IRPM White Paper

Who shares wins: the impact of technology on building safety

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Spring 2020

In recent years, we have seen data and technology rise up the property management agenda and a recent IRPM member survey revealed that property managers can see the influence that this will have.

It is against this backdrop that the IRPM has developed a 'Tech Insight programme', bringing together a small number of thought leaders around a specific topic for the benefit of the whole Residential Property Management sector.

*Dame Judith Hackitt set out in her 2018 report, **Building a Safer Future**, the need for a digital record for every building: a "golden thread of information" which would be a single repository of information, from initial design through construction and to all subsequent changes throughout occupation, which would be accessible to property managers and all other stakeholders including residents.*

Post-Grenfell, safety in the residential block sector is being completely overhauled and the recommendations made in the 2018 *Hackitt* Review are being written into legislation. In future, the way we approach compliance to safety standards, from initial design through to occupation and beyond, will change out of all recognition and building data will be key.

The first stage of our Tech Insight programme explored how technology could impact building safety, with a particular emphasis on fire safety. We brought together industry experts for a discussion that explored the benefits and challenges which is captured in this paper.

EDITOR'S NOTE: The round-table discussions took place before the onset of the Covid-19 crisis.

88%

feel customer expectations are changing around how property managers use data

89%

believe that technology will change the roles that we do

84%

of IRPM members feel that technology can be used to improve on site safety

90%

of IRPM members believe that technology brings its own safety issues

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Introduction

In future, in order to ensure the safety of residents, property managers will need in-depth knowledge of the buildings they operate. At present, they often have little or no access to information about the construction of a block they are taking onto their books, or the potential impact on safety of the structure or the building materials used. Comprehensive design and fire safety data is rarely available, so property managers have no way of knowing whether or not they are taking on a building that is safe. They are managing 'blind'. There was a broad consensus that this must now change: in order to manage risk effectively, comprehensive data must be available and shared. The government's proposed new regime, with its emphasis on transparency, will help improve building safety going forward but existing buildings will remain a major challenge.

The impact of the 'golden thread'

It was recognised that the 'golden thread' of information will be fundamental to the future safety of our buildings. Effective monitoring of compliance to safety standards will become increasingly important, so comprehensive building data is crucial. The quality of data too will be critical, as will be the ability to share it across different platforms: it must be completely transparent to all stakeholders as well as residents.

Some developers are already delivering the data that is needed to make building operation both transparent and compliant. BIM modelling and digital data collected at design stage is being handed down to inform fire safety compliance as schemes are built-out. But the challenge for the future will be to make this common practice and to make that digital information readily transferrable across a range of platforms.

One participant commented that with plot files created for each unit, on a 60-storey building you are looking at a great deal of complex data that must not only be collected, but shared, analysed and acted upon. Multiply

What is the Safety Case?

The safety case is a document identifying the risks and hazards in a building and describing how they are to be controlled. The document also describes the safety management system in place to ensure these controls are effectively and consistently applied. In future every residential block over 18m high will need a clearly defined safety case. In time, this could be rolled out across all buildings.

"Getting the right level and quality of information will be the challenge for the future"

this level of information by every block constructed and it is clear that the industry has a mammoth data management task ahead.

Another of our experts raised the issue of keeping digital information up-to-date – who will be responsible for this? Also, the industry will be expected to share a huge amount of sensitive data about people's homes. How will we deal with security and with permissions, and who will set the standards by which that data will be governed?

Setting standards

It is clear that building information needs to be carefully structured: standards are key. There was recognition of the importance of setting a standard digital model to facilitate data sharing across different systems - for example when buildings are handed over from developer to operator. Government is also considering the feasibility of 'passporting' relevant information to and from residents as they move in and out of blocks.

However, security can be badly compromised by data sharing. Different ways to give stakeholders access are now being examined by the MHCLG. Permissions and access controls can easily be set by software providers. However, it was pointed out that the more flexible the system, the easier it is to hack into. The government doesn't want to restrict software development in this area but there exists a tension between how much the government wants to control the direction of travel and how much accountable individuals need to take responsibility for the way in which their systems are used.

It was suggested that not much on this has been included in the Safety Bill which will be enabling legislation only: more detail will be included in the form of guidance notes and regulations.

The MHCLG is now working closely with the industry on the safety case in order to understand the scope of the data that needs to be included and where the 'gateways' are.

Security and liability

The 'accountable person' in each block will be responsible for the safety case, which will include not only safety measures but also evacuation plans and a clearly stated complaints policy. Individual flat owners will have direct access to this information, so with resident engagement now to the fore, there must also be clear guidelines on which data is made public and which is not – but who decides? Buildings must not be put at risk but the view around the table was that, at present, such decisions are more likely to be made in order to safeguard liability, rather than to protect residents. In our litigious society it is impossible to ignore the fact that property developers, owners and managers all have to cover themselves against risk.

What are the information 'gateways'?

The Hackitt Report stated there should be three "gateway" points where those responsible for building safety will have to prove they have complied with regulations. These are:

- *prior to planning permission - ensuring the building is accessible by the fire service;*
- *before building work starts – ensuring building safety risks are understood and that robust processes are in place to manage them; and*
- *Before occupation – ensuring the signed-off design has been followed.*

Developing a whole new generation of building information raises issues of ownership and liability. In order to allocate risk and make accountability clear, the golden thread requires dutyholders to be named for different stages of the construction process and in future there will be clear lines of responsibility. Some of our experts predicted that the 'accountable person' and the building safety manager could take joint responsibility for building safety data but others suggested there may be the need for the creation of a new data collection role.

The discussion then turned to the newly defined roles of the 'accountable person' and the 'building safety manager'.

Inside Housing

Our experts reported an expectation that these roles would be taken on by the property manager but will the profession want to accept the additional responsibility involved and how will that impact PII? And what will happen in self-managed blocks where unpaid individuals such as RMC directors could find themselves personally liable for the safety of residents if they volunteer to take on such a role?

The general feeling around the table was that one of two things will happen: either every block will need to appoint a property manager to take on building safety management or that the new regime will lead to the creation of a dedicated building safety management position. IRPM is working with Government on the competencies for the *b*uilding *s*afety *m*anager role.

How can existing technology be harnessed to enhance building safety?

The internet of things is now a reality. Sensors are already fitted in buildings to detect changes in light, temperature and movement and the technology is available to collate and relay data to the police and fire service that can be used to monitor buildings and effect safe evacuation if necessary. At present these systems can be costly but the price is falling as they are more widely used.

Lift technology was cited as an example of how technology can be used to detect fire and bring lifts into or out of operation. This is how it could work. If a fire is detected close to a lift it won't work and evacuation must take place via the staircases. However, if the fire is too far away to threaten the lift core and electrics, residents can evacuate the building via the lifts. This type of intelligent technology can even be brought into play to make more effective decisions than panicking residents could make for themselves.

"The [building] owner will have to identify a dutyholder, or accountable person, who will be fully responsible for the safety of these buildings and maintain a safety file. They can employ a building safety manager to help them record work and liaise with residents, but they will not be able to delegate ultimate responsibility."

"Change is always driven by commercial considerations"

All of the data and technology needed for this sort of approach is often available, but the point was made that at present the industry doesn't know what to do with all of the data. Again the conversation turned to the importance of data standards and sharing.

The opinion was expressed that the industry will continue to work to minimum standards of safety until such technology either becomes standard or is embedded in the Building Regulations. At some point market pressure too will come into play: it is now unacceptable to deliver unsafe buildings and developers will have to get on board. Housebuilders are already looking at innovative techniques but there will be inertia until factors such as commercial benefit, brand image and legislation drive delivery.

What can the industry do to drive change?

Our experts agreed that to make technology-driven solutions work across the whole industry, government has a major role to play. Owners, developers and property managers don't always work closely but it would be very powerful if those stakeholders did come together. So, breaking down the silos that exist within the property industry to promote cross-sector collaboration will be key.

In the absence of a clear direction laid down by government, an alternative could be to drive change via development of a cross-industry convention, similar to that which is now operating on ground rents whilst government brings forth legislation in due course to ban them. This has been driven by lenders and proves that change can be promoted where there is a common imperative – in this case the need to safeguard residents and protect property stakeholders' liability. However, the question was raised as to whether such an initiative could work across the whole sector. It would be counter-productive if the industry ended up with a two-tier system for safety.

Ultimately there was agreement around the table that change requires an effective legislatory framework. The technology is out there but until it becomes mandatory it will only be delivered in buildings where the target buyers/renters will pay and use it.

Conclusion

Clearly, we will need new legislation that is fit for purpose to enable buildings to be fitted with building management systems alongside clear standards and protocols for digital data collection, sharing and management.

Our experts agreed that existing buildings are one of the main barriers to change. The design phase of construction is critical to harnessing hi-tech safety solutions: once blocks are built, it may be too late. Will data collection, distribution and management be

"New stock versus old stock – that's the real challenge"

"Digital standards must be set so data is user friendly, up-to-date and available for everyone to access"

retrospective? If so, older building stock is a problem because it's easy to retro-fit building management systems in some blocks but not all. Every lease is different and the majority do not allow for 'improvements'. So we need government to step in and deliver a way to override leases in order to take safety to the next level.

However, even were this to happen, all existing buildings could not be remediated because the leaseholder would have to pay. The recent focus on cladding has laid bare the problems that would raise. So we need other solutions, driven by technology - which means for older buildings at least, we're looking at a 20-year fix.

Ultimately our experts were in agreement that data-sharing will be at the heart of effective safety management. Legislative change is key. And going forward, collaboration between government and across all property stakeholders will be vital to the success of the new building safety regime.

Thank you to the participants in the discussion who were:

- **Martin Lovegrove** Berkeley Homes
- **Mark Varley** FirstPort
- **Rachel Dobson** Mainstay
- **Peter Moore** Tetra
- **Rebecca Thompson** MHCLG
- **Raman Chagger** The Building Research Establishment (BRE)
- **Rob Simmonds** MRI
- **Nick Mellor** LEIA
- **Matt Ashley** Osborne Clark
- **Dan Hughes** Alpha Property Insight

Making change happen

Our panel of experts concluded that Government must lead the legislative agenda, not just of safety requirements, but taking a big picture approach to relate factors such as value, funding and leasehold requirements. The industry must work together to improve data sharing and to share the best use cases of technology.

In response the IRPM is calling for:

- *A government sponsored working group engaging with the sector over future legislation, to ensure the wide-ranging multiplicity of proposals are holistically co-ordinated, to avoid unintended clashes and fully enable the potential for safety and efficiency.*
- *A sector Task Group to be established to consider the role of data, and steps to allow better sharing and mitigate risks.*
- *All parties to share their experiences and case studies with the IRPM and other industry stakeholders to ensure a wider understanding.*

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