

SPACE MATTERS

THE INTERIOR TRENDS TO
LOOK OUT FOR IN 2021

inside

How competent
are you?

The architect taking
Birmingham by storm

CPD: fire doors;
electromagnetic locks

BIM: are you
up to speed?





CDG420 OVERHEAD DOOR CLOSER TEMPLATE ADJUSTABLE SIZE 2-4



BS EN 1154: 1996	1121 - CPR - AD5462					
Fig 1 Fitting	3	8	4 2	1	1	3
Fig 6 Fitting	3	8	3	1	1	3
Fig 61 Fitting	3	8	3 2	1	1	3



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DUBAI EXPO REVEALS MAIN PAVILIONS AHEAD OF EVENT



The organisers of Expo 2020 Dubai released images of buildings by the world's leading architects that will host next year's coronavirus-delayed event.

Dubai Expo 2020 was originally scheduled for October 2020, meaning that many of the buildings on the 438-hectare site to the south of Dubai are largely complete. The rescheduled event will now open on 1 October 2021.

At the centre of the site, which has been masterplanned by American architecture firm HOK, stands the Al Wasl Plaza enclosed in a spherical building. Designed by Adrian Smith+Gordon Gill,

the plaza stands at the intersection of the expo's three themed districts.

The Sustainability Pavilion was designed by the New York and Dubai offices of architecture studio Grimshaw. The structure has been designed with a large overhanging roof that will provide shade for the surrounding gardens and exhibition spaces, as well as being a platform for solar panels. It will also harvest fresh water from the humid air.

Surrounding the pavilion are a series of solar trees, which will track the sun and provide additional electricity.

Expo 2020 – now set for October 2021 – released images of its pavilions designed by the world's leading architectural practices

Following the expo the Pavilion will reopen as a science museum.

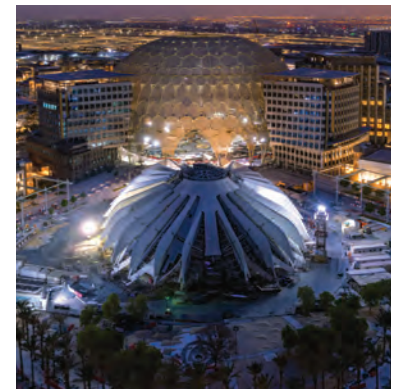
Foster+Partners' trefoil-shaped Mobility Pavilion is also largely complete. Conceived 'as a fairground' for demonstrating technological innovations related to mobility, the pavilion will include a partly open-air 340-metre track for visitors to see vehicles in operation.

The third district will focus on Opportunity, with a pavilion designed by AGi Architects, with images yet to be released.

The Dubai Expo 2020 organisers also revealed images from within the three districts, which contain over 86 permanent buildings designed by UK studio Hopkins Architects. Along with the main thematic pavilions, the expo will feature 192 national pavilions, including a structure by Es Devlin for the UK and a pavilion topped with stained glass-style solar panels for the Dutch Pavilion.

Each of the site's main three entrances will be marked by a 21-metre-high gate designed by British architect Asif Khan.

Expo 2020 Dubai will run from 1 October 2021 until 31 March 2022.



SMART PHONE LOCK WINS STATESIDE AWARD

A smart-phone operated lock was named the product of the year in the USA.

Accurate Lock and Hardware scooped the top accolade for its SmartEntry product in the Decorative Plumbing and Hardware Association's annual awards. SmartEntry is a smartphone-operated mortice

lock. The battery-powered smartlock features keyless local entry via Bluetooth or remote access via ethernet bridge connection, both of which are controlled by a proprietary app.

All technology components are hidden inside the mortice pocket, it is compatible with any

architectural hardware, requires no wiring through the door frame and is battery powered.

The DPHA Awards aim to recognise outstanding accomplishments in the industry; create industry awareness' and spotlight exceptional products, companies and individuals.



SMALL CALM SPACE WINS GLOBAL INTERIORS AWARDS

The SBID International Design Awards 2020 revealed the line up of winners this Autumn.

These annual awards are firmly established as one of the most prestigious interior design awards in the global design calendar. Judged by famous expert names in the wide design industry (as well as the public) the awards recognise, reward and celebrate design excellence across a broad range of categories. The strict three-tier judging process ensures all entries are carefully scrutinised for their technical standards as well as their creative calibre. Judges come from organisations such as Nike, BBC, Bentley, and Universal Studios.

Winners and finalists enjoy numerous benefits, such as free entry to the House of Lords networking event; access to Meet the Buyer; a winner/ finalist certificate; extensive social media exposure throughout the year, and the right to use the 'SBID Winner/ Finalist 2020 logo on their website.

This year's overall winner was A Hidden Betsuin in Hubei, China. The exhibition space was praised for its use of natural materials such as wood,

stone, hessian, bamboo and rattan.

The interior design integrated local cultural elements with modern design techniques, reaching a balance between the Western calmness and the Chinese elegance within a limited space.

There were winners in over 17 categories covering hotels, office, healthcare, restaurants residential, public space and retail from countries across the globe including Switzerland, Malaysia, Nairobi, the US and the UK.

View all winners at www.internationaldesignexcellenceawards.com

Above: the overall winner of the SBID awards and below, the Cotswold Manor Bedroom & Bathroom, a winner from the UK



FORMER RIBA PRESIDENT CALLS OUT DESIGN AND BUILD PROCESS IN GRENFELL INQUIRY

The design and build process is creating "disorder" within the construction industry, according to an expert witness at the Grenfell Tower Inquiry.

Paul Hyett, a former president of the Royal Institute of British Architects (RIBA), said that design and build contracts create huge time pressures for architects when developing a project's design and specification. He also stressed the importance of using professional advice and was questioned about whether 'value engineering' had become a euphemism for cost-cutting.

"We now have a situation, through design and build, where there is disorder – where later stages can be done before earlier stages," Hyett said. "It's for that reason it's very important that the design team are assisted by those who certify and those who manufacture with information which is clear, in the interests of not having terrible outcomes."

Lead counsel to the Inquiry Richard Millett QC went on to ask: "Would you expect a design and build contractor to ordinarily ask the architect to make sure that the specialist fire safety engineer had the information necessary to be able to deliver the advice up to stage F?"

Hyett said: "The design and build contractor should have taken the driving seat here and ensured that a proper audit was done. So I think that is my answer, yes."

Millett also asked Hyett about whether or not, by 2012, the phrase "value engineering" had become a euphemism for cost-cutting.

Hyett declared it difficult to make a generalisation but did say he had a sense "that is prevalent in the wider industry".

Hyett's appearance before the Inquiry marked the end of 'module 1' of the second phase of the Inquiry.



One of the restaurants over the water at the planned Red Sea Project in Saudi Arabia

SAUDI TOURISM GROWS WITH NEW RESORT

Architecture studios Kengo Kuma and Associates and Foster+Partners are designing a tourism development on an archipelago of Saudi Arabian islands within the Red Sea, which will be served by its own dedicated airport.

Named The Red Sea Project, the development will be built on a chain of 90 undeveloped islands between the cities of Umluj and Al Wajh on the west coast of Saudi Arabia.

It is billed by developer The Red Sea Development Company as “the world’s most ambitious tourism development” and forms part of the country’s push to increase international tourism.

Kengo Kuma and Associates will design 100 holiday villas for the scheme and Foster+Partners will create the airport.

The resort will also boast two speciality restaurants, one on land and one over water, as well as a community

building, a spa, a reception pavilion, housekeeping villas and a guest jetty.

The Red Sea Development Company describes the development as “grounded in sustainability and sustainable tourism”, and both architecture teams have aimed to minimise the impact of the structures being built.

By 2022, The Red Sea Project will have developed five of the islands in the archipelago as well as two inland sites. In 2030, when the project is complete, 22 islands and six inland sites will have been developed.

Saudi Arabia’s overall number of tourist trips is on course to hit 93.8m by 2023, up from 64.7m in 2018. Ten days after it announced the issuing of tourist visas in 2017 to visitors from 49 countries 24,000 foreign visitors entered Saudi Arabia. China visitors topped the list, with the UK and the US in second and third.

SURVEY SHOWS INDUSTRY SEES RETROFIT WORK AS KEY TO NET ZERO CARBON TARGET

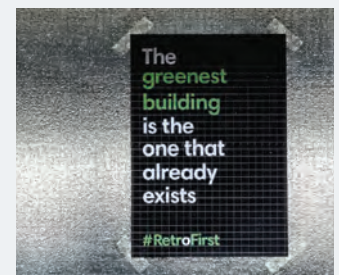
Massively prioritising retrofit work over new build is the single most important way the built environment sector can tackle the climate crisis, a survey by New London Architecture has found.

The report, launched just before London Climate Action Week (14-20 November), showcases 80 examples of buildings, masterplans, infrastructure and toolkits ‘that support London’s transition to a low-carbon city’.

NLA surveyed 100 companies in the sector in September and the statement ‘retrofitting to become 90 per cent of the work of built environment professionals’ was voted the approach that would have the biggest impact on climate change.

The report, *Road to Net Zero by 2050*, was also sharply critical of the Government’s progress towards meeting its legally binding net zero commitment, with 85 per cent of respondents saying current policy and regulations were incompatible with the target.

Just 34 per cent of those surveyed said they believed London was on track to meet the 2050 deadline, with this figure dropping to 22 per cent for the UK as a whole. NLA director Catherine Staniland said: ‘London is home to an amazing proliferation of initiatives and projects to help London become a net zero carbon city. As an industry, we must place a greater emphasis on the potential offered by the retrofit of existing stock.’



BIG 5 TURNS DIGITAL FOR 2020

The Big 5 – the global construction event that takes place in Dubai annually – this year moved online with a digital festival held at the end of November. Over four days it showcased products from over 500 companies, fostered net-working among the 20,000 visitors, and ran live content with over 15 keynotes, 80-plus speakers, and 40 certified sessions.

The event plans to return to Dubai in September 2021 and will include the Windows, Doors and Facades event.

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NORSEAL CPD TRAINING SOUNDS GOOD

UK door seal supplier, Norseal, is offering architects, architectural ironmongers, door set manufacturers and other specifiers Institute of Architectural Ironmongers (IAI)-approved CPD training on acoustic doorsets.

The training can be carried out as a seminar at any location or via video conference. It covers what sound is, how it travels and the importance of specifying the correct acoustic door seals to comply with legislation, regulatory guidelines, building regulations and how to achieve the acoustic performance that clients demand.

Acoustics is a subject often poorly understood by specifiers and as

a result, even the best sound-attenuating doorset can be let down by the seals selected for it.

Sound, unlike air, can and will escape from the tiniest gaps: a door with a gap of just 1% will let 50% sound through it. Many door soundproofing issues or noise leakage problems are the result of a lack of the correct acoustic door seal or a badly-fitted or damaged door seal which has gone unnoticed. Ordinary fin or brush seals will not block sound from passing through the gaps around the door.

For more on the CPD contact the Norseal team on 01661 830088 or email sales@norseal.co.uk

Norseal is offering a CPD on acoustic seals

CIAT ANNOUNCES AWARD WINNERS

As AIJ went to press the winners of the 2020 CIAT Awards were being announced. The awards span three categories: excellence in architectural technology for small to medium size projects as well as for larger sized projects and the Architectural Technologist of the Year.

The six finalists for the small category included a school, a church community room and two innovative residences, including Buchanan House which secured planning permission under the extremely stringent Paragraph 55 policy (pictured below bottom). There were four finalists in the 'medium to mega' category: the Catalyst in Newcastle (pictured below top), a commercial and educational build; Norwich City Football Club Lotus Academy; Paxman Academy in Essex; and Station Square also in Essex.

Four hopefuls made the finalist list for the Technologist of the Year award. See the winners at www.architecturaltechnology.com/awards



GEZE DONATES DOOR CLOSERS TO PERUVIAN SCHOOL



As part of its social commitment policy GEZE has donated product to a charity project in the Andes.

The Quechua people – descendants of the Incas – are subject to discrimination in their native Peru. Two doctors from Wiesbaden set up the charitable association Diospi Suyana to combat the Quechua people's hardship. For many years, they and other aid workers have been working to provide access

to school and hospital. They constructed a mission hospital in accordance with European standards, which opened its doors in October 2007 and a school has followed.

GEZE has supported the project by donating GEZE TS 3000V BC overhead door closers. These overhead door closers for single-leaf doors feature an integrated back check function, so that doors thrown

open with force are gently slowed down – an ideal solution in schools, where children tend to open doors with vigour. This protects walls and furniture and reduces the overall noise level. The closing speed can be individually adjusted, which ensures that doors close safely – minimising the risk of injury and improving safety, particularly in the case of fire doors and escape routes.



New private housing development construction in rural UK

CPA PREDICTS MORE UNCERTAINTY

Following the easing of the first lockdown restrictions and the subsequent reopening of construction sites and supply chains, construction product manufacturers reported a rebound in the third quarter of 2020, pointing to early signs of a V-shaped recovery, according to the The Construction Products Association's State of Trade Survey.

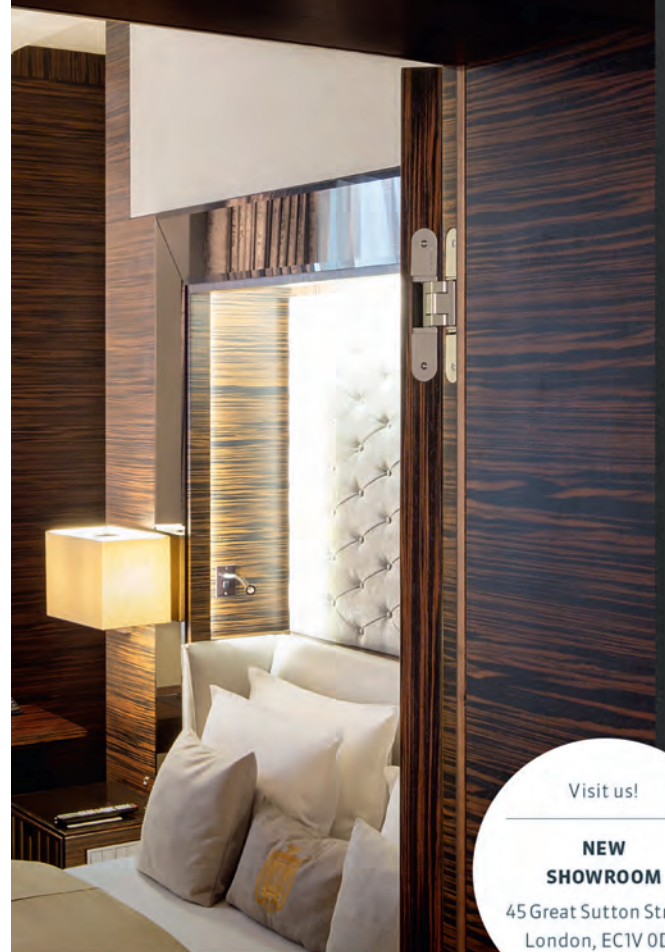
Sales of light side products were reported to have increased by 48% of manufacturers. Mirroring ONS data on construction output during the quarter, product sales remained lower compared to a year earlier.

It was a more mixed picture for manufacturers' forward-looking expectations, however. When looking to the next 12 months, 21% of light side

manufacturers anticipate a rise. Rebecca Larkin, CPA senior economist said: "There are already clear signs of differences in the outlook by sector. House building is subject to volatility as the stamp duty holiday ends and employment backdrop worsens; infrastructure benefits from new and ongoing major projects; the commercial sector faces near-term unknowns over demand for office; and retail space depends on how embedded homeworking becomes in future. The uncertainty is proving to be a catalyst for manufacturers to prepare for how new ways of working may change supply chain distribution, notably through increasing investment in developing e-commerce."

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GAI TALK | JULIAN NEWMAN



I'm sure that you will probably join me in feeling some relief at seeing the back of 2020. It's not been a year of much fun, that's for sure. But for the

architectural ironmongery industry, there is something about the old phrase '2020 vision' that is worth exploring, as we look back and perhaps see more clearly for the future too.

For the GAI, it has been a tough year, with all our events cancelled and a drop in revenue for our internationally renowned education programme. Every country in the world that promotes professional qualifications in our industry saw a decline in training and education spend for the first time in our history. And for a sector that prides itself so much on the specialist technical skills and knowledge of its people, I think that just shows how much some of the GAI members are feeling the impact of Covid-19.

Our former director of the GAI, Angie Corkhill, also left us in October to pursue new interests. She left with our deep gratitude and thanks for more than three years of steady and supportive leadership.

But such changes also brought other opportunities into very sharp relief.

The GAI's CPD programme instantly moved online and has received exceptionally good feedback from delegates all over the world. Our membership communications also took another step up, as did our communications with government and policy makers. And there are some outstanding businesses within the GAI who are taking the view that now is exactly the right time to invest in their people, and who are demonstrating a strong leadership position.

I'm delighted to say that we also had our pick of some exceptionally good candidates for the job of chief executive, and we appointed Simon Forrester to the role this month. Simon has a wealth of experience of leading membership organisations through good times and bad, and a clear vision for where the GAI can add even more value to members and its customers in 2021.

So let's look forward again. On behalf of the GAI Executive Committee and staff, I wish you all a very Happy Christmas and a genuinely happy, healthy and re-energised New Year.

Julian Newman
GAI President



GAI INTRODUCES MOCK EXAMS TO ITS EDUCATION PROGRAM

Students will now have the option to sit a mock examination in advance of their final tests. The mock examinations will be held at PearsonVue test centres between mid-April to mid-May 2021. The test consists of 120 questions, 10 from each of the 12 modules that make up the GAI Diploma.

Rachel Tipton, GAI education manager, said: "We've introduced the mock examinations to help students better prepare for their final examinations. The exams are timed and treated exactly as their final exam would be, so it helps to get them familiar with the process. Sitting the test will help them to identify their weaker areas and focus on these topics in advance of their final exam."

"Although we're experiencing uncertain times, one thing that stays the same is the need to prepare future ironmongers for all scenarios that they may encounter in their career," said Rachel. "At the moment, when the world is constantly changing, students need to be ready to adapt, and to do this they need to keep learning and developing."

"This doesn't just apply to those at the start of their career. There is always something new to learn and even the most experienced architectural ironmongers should strive for continuous personal development."

To find out more about the GAI Education programme visit: www.bit.ly/GAI-Education-Hub

■ GETTING A GLOBAL PERSPECTIVE

The GAI has released a series of new videos looking at how architectural ironmongery organisations around the globe are approaching staff development and training during the pandemic. The series, titled 'Leadership in a time of crisis', interviews

business leaders from within its membership about the steps they are taking to look after their teams and invest in people while the market remains uncertain.

All of the videos are available on the GAI's YouTube channel: www.youtube.com/GuildAI

NEW MEMBERS APPOINTED TO GAI TECHNICAL COMMITTEE

The GAI Technical Committee has appointed two new members: Kate May, managing director of Elite Architectural Ironmongery Limited, and Paul Watson, sales and marketing director of RTR Services Limited.

Kate has extensive experience in the industry, including some years as general manager of Consort Middle East. Kate provides a welcome voice to the committee as an architectural ironmonger and RegAI.

Paul brings a huge amount of knowledge in the door automation sector. He previously worked as director responsible for Automatics and Service at Dorma UK Ltd and has represented the UK for many years on CEN/TC 33/WG9 Powered Pedestrian Doors. He has also worked with BSI on various British Standards and chaired the group which produced BS7036-0.

The GAI Technical Committee meets quarterly to discuss the major technical issues which face the industry. It helps to shape the GAI publications, including technical briefings, GAI Guides to Standard and the GAI Quarterly Technical Review.

JOINT GUIDE WITH FIS AND GAI



The GAI and Finishes and Interior Sector (FIS) has launched a new guide to help business owners plan safe working spaces

that enable social distancing.

"How business owners can use partitioning and ironmongery to help manage social distancing" gives practical guidance regarding the key considerations they need to make when adapting their workplaces. It aims to provide advice as to how to create the correct solution, addressing the issue of DIY screens that often fail to work properly.

It also covers performance considerations including fire resistance of the partitioning and doors, reducing sound transmission and privacy, and the need for increased ventilation which has a substantial impact on reducing viral infections between occupants.

The guide discusses all aspects of partitioning and how employers can sub-divide working space to protect staff, including using the right ironmongery and how to reduce infection via touch points.

Download the guide at: www.gai.org.uk or www.thefis.org



PREPARATIONS FOR BREXIT: UK(NI) MARKING



The GAI has re-released its Technical Briefing on Preparations for Brexit in light of further updates on the UK(NI) Mark and the European Machinery Directive.

Now in its fifth iteration, the latest version of the technical briefing gives details on how the Northern Ireland Protocol will impact goods moving between Northern Ireland and the Republic of Ireland, Great Britain, and EU Member States. It also outlines how CE, UKCA and UK(NI) marking will be applied after the transition period.

Certain products fall under the European Machinery Directive, rather than the Construction Product Regulation. The GAI has worked with the Automatic Door Suppliers Association on this section of the briefing. It covers what will happen to relevant products such as automatic door operators after the transition period.

The briefing also covers UK Approved Bodies, placing construction products on the market in Great Britain, authorised representatives and the UKCA mark. GAI members can download the briefing from the members area of the website.

GAI JOINS CLC WORKING GROUP

The GAI has been invited to join the CLC Standards and Regulatory Alignment group alongside BSI, the CPA and Build UK.

The group also includes industry representatives from trade associations, notified bodies, manufacturers, architects, contractors and end users, and has been created to discuss issues relating to harmonised and designated standards after the UK officially leaves the EU. This includes CE, UKCA and UK(NI) marking, the Construction Products Regulation (CPR), and the role of UK notified and approved bodies going forward.

This latest appointment adds to the growing list of committees and technical groups that the GAI sits on, which also includes the Construction Products Competence Working Group (also known as Working Group 12 of the Steering Group on Competences for Building a Safer Future of which GAI technical manager Douglas Masterson is deputy chair), BSI Trade and Regulation Forum, an increasing number of BSI and CEN standards committees, and the BIM Fenestration Relevant Authority Committee, which GAI chair.

OPINION • PAUL REES

At the time of writing this, England has just entered its second lockdown and the Chancellor extended the furlough scheme, which while it will undoubtedly be a great relief to some, is likely to be too late for others.

This lockdown may not be as restrictive as the first, with certain businesses and industries allowed to remain open, such as the construction sector, but for those who are required to close, it prolongs increasing uncertainty for the future.

The approaching end of year period is usually the time when we reflect on the past 12 months and review the highs and lows; trying to decide if it's been a successful year, whether in business or personally. Whilst all of us will remember it as a year when everything changed, some will remember it as a change for the better. There are many people who will end the year working not only in different companies from at the start of the year, but also in different careers. Some due to redundancies, others seeing this time as the 'now or never' moment, with some discovering they've left stressful work environments for a simpler, but more fulfilling and rewarding job. Some have even taken the leap to start their own business, realising a dream or just the opportunity to control their future.

Ongoing circumstances have meant communities have been strengthened as neighbours help each other and the vulnerable, creating and developing new friendships along the way. This has transferred through into business as local companies have adapted to local needs and demands which has been partly reciprocated as people make more purchases from their local

AN ARCHITECT SPEAKS



Paul Rees looks on the positive side of a year dominated by Covid-19

// Businesses can come together with each other and their surrounding communities to provide increased support, share resources, facilities and ideas for everybody's benefit"

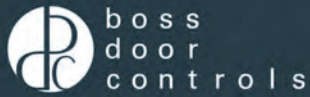
supply chain. If, as is currently intended, regional restrictions are to follow the expiration of the national lockdown, then we may all become a little more reliant on our neighbours and vice versa.

I believe there should be a confidence in supporting small, local businesses, as not only does it help support the local economy, it also reinforces those ties within the community. This applies to us all, not just personally, but in our workplaces. Yes, large international companies (you know the ones) may offer cheaper solutions, but having a long-standing relationship with a computer does not help you when you desperately need to talk through a problem and seek advice or assistance. The personal interaction also provides the reassurance that your problem is being addressed. This is a simple principle used by many in business, especially those who network; people buy from people.

There is a new potential for local communities to create informal support groups which have more input into their area and in turn influence the regeneration of their region. They will stimulate the economy and the environment, creating an ever-improving community to live in. If, for the foreseeable future, we have to socialise and exercise outdoors, surely we want those surroundings to be the best they can be, to maximise our enjoyment and increase our wellbeing.

Businesses can come together, with each other and their surrounding communities, to provide increased support, share resources, facilities and ideas, for everybody's benefit.

The long-term future may be uncertain, but that provides opportunities for us all. ■



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Since the tragic events of Grenfell Tower one of the main thrusts in the construction industry has been a drive towards increased levels of competence. The recently published *Setting the Bar* report referenced below defines competence as: “the combination of skills, knowledge, experience and behaviours that enable a person to undertake responsibilities and perform activities to a recognised standard on a regular basis”. Increased competence has been heavily advocated by UK government as well as a number of industry routes. Some of these are as follows.

Dame Judith Hackitt's Independent Review of Building Regulations and Fire Safety

The Hackitt Review was scathing in its criticism of the construction industry and within this the report identified the

existence of a “race to the bottom” culture which pervades the UK construction industry. One of many recommendations made in the report was the requirement for increased levels of competence throughout, with the construction sector and fire safety sector demonstrating more effective leadership for ensuring building safety.

Setting the Bar: The report from Industry Response Group Steering Group on Competence for Building

Setting the Bar is the second and final report of the Competence Steering Group (CSG). This group was set up to improve the competence of those procuring, designing, constructing, inspecting, assessing, managing and maintaining higher risk residential buildings.

The intention underpinning the report has been to set out a system of competence standards that all those

// Training is a method of increasing our knowledge which will be of increased importance as a method of demonstrating our own competence”

in life-safety-critical disciplines working on higher-risk buildings will adopt, as set out in the Hackitt Review. As part of this, some of the Working Groups who came together as part of the CSG have drawn up their own sector-specific competence frameworks with the intention that they will be rolled out across their own professions or trades. WG12, the Construction Products Competence Working Group is currently working towards the publication of a new Construction Products Competency Matrix which is due to be published in early 2021.

UK Government Building Safety Bill

This was announced in the Queen's Speech on 19 December 2019. This Bill is intended to provide the biggest improvements to building safety in nearly 40 years and sets out how the UK Government will implement the findings of the Hackitt Review. Its purpose is to also put in place new enhanced regulatory regimes for building safety and construction products, and to ensure residents have a stronger voice in the system. One of the key elements of the Bill is a requirement for increased competence requirements in order to maintain high standards.

New British Standards Institute (BSI) competence standards.

BSI is also building a framework of documents which will raise the standards of competence across the built environment. The first step on this journey is the creation of a new BS Standard entitled BSI Flex 8670 which will specify requirements for competence frameworks for individuals and is due for publication in 2021. BSI will also provide new standards for competence requirements for the three newly regulated roles: principal

TAKING A FITNESS TEST

Competence is now under scrutiny. **Douglas Masterson** outlines where the demand is coming from and asks what can we do to ensure competency.

designer, principal contractor and building safety manager.

With so much emphasis on competence we must all ask ourselves as manufacturers, specifiers or installers of products what we can do to increase our own levels of competency in the tasks we are required to do. A competent person is defined in Setting the Bar as “someone who has sufficient training and experience or knowledge and other qualities that allow them to assist you properly.”

Experience takes time served within the industry which in itself follows the paths of our careers so is not an immediate gateway. Training is, however, a method of increasing our knowledge which is more quickly attained, and which will be of increased importance as a method of clearly demonstrating our own levels of competence in our roles.

The following are examples of highly respected industry training which trade associations provide for those within their membership:

The GAI has spent nearly 60 years educating the ironmongery industry with a training portfolio which caters for all abilities. This includes introductory level through Foundation in Hardware, in-depth product knowledge from the Certificate in Hardware, right through to the specification of fully compliant ironmongery products on to a project by achieving DipGAI status. Beyond this the RegAI Continuing Professional Development CPD programme ensures that product knowledge is maintained and kept fully up to date with industry standards and latest developments. A full prospectus can be downloaded from www.gai.org.uk.

Fire Door Inspection Scheme (FDIS) provides an online education programme which is available to anyone who wishes to gain a greater knowledge of fire doors or to become a certificated fire door inspector.

The Automatic Door Suppliers Association (ADSA) delivers a comprehensive training programme which gives course delegates an in-depth knowledge of the safe



Setting the Bar is the final report from the Competence Steering Group

operating standards for powered pedestrian doors. The qualification when linked to a CITB-approved Health and Safety in Construction training course forms a critical pillar in demonstrating industry competence. In early 2021 the association will continue its drive to further improve competence by adding National Vocational Qualifications (NVQs) to its educational portfolio.

Master Locksmiths Association (MLA) runs a range of training courses to become a locksmith, this encompasses beginners' locksmith courses through to advanced courses for existing locksmiths who want to learn new skills.

As industry professionals, our levels of competence can all be increased through the development of our skills, knowledge, experience and behaviour; a key part of this is through formal training or by our own continuing professional development. One thing is certain, we can all play a part in raising levels of competency and if we do, the construction industry will be in much better shape. ■

Douglas Masterson is GAI technical manager, member of CSG and deputy chair of WG12 (Construction Products Competence Working Group).

WHY AIS RAISE THE COMPETENCE BAR

Much is made of the value that Als add to a project specification for architects and designers. Less is made of the role they play in the business of hardware manufacturers and distributors. Russell Marks on why Als remain so central to the manufacturer/Al/specifier triangle.

Before I set up Boss I was a specification AI so this business was founded primarily on a specification basis and to serve the specifier. As a company we have stuck to that principle with a strict distribution policy working with architectural ironmongers. The reason? They give us the best exposure to architects, interior designers, and other specifiers.

Als have a long history in developing relationships with OEMs, contractors and architects, as well as their suppliers. Als can spend a great deal of time working with clients, guiding and advising on specifications, scheduling from floor plans to ensure the building works. This can be a lengthy and specialist service, typically provided at no upfront cost to the client. It's about trust and it's about service. Both are principles that are needed more than ever right now.

We particularly enjoy projects where we see the AI pull everything together, starting with a handle and extending across the whole building to access control and door automation. Nobody but an AI can scope across the whole range of a building like that and we have found when Als work holistically like this we have to adapt and change – launching new

finishes for example so we can supply products that match the whole hardware scheme. So Als drive innovation and progress for suppliers.

Central to the role of Als for us is their extensive and current knowledge of the relevant standards relating to all ironmongery products. These are constantly changing and we know that we can rely on an AI to convey properly their importance and to understand the importance of the additional third party accreditation we have invested in.

Als are relied on by the distribution channel as experts, regularly working closely with architects, contractors, and designers to ensure the building is safe, secure and meets the clients brief in terms of performance, aesthetics, and budget. Manufacturers innovate and develop new products. Als provide a vital service for maximum market exposure of these developments.

Now more than ever, many Als are looking to expand the range of products and services they offer. They have the choice in deciding the order of priority when it comes to expertise, quality, service, stock holding, national support and price when deciding how to maximise these

Russell Marks is the owner of BOSS Door Controls.



TRENDING NOW

2020 has changed the way we live and work. How will this affect what is specified in 2021? **Hannah Cooper** examines door-related trends for the coming year.

As 2020 draws to a close, we are looking forward to a new, hopefully more positive, year ahead.

This year has certainly been one of change and reflection. For many people, there has always been a clear differentiation between home and work, but 2020 has led to a rethink about what these spaces need to deliver now and in the future.

// 60% of adults in the UK have been working from home since the start of lockdown, and 26% would like to continue working from home into the future”

Door designer and manufacturer Masonite UK - who own Premdor, Solidor, Door-Stop International and National Hickman - have explored what we can expect to see in 2021 and how this will impact what people want from their doors over the coming years...

Flexible living spaces

For many people there is currently little separation between home and work. According to data from Finder*, 60% of adults in the UK have been working from home since the start of lockdown, and 26% would like to continue working from home into the future.

A home must now deliver a multifunctional space. Living spaces are also acting as the gym, social and leisure venues, as well as a place to relax – all while providing a suitably stylish Zoom background.

Although open plan living has been on the rise, people are now looking for a distinct space to work and doors play a critical role in providing this extra level of separation. Simple design changes can help to create separate spaces, without compromising on the light and airy feel that open plan living offers.

For external doors, a contrasting colour door frame paired with a full or half height glazed side panel can be used to create an interesting design while enhancing the amount of natural light entering the property.

Matching glazed exterior and interior doors together will help maintain the open feeling throughout the home while still offering the required separation. Premdor's Canadian and Manhattan range offers a variety of glazed internal doors, from two and half light options to almost entirely glass.

Left: Working from home – a trend set by the Covid-19 pandemic – looks set to stay.

Below: The digital home controlled by smart phone is on the rise

Right: Stable doors is one way to allow the outside inside

As an alternative to permanent glazing, homeowners may prefer a stable door. Solidor's standard and Italia Collection ranges can be integrated into a stable style door and can be customised to be different colours on each side.

These types of door offer an additional level of ventilation, and are fitted with a high security, fully adjustable, multipoint locking system with an interlocking door bolt to secure the top and bottom halves of the door together.

Environmental awareness

Consumers have started to shift away from material things and are choosing instead to focus on experiences and the wider impact of products. They are looking for products that deliver long-term economic and social value; buying locally, choosing sustainably sourced materials and sharing resources among the local community.

Consumers are also increasingly happy to invest in a slightly more expensive products that will stand the test of time and save them money in other areas, such as heating and electricity bills. Research from Money.co.uk** has revealed that UK's homeowners have spent an average of £4,035.70 on renovations since lockdown began in March.



One example is home improvement products that can also help to save energy costs through better insulation. A good indicator of how effective a door is as an insulator is its U-Value. The lower the U-value is, the better the material is at keeping the heat in. The required building standards for composite door manufacture is 1.8Wm²/K or less. Both Door-Stop International and Solidor offer a range of composite doors with a mixture of cores that offer impressive thermal performance.

The digital home

The Smart Home, also known as the Connected Home, provides a practical way of managing electronic devices from any location. Incorporating a range of safety and security systems, energy equipment and appliances, homeowners can now control most things in their home with a smart phone.

Initially used by tech savvy individuals, smart home technology - like Amazon Alexa, Google Assistant, Nest and Hive - has now become more mainstream, and the benefits of having a Smart Home more widely known.

This technology has started to move over to the door sector, with innovations such as the Ring doorbell becoming increasingly popular with »





Open plan living is a continuing trend

// As we look ahead to 2021 and beyond, the balance of time spent in our homes and place or work will have shifted forever."

homeowners. *Digital Trends* magazine recently announced its best smart locks for 2020, choosing the August Wi-Fi Smart lock as the overall winner and the Level Touch for the best design.

The Level Touch is particularly interesting as it does not look like typical smart lock technology. It can be used to upgrade the existing deadbolt and lock, and can be activated by either touching the lock's frame (which is linked with Bluetooth and recognises when a registered smart phone is near), an app, or even specific NFC-enabled key cards that can be controlled via the app.

This trend will continue for many years to come as smart products continue to evolve. In the future, digital eye viewers and smart

phone controlled access systems will be the norm. As more and more consumers adopt these products in their home, they will expect other products to be responsive to and compatible with the latest technology.

As we look ahead to 2021 and beyond, for many of us the balance of time spent in our homes and in a designated place of work will now have shifted forever. Products and technologies that can make our working and home lives more comfortable and secure will remain important for the foreseeable future. ■

**Research conducted by Finder, September 2020 **Research conducted by Money.co.uk July 2020*

TOP 5 INTERIOR DESIGN AND ARCHITECTURE TRENDS

The five style trends that will trickle down to doors, windows and hardware spec



Sustainability

Sustainability has been a growing trend for the past 10 years, and it shows no signs of going away. Don't be surprised if you're increasingly required to work on passive design, account for carbon footprint and make adjustments for increasingly sophisticated eco-technology.



Uber tech

Smart access will continue to grow – increasingly entering the residential sector and commercial as more work space becomes shared and flexible. Covid 19 has seen a huge demand in health-protecting hardware, which will also continue.



Healing architecture

The current buzzword is 'wellness architecture' – buildings designed with mental and physical wellbeing in mind. According to the World Health Organisation, people spend on average 90% of their time indoors so it is imperative that the buildings they work, rest and play in benefit their health.

The WELL Building Standard administered

by the International WELL Building Institute (IWBI) has sprung from this position. Developed in the States it is currently mainly for commercial and institutional office buildings, but has pilot programmes in other sectors.

There are seven categories in which a space must receive satisfactory scores in order to become WELL certified. They are air, water, light, nourishment, fitness, mind, and comfort which are audited on site. Expect more demand for this type of space which will impact on window and product specification.



Open plan space

In work places and homes this trend is designed to foster connectivity and interaction. But flexible space and ability to 'redraw' spaces will be part of the demand so will impact on door choices. See the point below.



Quiet spaces

In both homes and office there is an increasing demand for spaces to retreat to for privacy or meditation. Use of windows, acoustic seals and materials will be key.

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MB TS009 DUAL

NEW TO THE MARKET

Secured by Design (SBD) member MailboxesGB add to their range of SBD products, releasing the UK's first DUAL Secured by Design post box - the TS009 DUAL.

Secured by Design (SBD) is the official police security initiative that is owned by the UK Police Service with the specific aim to reduce crime and help people live more safely.

The TS009 DUAL includes a 6-pin security rim lock, conforming to EN1303: 2005 Grade 4, paired with a unique 3-point locking system, an integrated anti-theft device and is manufactured from robust 1.5mm Zintec Steel. The unique model allows double the number of units in the space available, whilst still achieving the DHF TS009 certification. Mark West, responsible for security product certification schemes, at Warringtonfire commented: "We are delighted to be able to assist MailboxesGB in bringing their innovative dual post box to market, fully tested to DHF TS 009:2019 and certified to our CERTISECURE technical schedule STS219".

CERTISECURE approval involves not only an onerous initial burglary attack test, but also factory production control surveillance and annual audit testing.



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Nicky Roger profiles Marina Strotz, a rising architectural star, who has spent 2020 at the helm of the Birmingham Architectural Association

In January 2020, architect Marina Strotz was announced as the new president of the Birmingham Architectural Association.

The BAA, in the heartland of the UK architectural ironmongery industry, is considered the most successful RIBA chapter outside of London. Marina was pivotal to this during her two years as vice president.

As the first female president Marina formed an all-female team to lead BAA which was founded in 1874. At the helm, Marina was joined by vice president Amy Francis-Smith (PHD Architects) and secretary Alison Doran (BDP Architects). The trio aimed to capitalise on the city's thriving

property and construction scene; highlighting the investment and major projects that are creating a whole new identity for Birmingham.

Speaking about her new role at the beginning of the year, Marina commented: "As president, I hope to continue to promote great architecture and design within Birmingham; championing issues and opportunities while fostering new and existing relationships across the construction industry. I'm proud to take a stand as a young, energetic figure within this industry and hope to become a role model for the next generation, which has a burning passion for design and architecture,

// I'm proud to take a stand as a young, energetic figure within this industry and hope to become a role model for the next generation"

with dreams of turning their passion into a profession just as I did not so long ago."

Having graduated from the Birmingham School of Architecture at Birmingham City University with a BA and MA in Architecture, Marina joined Intervention Architecture over three and a half years ago.

She gained her part three architect final professional qualification whilst working at the Digbeth-based agency, which was recently crowned 'Architects Practice of the Year' at the Midlands Property Awards.

Marina's professional's portfolio with the IA team consists of some well-known sites plotted in and around Birmingham. The delivery of the Illustrator's Botanical House and Umberslade Park's new build soft-play centre, which sits in a green belt, were both projects she led and gained planning permission for. In

addition were the The Birmingham Whisky Club in the Jewellery Quarter and Sarehole Mill Bakehouse's listed consents, both owned by the Birmingham Museums Trust.

Commenting on Marina's development within the practice and new appointment, Intervention Architecture founder, Anna Parker, said: "Marina is a shining star in the architecture industry and we're so lucky to have her as part of the IA team. She's led on some really fantastic projects but regardless of scale, her passion is always to create great-quality and crafted designs tailored to any budget.

"Her promotion to BAA president is so well deserved and I know that she'll grab the opportunity with both hands; bringing our industry even closer together to celebrate success, share best practice, and continue building the opportunities for architecture across the city."

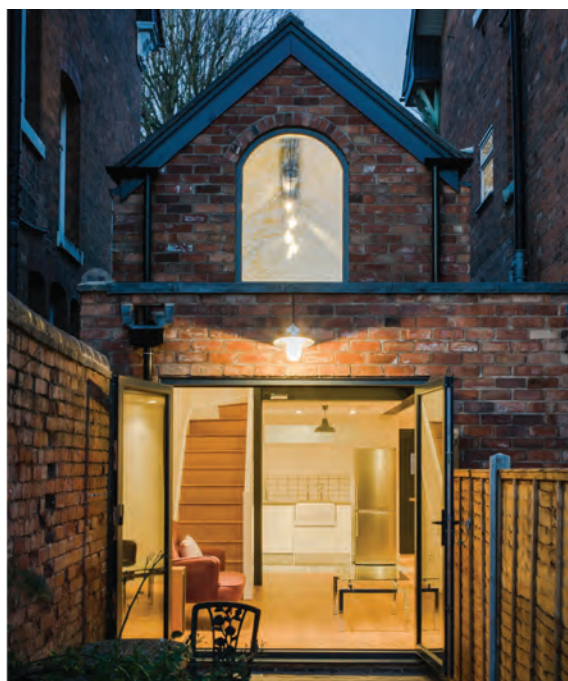
Leading through lockdown

Marina's election vision was for collective decision making, collaboration and inclusivity. She vowed to put it into practice leading and supporting the committee to champion their interests and be an active, representative voice for the architectural community.

The committee's collective aims for 2020 were collaboration, celebration and climate change initiatives. Following the success of events at the beginning of 2020, such as the interdisciplinary '2020 Vision' Pecha Kucha, RICS dinner and the 'Women in Architecture' exhibition which celebrated three generations of local female architects, lockdown began.

During lockdown, Marina motivated the BAA to shift focus to 'compassion', making mental health the main agenda. Moving committee meetings online, lockdown activities included: stay home campaigns, mental health tips, redevelopment of the BAA website and a creative competition focusing on 'home'.

Through negotiation with the BAA sponsors, Marina was instrumental in



Some of Intervention Architecture's projects in and around Birmingham

securing funds for monthly donations to the Architects Benevolent Society and the Stephen Lawrence Trust. The association proudly donated over £7,000 in 2020.

Marina was key in developing the 'Resilience' series, recognised as one of five UK branch activities in the RIBA Celebration Forum 2020. Through live conversations and open Q&A with industry leaders it explored how they have personally and professionally dealt with adversity. The aim was to open discussions around difficult issues.

Under Marina's leadership the committee is exploring ideas such as learning grants and BAA's 'In Business' workshops to support individuals starting their own practices in these difficult times.

Investment in the next generation is incredibly important to Marina, she has presented the RIBA 'Learn it Earn it' series, and lead workshops with 'Careers in Construction' with Andy Street and RIBA 'Family days'.

Marina is passionate about recognising exceptional design, to help improve the quality of the built environment. She chaired the judging panel for the architectural categories of the Scottish Design Awards 2020 and judges university architecture awards annually.

Marina's work projects have been featured in architectural and business press, including Dezeen, RIBA J and Architect's Journal. She has recently been promoted following her handling of projects and clients through lockdown.

In her spare time, when Swiss-Brummy Marina is not visiting buildings and cities, cycling or drawing, she likes nothing more than going on adventures outside with friends and loved ones.

Young, passionate, ambitious and clearly capable of leading through a crisis, this architect is definitely one to watch. ■

SAFETY CHECK

As the role of door hardware expands and fire safety continues to make the headlines, **Karen Trigg** outlines the importance of hardware selection and reminds decision makers of how routine checks can save lives.



Door hardware is more than just a cosmetic consideration. In fact, it plays a role in the operational integrity of a building, and more crucially, is a key element of a facility's fire safety and security.

Fire doors and their accompanying hardware in particular, require special

attention. Install equipment that's inefficient and suddenly you could put a whole building's network of fire safety measures at risk. And in light of this year's debate on the Government's planned fire safety reforms, the importance of fire door hardware is now more valued than ever.

The expanding role of hardware is also giving decision makers extra considerations to make when choosing hardware. From ease of integration to the flow of movement – various factors can dictate a decision, potentially overwhelming some. Yet, decision makers must

The performance of self-closers should be checked quarterly

// With various high profile failings being publicised it's clear that a change in approach to fire safety is long overdue"

remember that they have a responsibility to ensure both a door and its hardware operate effectively – even after installation.

Culture change

Fire doors are designed to protect occupants from the spread of fire, smoke and toxic fumes. Because of this, hardware (including handles, closers and hinges) must meet certain standards and Continuing Professional Development (CPD) requirements.

However, phase one of the Grenfell Inquiry has once again reminded us that not all buildings are meeting these requirements. In fact, detailed Grenfell reports have raised questions over the integrity of the fire doors, focusing on the failure of compartmentalisation and broken self-closing mechanisms on flat entrance doors. With incorrect hardware selection or failed maintenance to blame, this case, like many others, should become the catalyst for change – before the safety of others is jeopardised.

Today, hardware is designed to adapt and tackle almost all fire safety, security and operational challenges that a building can throw its way. From access and emergency egress elements to the more unique and defined details such as flow of movement, its importance simply can't be understated. But too often, as with other purchasing decisions, cost can sometimes triumph over quality.

With this in mind, industry experts are calling for a change in fire safety culture. Although there are various elements and touchpoints to consider, one area that must change quickly is how we choose our door hardware. Manufacturers, architectural ironmongers and installers must all recognise that a 'one size fits all' solution doesn't exist and, instead, make adequate, proactive choices.

It never has been acceptable to install substandard equipment. We

must build on industry education and move away from reactive decisions because fire safety requires extra consideration – even after a decision on hardware has been made.

Routine checks

Even with the correct door hardware in place, operational life can be significantly reduced if basic maintenance is neglected. Previously, best practice guidelines have suggested that the performance of self-closers should be checked once every six months. However, in line with the failings of various buildings, the 'Ministry of Housing, Communities and Local Government' has proposed quarterly fire door checks as part of their updated fire safety reforms.

From door furniture to panic and emergency exit hardware, building owners must ensure all doors are well kept and operational to meet health and safety requirements. Most entrances endure repeated use, especially in buildings with a high footfall, which means durability can sometimes become an issue. However, both occupants and qualified teams can undertake a



Visual and functional checks of door hardware are key to a door's fire safety operation

number of hardware checks as part of regular maintenance periods.

Visual inspections can determine whether a door and its hardware has attained any damage. Both the physical door and its surrounding frame and hardware can become damaged over time. However, if its functionality is being effected, the damaged area should be replaced immediately.

Functional checks are also key to maintaining a door's fire safety and operational elements. These checks will reveal whether hardware is still operating effectively, without requiring any undue force. Seals or weatherstripping can sometimes become loose and inhibit the correct operation of a fire door and may need to be replaced. Similarly, some fixings may need to be tightened to ensure that the door can swing freely. By completing these checks, not only will facility managers expand the lifespan of their hardware, but they'll also protect the lives of occupants.

Proactive behaviour

Simply put, the choice of hardware will always be integral to the success of a facility's fire safety. With various high profile failings being publicised it's clear that a change in approach to fire safety is long overdue. With the development of new fire safety reforms, we now should be guiding those responsible to better standards within their own buildings. After all, it only takes the failure of one designated fire door to spell disaster. ■

Karen Trigg is business development manager at Allegion.





LOCK AND LOAD

Kevin O'Reilly offers advice on how to specify the correct electro-magnetic lock



With the requirement for certificated products since the Grenfell Tower disaster, the industry has seen an increase in demand for electro-magnetic locks, with many clients, contractors and door manufacturers requesting the correct fire test and performance test evidence.

There has been an increased use of electro-magnetic locks on escape and security doors, particularly those products with higher holding force. However, with building regulation documents and technical documents for different countries varying slightly there has been confusion over what is acceptable or not.

With the introduction of the standard EN13637, this allows the use of electrical panic hardware systems to be used on escape doors with the inclusion of electro-magnetic locks, electric locks, electrical panic hardware, and electric releases. The standard allows the use of time delays which can be useful when used in residential homes or in nurseries to prevent residents or children from opening the escape door and wandering out. However, it is important that building control approves any product which can inhibit safe egress from a building, regardless of the jurisdiction.

The idea of the EN13637 standard was to:

- improve security
- increase locking forces to the door using high-holding force electro-magnetic locks/electric locks,
- to link with the burglar alarm
- delay egress – allowing a member of staff to investigate before the door is opened.



The benefit of using face-to-face or mortice electro-magnetic locks on escape doors is that the products have no mechanical parts which can fail or be damaged from misuse. Once the power is cut by either the operator at the door or fire alarm, the door releases instantly.

One of the great benefits of using these electro-magnetic locks on escape doors is that the direction of release is in line with the direction of travel and will therefore not be affected by side load forces, unlike electric or mechanical lock cases which incorporate moving parts. In Scotland they have recognised this as a potential safety issue and therefore permit electro-magnetic locks on the escape doors. The technical document states that fail-unlocked electric lock cases should not be installed on any door which provides the only route of escape from the building or part of the building and if the building occupancy is more than 60 people. It is therefore important to check on the country regulations to ensure your specification complies.

Many countries have yet to improve their building regs documentation to include electrical hardware on escape doors, which includes Eire which works to the Technical Guidance Document B. However, installers are also referring to PAS 55 which is a PSA licensing requirement for locksmiths which again only makes reference to mechanical panic hardware, as their document was printed prior to the introduction of EN13637.

In the past people were concerned about the magnetic residual holding or delaying the armature plate from releasing off the magnet, but this is no longer the case as the armature plates have a built-in button which is sprung loaded and pushes off the armature plate when the power is cut. It is important to note that shear electro-magnetic locks are not recommended for use on escape doors as the armature plate can be prevented from withdrawing fully from the door when side load pressure is applied, thus »»

Electro-magnetic locks work without power



GAI RIBA APPROVED CPDs

The GAI have created ten CPD presentations which have all been approved by the Royal Institute of British Architects.

As they are RIBA approved this means that architects will be able to receive double learning points for attending a presentation of the CPD.

These CPDs are all available to member companies to purchase and deliver to their architects and specifiers. These can also be delivered online.

For further details including pricing please contact Douglas Masterson, GAI Technical Manager on technical@gai.org.uk

The following CPD presentations are available:

- Ironmongery specification in a post-pandemic world
- Installation of fire door assemblies and associated ironmongery
- Ironmongery and the impact of the environment
- Ironmongery and the impact of the Internet of Things
- Ironmongery and security
- Ironmongery and accessibility
- Ironmongery for fire and escape doors
- The specifier's guide to access control
- Ironmongery for specialist applications
- An architect's guide to door hardware

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not conforming to any panic or emergency exit standards.

With the introduction of TS010:2019 the Doors and Hardware Federation technical standard for electro-magnetic locks, Securefast was the first company to test to this standard which categorises the products into groups based on the holding force of the armature plate on the magnet and the type of electro-magnetic locks. The most important part of an electro-magnetic lock is its coil which should be 100% pure copper, the less copper or no copper at all means lower holding forces, so remember when you buy a low cost magnet it is probably because of the reduction in copper resulting in the reduction in holding force.

It is also interesting to note that when a Z&L bracket is fitted with any electro-magnetic lock for inward opening doors, the holding force is greatly reduced by up to 70% due to flexing of the bracket.

To improve the holding force and aesthetics Securefast offers a transom housing which can be fitted along the header frame of the door or down the side of the door frame. These spread the load and reduce the flexing of the product which in turn increases the holding force.

For greater holding force and higher security on the face-to-face fixed electro-magnetic locks, Securefast introduced its AEM12100 and AEM12200 electro-magnetic locks which have a minimum holding force when tested of 5900N (1326 lbs/f; 600 kg/f) equal to Grade 4 of TS010:2019 and will easily pass a PAS24 test which requires a minimum holding force of 4200N. A number of door manufacturers are now using the new AEM12000 and AEM12000R mortice electro-magnetic locks on communal entrance doors. These have been tested to Grade 3 of the TS010 standard and have been successfully included within burglary resistance tests.



Before you specify an electro-magnetic lock request full test certification for both the fire and holding force. ■

Check the holding force of the lock as this can vary

Kevin O'Reilly is operations director at Securefast.

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The Foundation in Hardware module is intended to provide a basic knowledge of the subject of architectural ironmongery to enable the learner to go on to further study in that field.

Certificate in Architectural Hardware (Stage 1 & 2)

A commitment which will give you a thorough grounding in the understanding of the what, how and when of ironmongery. Upon successful completion of Stage 1 and 2, learners can undertake the GAI Diploma.

GAI Diploma

This GAI Diploma builds on the product knowledge already gained in the Certificate in Architectural Hardware and seeks to bring application through developing scheduling skills. The course imparts how to write accurate hardware specifications and have confidence in discussing ironmongery requirements with clients.

CPD Programme

The CPD programme is the single most important way that those who have attained the GAI Diploma can develop their abilities and set themselves apart as architectural ironmongery professionals and become a Registered Architectural Ironmonger (RegAI).

Fire Door Inspection Scheme (FDIS)

FDIS provides education which is essential for anyone working with fire doors and escape doors. Transforming knowledge and understanding about the critical role of fire doors and how they can save lives and protect property.

Find out more at [**gai.org.uk/education**](http://gai.org.uk/education)



MODEL BEHAVIOUR

When Building Information Management entered the construction industry it was heralded as the lead of the digital revolution. **Douglas Masterson** investigates progress and how BIM is changing the AI industry.

As part of a series of webinars being prepared for the IAI throughout lockdown, one of the topics I chose to look at was Building Information Management or 'BIM'. I had last presented a seminar on this to our membership in 2015 and I thought it worthwhile to look at what has changed in the hardware industry over the past five years. What I found did surprise me, I noted that there has indeed been change, both in attitudes as well as what is available in respect of BIM in our industry. This article will detail what BIM is as well as outlining how things have moved on in the past five years in our industry.

Background and definition

BIM is the process of creating and managing information digitally across a construction project's life-cycle. It is the digital description of absolutely every aspect of the built asset. With every aspect detailed throughout the development, design, and construction phases it allows a collaborative information sharing platform which is constantly updated.

Through BIM, the construction industry is undergoing its very own digital revolution. BIM is a way of working. BIM is information modelling and information management in a team environment, where all team members should be working to the same standards as each other.

Ingredients of BIM

In many respects, BIM is like a cake – where the finished article is in need of many different ingredients and can be made up from the following outputs and inputs:

Output

- 3D models. Most people when they think of BIM, think of the graphical 3D model, although the reality is that this is just the tip of the iceberg as so much information and data is required below the surface within the BIM process.

- Data output – such as CoBIE or IFC. This is a spreadsheet data format for the delivery of a subset of building model information, rather than geometric model information.

Input

- BIM software. BIM software has intelligence that helps it understand the different elements of a building, and the inter-relationship between them. The completed model will also include information about the construction and finish of each element, and, in some instances, the resources required to build it.
- Online product library. Specific products can have their details downloaded directly in 3D format along with corresponding product data into BIM software such as Revit or Vectorworks. This involves the

creation of a BIM object which is produced by online product libraries.

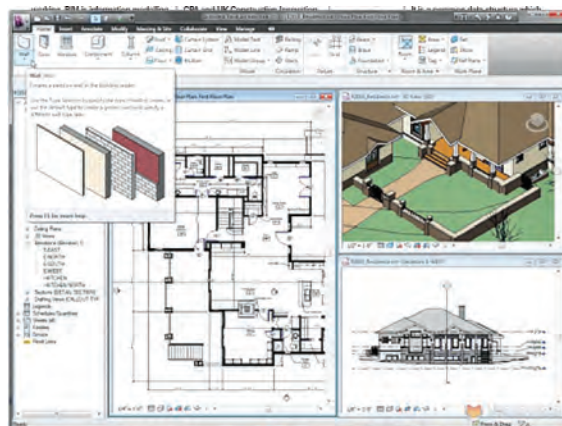
- Data dictionaries. This is a library which allows users to identify objects in the built environment and their specific properties. It works as a semantic mapping tool that connects like-terms based upon their meaning. For example, whether we call a door a 'door' or a 'doorset' the tool understands that these words are both connected to the same core concept. An example of a data dictionary is LEXiCON, which is the CPA and UK Construction Innovation Hub initiative to create an online data dictionary to share product data consistently for construction products in UK. The GAI currently participates in the CPA LEXiCON Working Party to further develop this concept.

- Product Data Templates (PDTs). A PDT provides a method for a manufacturer of providing product data in a structured format. These are created to serve as a common

Through BIM the construction industry is undergoing its very own digital revolution. BIM is a way of working in a team environment, where all team members should be working to the same standards as each other."

Below: Autodesk Revit a Multi-disciplinary BIM software

Bottom: Autodesk scan to BIM is process to convert a pointclouds, which are generated by Laser scanning, to BIM model.



framework for anyone to use to manage construction product related data in a machine-readable format. It is a common data structure which defines the 'properties' such as fire rating and colour and describes any type of product in a way that can be traced to a credible source. PDTs are especially useful for manufacturers who can populate them with the most up-to-date and accurate information about their products. Once complete, this populated template is called a Product Data Sheet (PDS).

- Product Data Sheets (PDSs). A PDS summarises the performance and other technical characteristics of each construction product, material, or component according to specific regulatory, market or client-specific requirements that have been incorporated in the template's mechanism. This PDS can then be hosted on the manufacturer's website as a source of structured information on each product.

BIM and the ironmongery industry

Some elements of the ironmongery industry have embraced BIM, particularly amongst certain door and hardware manufacturers, whilst others have not yet seen the necessity to invest. The following are all areas within BIM which have had significant investment in terms of time or finance within our industry.

Product Data Templates (PDTs)

The GAI has produced 35 BIM Product Data Templates for its membership following a two-year project with a working party made up of several of our member companies. All are available to download free of charge in the members' section of »

// One member company has invested heavily in software which allows an exchange of Revit openings data with hardware and door information."

the GAI website. These include PDTs for products such as hinges, controlled and hold-open door closers, panic and emergency escape hardware, mechanical and electronic locks, acoustic and intumescent seals and many other key products besides.

The GAI is also proactively working with other European Hardware Trade Associations such as UNIQ (L'Union Nationale des Industries de la Quincaillerie) the French hardware Trade Association who are developing French language versions of PDTs or "BIM objets génériques". The GAI has been an active member in a number of separate working parties to develop these alongside their own product experts. The GAI also chairs the UK BIM Fenestration Relevant Authority which was set up in 2017. This is a group of 12 UK Trade Associations set up to create Product Data Templates across the door, window and fenestration industry and we are currently working on creating PDTs for Fire Doorsets which will be available to our members.

BIM objects

Various GAI member companies have now created a series of 3D BIM objects. These include object downloads for ironmongery, automatic doors, washroom products, signage and grab rails. These products can be downloaded directly into BIM Revit type Software by the architect and therefore be specified directly on to their building project.

Various GAI member companies have also created BIM models for download for doorsets, including

those with specialist function such as for mental health or acoustic purposes.

BIM Software

One member company has invested heavily in software which allows an exchange of Revit openings data with hardware and door information. This helps integrate hardware and door schedules directly in to Revit.

Another company has developed software with intelligent Revit door families. These detail information on both face fixed and integrated finger guards and door closers. They have intelligent parameters to help simplify door specification through avoiding specification conflicts, any changes to these components will then be reflected in the 3D model in Revit.

Drivers for BIM

There are many drivers for the use of BIM, not least the UK Government mandate that from April 2016 all centrally-funded construction projects needed be backed up by BIM data to Level 2. Also, Dame Judith Hackitt in her Independent Review of Building Regulations and Fire Safety 'Building a Safer Future' after the Grenfell Tower tragedy called for changes to the building management control process and related record keeping requirements, recommending a digital "golden thread of information" for every building.

This trail of information, from initial design, through construction and to all subsequent changes throughout occupation and use, would benefit all occupiers and other stakeholders and would be essential to ensure that buildings were being adequately risk assessed, properly managed, maintained and kept fire safe.

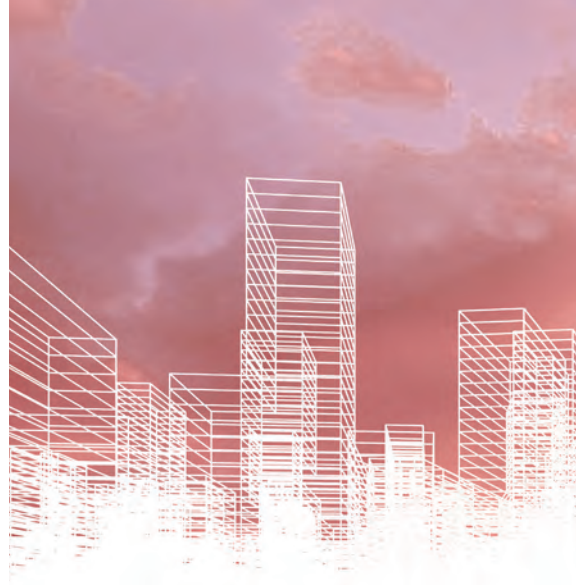
The usage of BIM as a means of supplying this digital information is seen as critical in this process. Data Dictionaries, Product Data Templates and Product Data Sheets are all means of being able to maintain and provide product data efficiently and effectively. ■

Douglas Masterson is the technical manager of GAI.

BIM 101

The GAI offers top tips for members on BIM

- 1** Do not think that BIM will go away, there are too many drivers both nationally and internationally which are pushing for the construction industry to be BIM ready.
- 2** Do not think that BIM is the death knell for ironmongery specification. The skill of producing bespoke schedules for each door based on training, knowledge and experience is not a BIM online exercise.
- 3** Research BIM online – there are lots of websites and publications.
- 4** If you are an ironmonger and are asked for BIM information consult the manufacturer on what is available.
- 5** If asked about BIM information by your architect, check what data they are
- looking for. It may be that the information in your ironmongery specification is sufficient.
- 6** If you are a hardware product manufacturer don't assume you will have to invest heavily in the creation of 3D models. Many architects are more interested in 3D models of structural elements such as windows and doors rather than the hardware on it.
- 7** Look at getting your existing product data structured as this may be all that is required of you.
- 8** Download GAI Product Data Templates and insert your data into them to create your own Product Data Sheets. This will help you to be 'BIM ready' if you are asked.
- 9** Don't be afraid of BIM.
- 10** Don't think that BIM is the future – it is very much here and now.



ADVANCE YOUR CAREER - ENROL TODAY



Progress through each course to build your knowledge and skills.

Enrol on the Guild of Architectural Ironmongers (GAI) Education Programme to gain an internationally recognised qualification, that will help you to stay at the forefront of British and European standards and legislation in architectural ironmongery. From locksmiths, distributors, architectural ironmongers to wholesalers and manufacturers, we are committed to supporting your professional development.

"The GAI education programme is not just for a particular age, a specific job role or for one type of business. We want our education programme to be inclusive, learners can complete the course at any time in their career. There's always the opportunity to gain new knowledge."

David Stacey
Product Sales Director UK & Ireland,
dormakaba

"The course was very straight forward and I'd definitely recommend it, especially to people in sales and other customer facing roles. It gives you a basic understanding of hardware that means you can help with all technical queries that come your way. It's also a great stepping stone to the Diploma, which I will definitely be doing in the future."

Jasmine Downer
Customer services department,
SDS London

To view the full prospectus visit www.gai.org.uk/prospectus or contact us on
T: +44 (0)20 7033 2480 E: education@gai.org.uk



NEW PRODUCTS >>

FRANCHI LAUNCHES COVID-SAFE PRODUCTS

Franchi plc has put together a raft of products to adapt doors with lever and pull handles to touch free operation, plus a suite of coatings and finishes which make door furniture safer and more COVID-secure.

Franchi Freehand is a range of products that convert lever and pull handles to hand-free operation – either using a forearm or foot. The Franchi Free Hand FR101 is a forearm shield for lever handles while the FreeHand FR102 works with pull handles. Both offer a simple temporary solution to the problem of infection transmission from hand to handle and from handle to hand. They can be installed on any 19-25mm diameter or square lever handle (FR101) or 19-38mm diameter round and some, also some square and oval section pull handles (FR102).

The Franchi Free Hand FR103 Lever Handle Door Opener is an innovative device that offers foot operation of a door for hands free functionality. A lever, pressed with the foot, operates the lever handle and allows the door to be opened with the foot. The Franchi



Freehand StepNpull can also be used on sliding as well as pivoting doors when fitted horizontally. Manufactured in robust stainless steel, the Franchi Freehand StepNpull is available in silver or black.

www.franchi.co.uk

UNION LAUNCHES THREE NEW DOOR CLOSERS

UNION has strengthened its range with the launch of three new door closers which aim to solve a number of critical challenges faced by installers.

The firm has released to market CE26V, SC-CE3F and CE4F-E. The SC-CE3F door closer, is a concealed solution, allowing buildings to benefit from the advantages of a fixed power size three door closer without compromising on aesthetics, suitable for high-end residential and commercial applications. It is more compact than comparable products.

The new CE26V rack and pinion door closer is an easy-to-fit solution that can be set to any power size between 2 and 6, in line with the EN 1154 standard governing the requirements of controlled door closing devices. It is suitable for anything from lighter doors of 20kg to heavier doors up to 120kg and ideally suited for new projects or retrofit applications. The CE26V is also CE and Certifire tested for 120 minutes on timber doors in all three fixing positions.



The CE4F-E electromagnetic door closer is a dual-function solution that can be set to one of two modes: hold-open or free swing, ideal for hospitals, hotels, theatres and other high-traffic public areas. By removing the need for physical contact, it also reduces the spread of germs. The CE4F-E also complies with the demands of BS EN 1155.



www.uniononline.co.uk/en/site/union-online/products/door-closers/



ASSA ABLOY LAUNCHES SUPPORT APP

ASSA ABLOY Opening Solutions UK & Ireland has launched a customer support app designed to tackle problems associated with Covid-imposed rules.

Free to download on Apple and Android mobile devices, the app enables customers to contact the right customer service team within ASSA ABLOY in the UK. The app

provides customers with remote technical product support via live streaming, alongside instant access to product resources.

Its Door Hardware Group division will be the first to go live on the new app, enabling customers to contact all its renowned brands from one place. This includes UNION, ASSA, Dale Hardware, Excel Architectural Hardware, Exidor, Trimec, Adams Rite, and Securitron.

Once downloaded, customers can use the app to directly contact the right department via phone, email or the new live chat and video call features. Additionally, they can find a direct link to the technical support team, who can offer remote diagnosis and issue resolution using the new live stream contact option. The live stream helps overcome site visit restrictions due to Coronavirus.

Customers also have direct access to technical product information and certifications.

To download the ASSA ABLOY Customer Support app, please visit Apple Store or Google Play.

www.assaabloy.co.uk

CODELOCKS NEW MECHANICAL LOCK

Codelocks has released KL15 KitLock, a keyless access solution for personal lockers and cabinets. The KL15 mechanical lock joins the KitLock by Codelocks range. It features an anti-vandal handle and is suitable for indoor and outdoor applications.

Specifically designed for personal use and ideal for storage lockers, the KL15 is a Private Function Lock. The user can set their own unique four-digit code and change this as often as they wish – making it easy to use. The code is entered via four wheels (allowing for up to 10,000 unique combinations) and the red and green indicators denotes whether the locker is locked or unlocked. The KL15 also features a code retrieval function, allowing the user to determine the combination with a code finder key, in case of a forgotten code.

The KL15 is straightforward to install and can be either surface or flush mounted, making it suitable

for storage solutions within the home, as well as education and workplace environments. When surface mounted, the ergonomically designed trim plate also acts as an easy grip handle allowing effortless opening.

It offers value for money for applications that don't require all the functions of Codelocks' more feature-rich electronic locker and cabinet locks, such as the KL1100 KeyPad.

www.codelocks.co.uk/kl15-kitlock-mechanical-combination-lock



GAI EDUCATION

Develop your staff and company with the GAI's internationally renowned and respected education programmes. The best place for those in the architectural ironmongery industry to learn with a range of online training resources.

Foundation in Hardware

The Foundation in Hardware module is intended to provide a basic knowledge of the subject of architectural ironmongery to enable the learner to go on to further study in that field.

Certificate in Architectural Hardware (Stage 1 & 2)

A commitment which will give you a thorough grounding in the understanding of the what, how and when of ironmongery. Upon successful completion of Stage 1 and 2, learners can undertake the GAI Diploma.

GAI Diploma

This GAI Diploma builds on the product knowledge already gained in the Certificate in Architectural Hardware and seeks to bring application through developing scheduling skills. The course imparts how to write accurate hardware specifications and have confidence in discussing ironmongery requirements with clients.

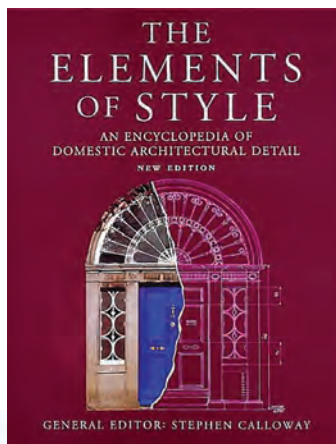
CPD Programme

The CPD programme is the single most important way that those who have attained the GAI Diploma can develop their abilities and set themselves apart as architectural ironmongery professionals and become a Registered Architectural Ironmonger (RegAI).

Fire Door Inspection Scheme (FDIS)

FDIS provides education which is essential for anyone working with fire doors and escape doors. Transforming knowledge and understanding about the critical role of fire doors and how they can save lives and protect property.

Find out more at [**gai.org.uk/education**](http://gai.org.uk/education)



3. The GAI Education Programme
Why not sign them up for an internationally recognised architectural ironmongery qualification?

The GAI Education Programme provides all of the tools required to specify and schedule architectural ironmongery in any project with complete confidence. Enrol them on either Foundation in Hardware, The Certificate in Architectural Hardware (CiAH) or the the GAI Diploma.

4. The Architecture Reference & Specification Book updated & revised: Everything Architects Need to Know Every Day

Most architectural standards references contain thousands of pages of details, overwhelmingly more than architects need to know to know on any given day. The updated and revised edition contains vital information that's essential to planning and executing architectural projects of all shapes and sizes, all in a format that is small enough to carry anywhere.

It distills the data provided in standard architectural volumes and is an easy-to-use reference for the most indispensable--and most requested--types of architectural information.

5. Charity donation

If the architect/AI in your life would prefer a charitable gift you could make a donation on their behalf, for example, Habitat for Humanity. Habitat for Humanity is a nonprofit organisation that helps families build and improve places to call home. www.habitat.org/donate/ ■

PRESENTS OF MIND

Looking for a last minute Christmas gift for the AI or architect in your life? Here's five festive finds they'd welcome in their stocking

1. The Elements of Style: An Encyclopedia of Domestic Architectural Detail

This comprehensive visual survey features more than 3,000 drawings and historical engravings and 1500 photos to offer a guide to every part of a building, period by period, of the key styles in American and British domestic architecture, from the Tudor period to present day. It includes the

major components, such as doors, windows, walls, floors, ceilings and staircases, as well as moulding and door hardware.

2. Zaha Hadid Table Centrepiece

The design of the "Niche" sculpture by the late architect Zaha Hadid is composed of five separate elements that can be aligned to form a single piece or arranged separately.



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Electro-magnetic hold open
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Offering all the benefits of a cam-action closer invisibly inlaid in the door and frame, the ITS 96 system ensures architectural ambience is preserved whilst a highly efficient adjustable powered cam action mechanism ensures ease of operation with **secure closing**. Easy access can be further enhanced with electro-magnetic hold open and free swing options.

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