demand membership is free for housing providers; if you've not signed up yet, you can do so now at ondemand.housing-technology.com.

Digital transformation using AI

How can AI help with digital transformation in your organisation? We hosted a live broadcast with Aareon UK in August where Sue Hitchmough discussed the benefits of tenant self-service using omni-channel offerings by introducing Neela, Aareon's virtual assistant.

Cybersecurity evolved with Sophos

Jonathan Lee, public sector director at Sophos, discusses cybersecurity in housing, the increase in cyber attacks during the pandemic and how housing providers can protect themselves.

Melin Homes interview

Paula Kennedy, CEO at Melin Homes, tells us about her career in housing, the Welsh housing sector, and Zest, Melin Homes' award-winning staff wellbeing initiative.

Fire safety with Fireangel

We interviewed Nick Rutter, co-founder and chief product officer at FireAngel Safety Technology, about fire safety in housing, IoT, AI, and the recent changes to building regulations and fire safety standards.

Tech talk with Aareon UK

We chatted to Rob Griffiths, managing director at Aareon UK, about the importance of data, the technologies of the future, AI and machine learning, and more.

On Demand membership is free for housing providers – **sign up now at ondemand.housing-technology.com.**

HOUSING TECHNOLOGY 22 – **IN-PERSON & LIVE DIGITAL BROADCAST**

HOUSING™ TECHNOLOGY 2022 | CONFERENCE AND EXECUTIVE FORUM

Housing Technology's annual conference and executive forum will return on 02-03 March 2022 as a hybrid event, combining in-person presentations and networking at The Oxford Belfry with a live digital broadcast of the entire event (following the successful pandemic-inspired broadcast of our 2021 conference).

After the extraordinary last 18 months or so, we're doing everything we can to ensure that the Housing Technology 2022 conference will be an unmissable event, giving our sector the chance to meet again over two days of informal networking, outstanding presentations and technology showcases, as well as a number of evening events before and during the main conference.

At the time of writing, we've confirmed speakers from BPHA, CHP, Halton Housing, Housing Solutions, Link Group, MHA, Optivo, Orbit Group, Places for People, Raven Housing Trust, Rooftop Housing, Scottish Federation of Housing Associations, South Lakes Housing, Swan Housing, Wrekin Housing and Yorkshire Housing.

The core themes for Housing Technology 2022 are:

• **Innovation & creativity –** Planting the seeds for growth and efficiency;
• **People in housing –** IT leadership, project management and recruitment;
• **Business resilience –** Maintaining 'business as usual', mobile working, regulatory compliance, risk management and IT budgeting;
• **Ongoing digital transformations –** Technology, processes, business and culture;
• **Platforms for growth –** Reviewing & rethinking your core business applications;
• **Housing Technology 2042 –** What will housing providers look like in 20 years' time?;
• **Data management –** Straight-through processing, automation & machine learning and predictive analytics;
• **Tenant communications –** Self-service, omni-channels, self-diagnostics for repairs and customer service;
• **Intelligent infrastructure –** Cloud vs. on premise, IoT and smart homes, cyber security, enterprise integration and post-covid planning;
• **What's next…** Proptech, digital twins, BIM, paperless tenancies, 3D printing for new builds and much more…

Depending on the coronavirus situation nearer the time of Housing Technology 2022, we expect that in-person numbers for the conference might be limited to around 200/250 people so please keep an eye out for emails from Housing Technology announcing the opening of ticket registrations (expected to be mid-September). Guests will have a choice of tickets for attending either in person or via the live broadcast.

For sponsorship, exhibiting and IT start-up/proptech enquiries, please email **george.grant@housing-technology.com.** If you are interested in speaking/presentation opportunities, please email **alastair@housing-technology.com**. Alternatively, please visit **conference.housing-technology.com.**

Hybrid working – Striking a happy medium

Jonathan Sharp, Director, Britannic Technologies

Workplaces are going through a revolution after 40 per cent of the workforce has been working from home during the pandemic. Employees now want to 'hybrid work' because they've experienced the benefits of working at home and in the office, and they want the best of both worlds. Companies need to accept and embrace this change in employees' expectations and implement a hybrid-working plan to meet their employees' new expectations.

No doubt, the transformation of the re-imagined workplace will come with its own challenges but now is the time to welcome the change and re-design your offices and corporate culture to enable flexible working, with the aim of attracting and retaining staff and meeting your employees' wishes.

The best of both
Working at home full-time can be isolating; you miss out on face-to-face contact with colleagues to bounce ideas off each other, collaborate on projects in person or just to have a coffee break. Hybrid working brings the best of both worlds; research from Microsoft cited that 73 per cent of people want flexible remote working to continue but at the same time, 67 per cent wanted more in-person time with their teams.

Time for a rethink
Businesses will have to rethink their strategies to meet the change in employees' expectations beyond the pandemic, and the way we did things before might not work anymore. IDC reported that 64 per cent of business leaders said they would have to implement a different operating model since the pandemic to create a better employee experience and to increase productivity.

No one can implement a definite plan at present because we don't know how the workplace is going to change, how successful hybrid working will be and how our customers' expectations will also change. However, what we do know is that everyone must accept and embrace the change and agree to do things differently.

How to do hybrid
A plan for hybrid working needs to focus on people first; housing providers should ask the following questions:

- Which roles can work in a hybrid manner?
- How many days do the hybrid workers need to be in the office?
- How many days does the business want them to be in the office from a space perspective?
- When an employee comes into the office, should they come with their immediate team too?
- Who can remotely work full-time?
- Where do people work from in the office for focused work?
- Where do people work from for collaboration meetings?
- Do the employees have the correct technology to support remote and hybrid working?
- Should we financially help remote and hybrid workers?

The objective of the plan is to provide flexible working arrangements to empower your employees, meet their new expectations and provide guidelines on the overall process.

Optimising your hybrid workforce
To optimise your hybrid workforce, you need to ensure

that everyone has the right technology to do their jobs as well as possible. For example, your organisation might want to ensure that everyone has a reliable broadband connection, mobile or desk phone, and maybe move their telephony infrastructure to the cloud to enable cost-savings, increase business continuity and have the flexibility to add on technology and applications when needed.

Cloud-based conferencing and collaboration solutions such as Mitel's MiTeam Meetings or MiCollab and Avaya's Spaces empower employees to hold audio and video conference calls together over their desktop or via a mobile as well as send instant messages and collaborate on documents and presentations. Of course, it's important to use intuitive technology that is easy to use, set up and to keep your documents secure to protect data and privacy.

Other technologies such as AI and automated digital solutions can help in optimising your workforce. For example, if you have a contact centre then a digital interactions solution can be used to handle enquiries, giving them the ability to self-serve and free your agents to focus on other areas. Digital interaction solutions help reduce the 'cost to serve' from £4 per phone call to just 20p using AI.

Simply tired and exhausted…
Microsoft's research revealed that 54 per cent of employees felt overworked and 39 per cent were exhausted. Employees are feeling pressurised and tired, with the expectation of responding to digital communications with urgency and speed, regardless of the time of day. There's now a need to re-engage with employees, keep them motivated and re-build the 'social capital' that's been lost during these difficult times.

Beating digital exhaustion
Ask your employees what areas they have struggled with during the past year and how their lives can be made easier to do their jobs more effectively. This may mean changes in staff, processes or deploying AI or automated technology to assist. Because the world has changed and we must do things differently, it is a good time to evaluate what works and what doesn't and make changes that will make a difference and produce results.

One of the common gripes of the past year has been about the constant stream of video-conferenced meetings. Are they really necessary all the time? Can you reduce their frequency? Perhaps make Fridays a non-meeting day? The aim is to cultivate seamless collaboration, not overwhelm your employees with digital interactions.

Doing things differently
During the past year, many employees have experienced more freedom than they may have experienced before (despite the wider circumstances), so perhaps managers need to give their staff more choice and control. Businesses need to accept that employees should be given autonomy to get on with their jobs, ideally within their own schedules.

Redesigning the office
After more than a year of video-conference calls, people are yearning for face-to-face contact with employees and want to connect informally and socially. Microsoft research revealed that 66 per cent of business decision-makers are considering re-designing their physical offices to accommodate hybrid-working environments and create a better employee experience.

Offices will be re-designed with collaboration in mind, so that when employees come into the office, there will be dedicated spaces for teams to work and collaborate in, rather than for individual working. However, they will also have to provide rooms for focused work and communal areas for socialising during breaks.

Businesses will also have to consider how hybrid and remote workers will be included in meetings when some people are in the office and some aren't. In these instances, you could appoint a mediator to manage the meeting or decide that all the team must be present in the office on a chosen day.

It's not just the physical space of the office that's important but also its culture. A new culture of transparency, creativity and empathy needs to be fostered to produce energy, positivity and motivation to attract and retain talent. Creativity has been severely hindered over the past year because we've all been working in isolation, but managers need to re-start the creative juices and encourage innovation among their teams, perhaps via innovation hubs where employees are encouraged to share ideas.

Keep moving
The pandemic has given us the time to reflect, evaluate and change, so use this opportunity to improve your workplace and introduce an effective hybrid-working plan, underpinned by a creative, energetic culture where you supply training, development and, above all, put your people first.

The pandemic has also 'humanised' work – we've all gained insights into our co-workers and employees' personal lives. Demonstrate to your staff just how important they are and devise and implement a flexible hybrid-working plan that creates an improved experience for both employees and the business.

Jonathan Sharp is a director of Britannic Technologies.

HOUSING TECHNOLOGY
Wellbeing

Housing Technology Wellbeing is a free community resource on our recruitment website where we will be posting regular insights into workplace wellbeing, careers and skills.

GET IN TOUCH
If you have any thoughts, experiences, news, case studies or advice on workplace wellbeing, we'd love to hear from you.

Find out more at jobs.housing-technology.com/ wellbeing or get in touch at wellbeing@housing-technology.com.

Alternatively, call us on: 020 8336 2293