Housing and residential property journalist – Pete Apps

Circle of despair

The repairs crisis at Circle housing association was a huge scandal at the turn of the year – attracting national media attention and several debates in parliament.

Pete decided *Inside Housing*, as the primary trade magazine for the social housing sector, needed to tell the inside story of this problem, and therefore set out to get to the heart of it.

The piece is the culmination of many months of classic investigative journalism. Pete met and built trust with tenants and contacts inside and outside Circle, persuading them to send him classified documents which told the story of what had gone wrong and how long it would take to fix. The story also shone a light on the failure of the government's regulator to act.

In the end, Pete produced a meticulously detailed and captivating feature which served to launch the magazine's new branded investigation series: IH Spotlight.

Luminus: into the light

This piece was another example of Pete proving the specialist media's devastating ability to hold underperforming organisations to account. Luminus, based in Hertfordshire, and its enigmatic chief executive, had always been a curiosity in the housing sector, but the situation got much more serious when it emerged it had failed to ensure gas safety in more than 1,000 homes.

Pete's eviscerating profile of the organisation – which relied on both public and leaked documents and a multitude of sources familiar with the landlord – heralded the end. Longstanding chief executive Chan Abraham was fired just a month later and the organisation is now heading for a merger.

The story demonstrates Pete's ability as a writer and an investigator. It also shows the fearlessness of *Inside Housing* as a title, and Pete's sound media law knowledge – allowing him to put a commitment to rigorous journalism above fear of a potentially litigious target.

The offsite rule

The future of the housing and residential world is the factory – at least if you believe some of the hype around offsite manufacturing.

Pete's story on the growing number of new entrants to the offsite sector provided the perfect state of the nation for this fledgling industry.

It is a classic piece of trade magazine journalism, detailed, meticulous and eminently readable, based on expert sources and focused on the key industry issues and full of scrutiny of big promises. It demonstrates *Inside Housing*'s ability, prized by its readers, to keep them ahead of the game in terms of new developments in the housing world.

Christopher Toms, residents' spokesperson at Old Ford

INSIDE HOUSING SPOTLIGHT

CIRCLE OF DESPAIR

The inside story of Circle's recent repairs troubles holds a cautionary tale for the sector. *Pete Apps* reports

It is a bitterly cold day when *Inside Housing* visits Joanne at her home in Bow, east London. The heating is turned well up, and this must be something of a relief. Throughout October, November and half of December, she and her family had been without heating and hot water.

"We had to have extra clothes on all the time. I bought electric blankets for the bedroom and my dad bought electric heaters for downstairs," she says. "We've all been ill - coughs and colds and chest infections."

Joanne is not alone. In fact she is at the epicentre of one of the worst repairs crises in the sector's history. In December, 18 months after a previous downgrade for repairs failings and just weeks after completing the biggest ever housing association merger, Circle (which has since merged with Affinity Sutton to create Clarion Group) was placed on regulatory notice by the Homes and Communities Agency (HCA) for widespread failure in its repairs service.

This was an unexpected step for a regulator which saw its powers to police consumer affairs severely curtailed in 2011, and tells a story of unprecedented levels of concern about the failure of the service.

Inside Housing has poured over scores of documents and spoken to tenants, key stakeholders and others to build up a picture of what went wrong.

Large-scale trouble

What emerges is a story of failure which raises important questions about housing associations' ability to maintain basic services as the regulator's role in consumer affairs shift.

At the heart of the crisis are 4,000 homes in Bow. These were built through the regeneration led by housing action trusts under Tony Blair's Labour government, passed on to Old Ford Housing Association in 2004, and then to 70,000-home Circle with the promise of further regeneration.

The problems for tenants of these homes first came to light in 2015. This followed the appointment of Kier on a £350m repairs contract in 2013, replacing Mears, which had carried out repairs to the estates for years.

> "We've all been ill - coughs and colds and chest infections."

Christopher Toms, who acts as unofficial spokesperson for the residents' group, says the repairs service had functioned reasonably well under Mears, with local engineers who knew the area and the properties.

Joanne's issues are typical of the type of problems experienced since. But it is the scale of it which drew the ire of the regulator. A tenants' group in Old Ford reports that on a recent walk around the estate, they saw that many of the homes had some issue with repairs, especially boilers.

The failings before April 2015 are a matter of public record thanks to an HCA judgement that year, focusing on emergency and urgent repairs and specifically calling out Old Ford as a troubled area. That judgement led to the landlord being downgraded and listed as non-compliant for governance. ▶

PHOTOGRAPHY: SIMON BRANDON

Mark Rogers, then-chief executive, pointed the finger at the contract, which gave Kier responsibility for Circle's stock throughout London. "That concept of a partnering contract that holds you into a certain route is something I don't want to see again," he told *Inside Housing* at the time.

The Kier deal was terminated and responsibility for routine repairs in this area was handed on to another contractor. But Kier Gas, a subsidiary of Kier, continued to provide boiler repairs. Property consultancy Savills was also appointed at the cost of several million pounds to help implement the improvements until June 2016. The performance data coming through to the regulator was positive.

But on the ground, the reality was different. In April last year, Marc Francis, a local councillor, emailed the HCA giving the names and addresses of 10 tenants, all of whom were vulnerable "either through age or disability" and who had been without heating and hot water for weeks and "in some cases months" throughout the winter. "Several of these tenants became ill as a result of the lack of heating, and all have endured serious stress and anxiety," he wrote.

Perfect storm

Kier Gas was finally replaced by Keepmoat in the summer of 2016. A spokesperson for Kier says it was recording 99.91% compliance at this point. But residents say problems persisted. It is understood these were a result of a perfect storm of failings. A historic failure to implement a proper replacement programme meant boilers were prone to frequent breakdowns and new parts were difficult to secure.

In addition, Circle's records of their own boilers were outdated, which meant there were too few engineers at first, and they struggled to handle the level of demand. Gas servicing which would normally be done in summer was not carried out, leaving too much to do in the busy winter.

John Finnerty, divisional director at Keepmoat, says it transferred across employees from the previous contractor, and has recruited more people since. He adds the contractor is "committed to delivering excellent service now and in the future".

But the upshot of the early problems was dozens of tenants, some of them vulnerable, spending the winter shivering in unheated homes.

As Mr Francis' emails show, the regulator was made aware – in detail – of concerns with gas servicing at Old Ford last April. Concerns around another Circle estate – Orchard Village – had also long been communicated. But parliament has placed such a high bar on the regulator's power to act on these matters – it must be convinced there is serious detriment to tenants and has a duty to "minimise interference" – that it decided it could do nothing. A spokesperson for the regulator says decisions to intervene are "always based on the facts" and a "thorough investigation" was carried out when the issues were raised in April.

On 23 June 2016, Fiona MacGregor, director of regulation at the HCA, declined an appeal for it to get involved, saying it would not be "proportionate" to do so as "Circle is engaging with the regulator to provide assurance that it is addressing identified deficiencies in the repairs service". She recommended that the Housing Ombudsman Service dealt with the complaints.

"All [tenants] have endured serious stress and anxiety."

Six days later, Circle was upgraded to a compliant rating following its 2015 downgrade. Despite residents' concerns, the regulator said it was satisfied Circle had "significantly improved the performance of its repairs and maintenance service".

Amid all of this, Circle was embarking on the most ambitious merger deal in the sector's history. Its plan to join with Affinity Sutton to create a 125,000-home behemoth to be known as Clarion Group was rubber-stamped by the HCA on 30 September, and completed in late November.

But during this period, further evidence about Circle was received by the HCA, prompting it to restart its investigation. It wasn't until three weeks after the merger with Affinity Sutton was signed off that it finally published its notice, finding that, despite the upgrade, the association failed to meet the government's basic standards for services to tenants.

The episode puts the spotlight on the role of the HCA. Tenants, MPs and councillors have all criticised its failure to act sooner, but the HCA maintains it acted within its brief, which is to regulate governance structures and financial viability. There are many who claim, on this evidence, that the bar is set too high.

All involved now recognise the scale of the problems inherited from Circle. In a letter to the regulator, seen by *Inside Housing*, Clarion said it could "make significant inroads" into the backlog of complaints by April. But it warned sustained improvement would require "investment" and "new systems".

Neil McCall, chief executive officer of the housing association business at Clarion, says Affinity Sutton became aware of the repairs issues before the merger. He says "significant progress" has been made in addressing them, with "positive feedback" from tenants, but adds that "all of these issues can't be resolved overnight". And they are big issues to resolve.

Litany of problems

In 2015, Colin Nickless bought a share of a three-storey modern townhouse in Orchard Village – the product of a six-year regeneration project beginning in 2004 in Rainham, a few miles east of Old Ford and the second focal point of the problems. He moved to the estate to secure a place in a nearby specialist school for his five-year-old daughter who has autism and cystic fibrosis.

Since then, Mr Nickless has experienced a litany of problems with his home. Among the most serious are leaky pipes and poor ventilation, which have caused damp so severe that his daughter has been hospitalised twice, and may have permanent health issues as a result.

The site is also being investigated for an apparent exposure to methane, which Clarion has appointed experts to investigate. A report from the fire brigade on fire safety is also being prepared, amid warnings of broken fire alarms and smoke vents, and poor fireproofing between homes. Other residents are pursuing legal action against Circle after experiencing vermin, and sewage pouring into kitchens.

Clarion recognises these issues and says it has moved to ensure residents get "a swift response… as it was clear

Colin Nickless at his home in Rainham

this has not always been the case previously". New contractors have made sure work is "either complete, in progress or booked" in most affected properties, the landlord says.

Given this swift response post-merger, how were the problems allowed to get so bad? As in Old Ford, residents point the finger at a number of culprits, including Circle's call centre.

This call centre, known as the Orchard, is frequently named as the root of Circle's recent strife. It was flagged by the regulator in the notice released in December and cited as a major issue in a leaked letter from former Circle and now Clarion chair, Sir Robin Young.

Circle had long decided to merge its nine regional teams into one call centre. Leaked minutes from a customer engagement panel in March reveal its own customer excellence manager warned the new arrangement, with a staff of just 20, may "not help" in dealing with high volumes of complaints. Clarion says call waiting times have reduced since the merger, with 68% now answered within 30 seconds, but this was not always the case.

When Mr Toms of Old Ford tried to get in touch to report an urgent repair to his elderly mother's supported housing accommodation (a previously botched job had left the heating stuck on full blast) he was left on hold all day. When he did get through, he recalls the call centre operative not knowing who the relevant contractor was. Similar experiences are reported by many other tenants.

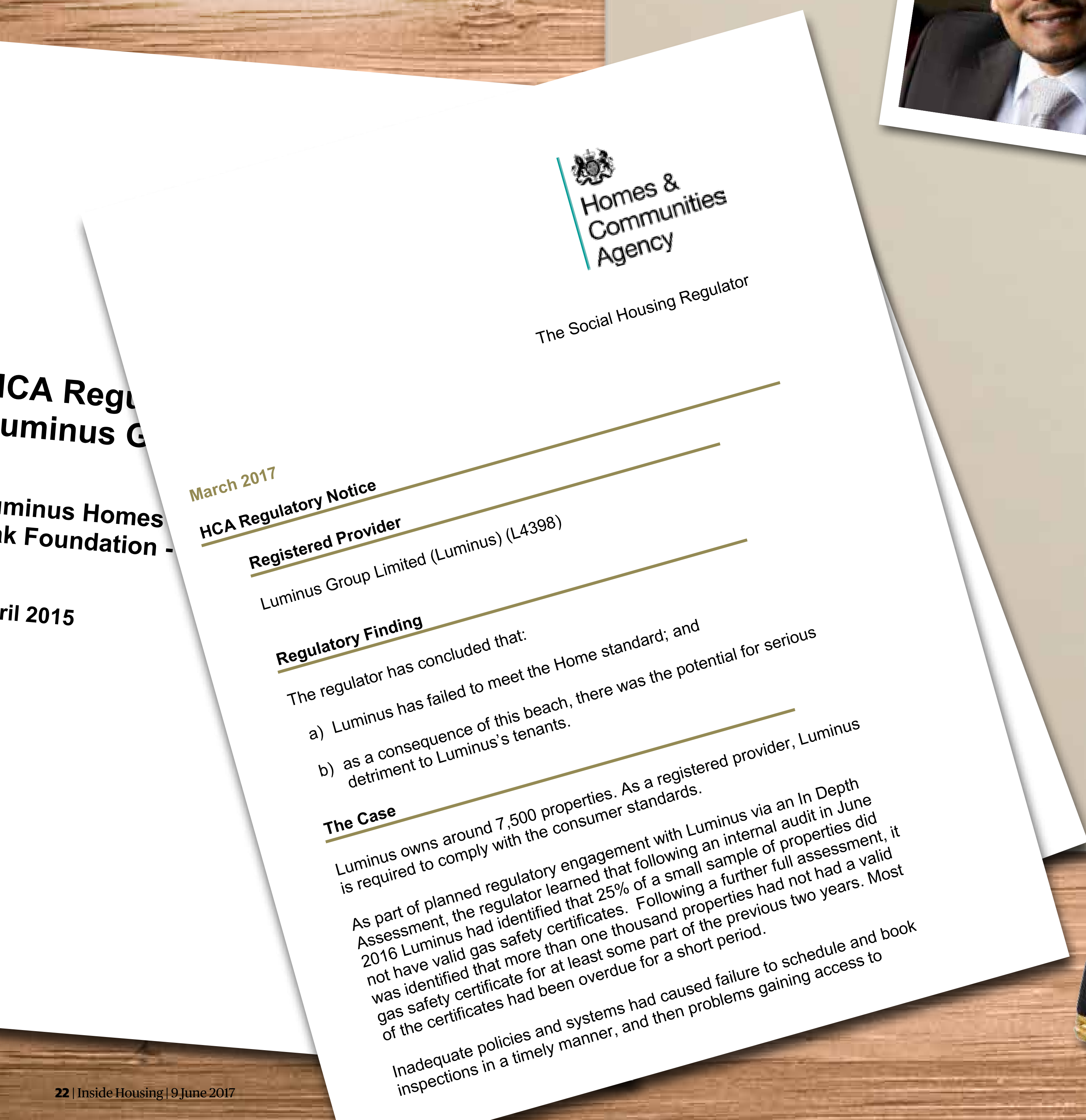
"All of these issues can't be resolved overnight."

Issues such as this – and the failure to respond to clear problems in Old Ford, Orchard Village and elsewhere – paint a picture of a landlord losing touch with its services on the ground. In the year before the merger, Circle was collapsing its local board structure, reducing operating costs and making changes in response to HCA concerns.

While this may have better insulated against the fear of financial failure that troubles executives and regulators, Circle is a harsh reminder of the damage that can be inflicted if a landlord fails in its most basic duty: to keep its tenants safe and warm. ■

INTO THE LIGHT

Luminus is one of the housing sector's most unusual players. *Pete Apps* finds out whether recent regulatory problems might demystify the Cambridgeshire landlord


Homes & Communities Agency

The Social Housing Regulator

March 2017

HCA Regulatory Notice

Registered Provider

Luminus Group Limited (Luminus) (L4398)

Regulatory Finding

The regulator has concluded that:

a) Luminus has failed to meet the Home standard; and

b) as a consequence of this beach, there was the potential for serious detriment to Luminus's tenants.

The Case

Luminus owns around 7,500 properties. As a registered provider, Luminus is required to comply with the consumer standards.

As part of planned regulatory engagement with Luminus via an In Depth Assessment, the regulator learned that following an internal audit in June 2016 Luminus had identified that 25% of a small sample of properties did not have valid gas safety certificates. Following a further full assessment, it was identified that more than one thousand properties had not had a valid gas safety certificate for at least some part of the previous two years. Most of the certificates had been overdue for a short period.

Inadequate policies and systems had caused failure to schedule and book inspections in a timely manner, and then problems gaining access to


Homes & Communities Agency

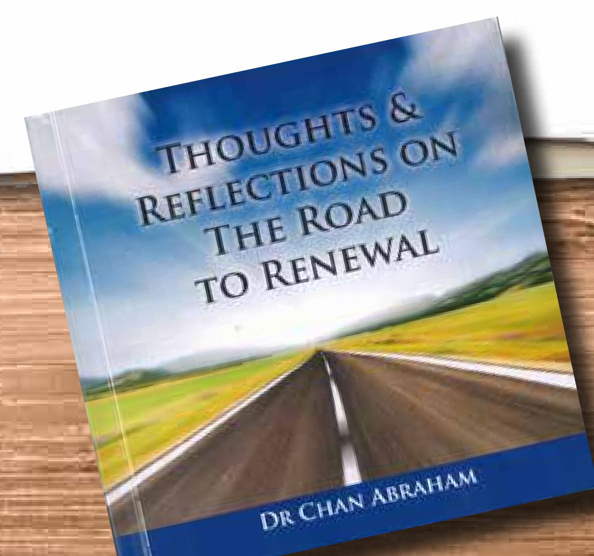
The Social Housing Regulator

March 2017

HCA Regulatory Judgement on Luminus Group Limited L4398

Including the following registered entities

Luminus Homes Limited LH4253
Oak Foundation L4399



Huntingdon, Cambridgeshire. "What's the worst that can happen? And then what? Shackle your fears, murder your anxieties and drink the elixir of celebration that you are alive!"

These are the words of Dr Chan Abraham, chief executive of housing association Luminus and by some distance the sector's most enigmatic figure. They are published in his 2014 pocket book, *Thoughts & Reflections on the Road to Renewal* – a selection of quotes from sources as diverse as Confucius, Rosa Parks, Pele and *The Bible*, but mostly Dr Abraham himself.

On the back cover, the blurb says the book is "for anyone wanting to live with hope and inspiration in the face of the modern world's slide into mediocrity and cynicism". It claims that Dr Abraham is "recognised as one of the 21st century's key advocates for a renaissance of leadership in business, government, politics and faith communities".

These are lofty claims for the leader of a 7,500-home stock transfer housing association which reported a £6.5m deficit for 2015/16 and is currently non-compliant with the regulator's basic standards for governance. But they will not come as much of a surprise to those who have followed Dr Abraham's career.

Face of the brand

For more than 17 years he has led Luminus from its office in the Cambridgeshire town of Huntingdon. If the organisation's publicity is to be believed, over that time it has been delivering a quasi-spiritual service to Huntingdon's social housing tenants. Its mission statement, or "2020 Vision", is to "change the world where we are" by mending aspects of "broken Britain". According to the statement, it has "energised residents, business partners and the wider community to develop a sense of purpose, hope and fulfilment".

But in March this year, housing regulator the Homes and Communities Agency (HCA) took a dimmer view of its record. Luminus, it said, had allowed more than 1,000 properties to languish without a valid gas certificate for at least some period over the past two years. Considering the number of properties affected and the systemic nature of the problem, the HCA said this was a breach of its Home Standard and exposed tenants to the risk of serious harm.

The regulator also came down hard on the organisation's governance generally, ranking it non-compliant and deploying unusually severe language.

"Luminus does not have an effective system of internal control," it said. "Material weaknesses in the information and material presented to the board have not been effectively challenged… The regulator has concluded that board members of Luminus are not discharging their duties with adequate skill."

The association had previously received compliant G1 (for governance) and V2 (for viability) gradings after regulatory assessments in February 2016 and April 2015. Its governance had been downgraded to a compliant G2 in August 2013, with the HCA saying it needed to improve its treasury management. This prompted an angry response from Luminus, which accused the HCA of basing its judgement on "factual inaccuracies".

So between Luminus' own self-promotion and the regulator's stinging criticism, what is the truth about Huntingdonshire's largest housing association?

Given that he has imprinted his personality so firmly on the organisation, any discussion about Luminus is inevitably also a discussion about Dr Abraham. The company's founding father is certainly an interesting figure. He started his career working for the Greater London Council in "one of the most violent areas of London" in the 1970s, aged just 17.

From there, he moved through several public sector jobs, finally becoming director of community services at Huntingdonshire Council. In 2000, the council transferred its housing stock to Huntingdon Housing Partnership, the company he founded, which later became Luminus. This, he feels, was divine power at work.

"I would say it was a guiding power at work. I prayed all the way through."

"It wasn't difficult to get the local politician's approval. 'It's your neck on the block'," he later told the *Church Times* in an interview about the stock transfer process. "But the tenants voted for the scheme, too. I would say it was a guiding power at work. I prayed all the way through."

Dr Abraham is a man who apparently does not fear accusations of self-promotion. Luminus has regularly advertised itself in the media, with its chief executive's image front and centre, sometimes sponsored by his consultancy Leadership International. In one instance, in 2007, it pictured his face carved on Mount Rushmore alongside other Luminus staff (above right).

In the office, he runs the famous Luminus staff conferences, giving inspirational talks, leading staff in a salute known as the 'Luminus wave' and once – in an infamous incident in 2009 – slipping from the stage and cutting himself quite seriously after impaling his leg on a pole. (He later issued a news update on his health to staff "to give people the reassurance that their leader had not been taken away from them".)

Dr Abraham is also the chair of Daybreak Community Church – a Pentecostal church registered to the Luminus head office, which had income of £24,800 last year, according to the Charity Commission website. Its founding documents say its number one aim is to "advance the Christian faith" and Dr Abraham is joined on its board by another Luminus board member, Janet Boston.

In addition, Dr Abraham has had a busy recent career in Huntingdon. According to Companies House, he has had relatively recent directorships at more than 30 companies in and around the town. The Companies House website says he remains a director at seven, three were dissolved in October last year, and he resigned from 15 on 16 March 2007.

In a statement, Luminus says it has over time "appointed board and executive members to manage discrete parts of the business", with some created in the early 2000s "to protect the Luminus brand". Many of these went dormant in 2007, which explains the 15 resignations. Six of Dr Abraham's current directorships remain on Luminus subsidiaries and the other is a registered charity unconnected with the organisation.

Alongside the issues raised by the regulator, the organisation has a history of some local disputes with residents – many of them fairly unexceptional – the most notable being a long-running saga over its plan to demolish sheltered accommodation in the village of St Ives, and replace it with extra care accommodation.

In 2014, Luminus settled a County Court claim with one of the residents for just over £5,000 after previously denying her compensation payments for the loss of her home.

Claims that it had 'pressurised' other older tenants into not accepting payments were not upheld following an independent investigation commissioned by the local council in 2014.

Commercial investment

In its judgement, the HCA was emphatic about the organisation's governance. "The board is unable to explain compellingly how financial and governance arrangements operate effectively within the group's legal and governance structures," it said.

Several sources, at least one with direct knowledge of the organisation, had raised concerns to *Inside Housing* about the suitability of Luminus' board members, their experience of social housing and their ability to hold executives to account. As the regulator's current regulatory system places a great deal of reliance on boards' ability to scrutinise and manage their own affairs, the make-up of Luminus' board is worth a look.

Before recent changes, the list of members published on Luminus' website was not exactly flush with housing sector experience. Luminus' chair is Michael Forrest, director of studies at a local grammar school. Its highest paid member – receiving £4,125 for his services in 2015/16 – was David Vessey, a parish councillor and technical advisor to an electrical accessories company.

The rest of the board contained three accountants, a medical doctor, a former deputy leader of Huntingdonshire District Council, a reverend and a tenant board member who has worked as a railway controller, and Dr Abraham himself.

By contrast, Cross Keys Homes – a similar sized organisation based in nearby Peterborough – is chaired by the former chief executive of a government regeneration agency with wide experience in the housing sector. The rest of its board includes a director at a large Birmingham-based housing association, the former mayor of Peterborough who has significant housing experience, a housing consultant with substantial local authority experience, and two accountants.

There has been recent progress, however. Since the regulatory downgrade, Luminus has appointed three new board members with "sector-specific experience in governance, finance and treasury management and organisation design". Sue Lock, former chief executive of Wulvern Housing Association; John Simpson, former chair of Sovereign Housing Association and former chief executive of Den Norske Bank; and Martin Tiplady, a senior non-executive at Midland Heart, have all joined the board. The organisation said its governance is being "comprehensively reviewed" and said it "continues to work closely and co-operatively with the HCA".

It is understood the regulator was extremely dissatisfied with Luminus' governance after it issued the judgement and planned to exert pressure by holding the organisation's grading at a non-compliant G3 until changes were made to allow the board to operate effectively.

In its judgement, the HCA also flagged a mysterious £48m "commercial investment" in an external property development company, made through an intermediary.

"The board has not demonstrated it properly understands the risks and benefits of this investment, and whether it is delivering Luminus' objectives," the HCA said. "The board does not receive sufficiently detailed information to allow it to effectively monitor and make decisions on the investment, and has not effectively challenged that situation."

This financing arrangement remains a mystery, with Luminus declining to release details of what the money was for or to which company it had been loaned. It does not appear in the accounts of Luminus, or its subsidiaries, which cover the accounting period ending March last year. The loan is likely to have been made outside this period.

The board was also criticised by the HCA for its failure to prevent or report the gas safety failings, the biggest of their kind by a housing association in recent years.

According to the HCA, at least 1,000 properties were without a valid gas safety certificate – each instance breaching the Gas Safety (Installation and Use) Regulations 1998. The Health and Safety Executive (HSE) said a breach of these regulations could result in a substantial fine and/or a custodial sentence. So far, all Luminus has faced is the regulatory notice from the HCA, but following complaints by a local councillor, the HSE stepped in. Details of the case were passed to one of its inspectors in March.

"Luminus does not have an effective system of internal control."

Luminus says that all its homes are now compliant with statutory gas safety requirements, following a "comprehensive review of policy, procedures and systems". It says that to prevent the issue recurring, appointments are being booked eight weeks in advance with "a dedicated helpline" set up to assist tenants.

While some progress is being made then, this was clearly necessary given the scale of the regulator's concerns. With no date yet set for regrading, however, it may be best to steal another pearl from the words of Dr Abraham: "Choosing to change could be the doorway to a new way of living." ■

THE OFFSITE RULE

As the early adopters of offsite and modular technology grow, *Pete Apps* takes a look at the state of the industry and asks what the future holds

ILLUSTRATION: DANNY CAPOZZI

Gallions Reach in east London is home to a slightly dilapidated retail park, a disused gas plant and floodplains which stretch out to the Thames, broadening to the sea as the river leaves London.

Among this open space, which has a rare sense of desertion and sparseness for those used to this part of the capital, are two neat, modern, semi-detached houses, standing incongruously alone. Two weeks earlier, they were not here at all. These houses – and others like them – help explain why there is so much excitement about offsite construction.

The facts of the housing crisis are familiar to *Inside Housing* readers. To restate the problem, most credible experts think we need somewhere between 250,000 and 300,000 homes a year in England to meet demand. But despite the best efforts of policymakers, we are currently bobbing along either slightly south of 200,000 or north of 140,000 depending on which set of government statistics you prefer.

A panacea

To a numbers-obsessed government then, offsite represents something of a panacea. It offers speed, machine precision quality and a solution to one of the problems that has long-plagued the housing sector: the shortage of skilled labour. Earlier this year, influential construction consultant Mark Farmer penned a report on construction skills in the UK it was called *Modernise or Die*; in the view of many, offsite represents the former option.

In Sweden, 80% of all detached houses have some factory-built element. In Japan, it is 16%. But in the UK it is just 5%. And, as is often the case with apparently innovative housing policy, offsite is not a new concept. In fact, it has been a part of housebuilding in one form or another since the end of World War I without ever really catching on. But with some big players coming into the sector over the past couple of years, there is optimism this may change. So is this really the birth of a new modular era or another false dawn?

The two homes at Gallions Reach were built by Ilke, a new joint venture between contractor and developer Keepmoat and established offsite provider Elliott. For several decades, Elliott has been putting up offsite buildings of a variety of types, most famously McDonald's restaurants. Its tie-up with Keepmoat is, however, its first major expansion into the world of residential.

The company is building up slowly. It expects to deliver around 60 units this year. At present, it is operating out of Elliott's existing factory, but it is in talks about setting up mini plants with local authorities where there could be high demand for offsite. The idea is that localised delivery could cut development times further.

Ilke is the most recent of several new entrants to the market in the past year. The best known is Legal & General (L&G), whose giant factory in Leeds has started to crank out its first homes after a lengthy set-up phase.

At an earlier stage in the development process is the consortium made up of housing association Your Housing Group (YHG), renewable energy company WeLink and Chinese government-linked China National Building Material Company. Despite big ambitions, the consortium has kept quiet about progress so far – it declines *Inside Housing*'s request for an interview, and refuses to answer questions about its plans, offering only a short prepared statement.

Nonetheless, with these players coming in alongside others with slightly smaller ambitions, the infrastructure is being put in place for offsite to grow. What Ilke, L&G and the YHG consortium are proposing is what offsite specialists describe as "fully volumetric" solutions, something different from the timber and steel frame factories that have been the norm in the past.

Fully volumetric is jargon for a home that is assembled entirely within the confines of a factory and then transported to the site and dropped into place. The level of fitting out is quite incredible in its detail – homes arrive on the back of a lorry with curtains, wallpaper and white goods already installed. It is what one Keepmoat executive describes as "plug in and play" housing. The plug-in aspect of this is, of course, quite complex – requiring full utility connections – but with a headwind and good preparation, Ilke believes this can all be achieved in a fortnight.

Quick turnaround

This speed is one of the things that attracts policymakers to offsite. Speaking at Ilke's launch, David Lunts, executive director of housing and land at the Greater London Authority, says: "In London, we need to be building between 40,000 and 50,000 homes per year – anything we can do to encourage speed is going to be very important."

There are also financial advantages to being quick. Steve Coleman, director of development at arm's-length management organisation Lewisham Homes, which has recently announced plans to use modular construction to build 100 new council houses, says using offsite can take six months to a year out of the development process.

"Speed means you start getting the rental income in faster, which helps with viability," he adds.

While this is a financial benefit, the bold predictions about how much money modular can save are possibly overstated. This is due to a perennial problem: there is a saving to be made, but only at scale. Even so, we are still in the early adopters stage for the industry and the kind of volume that would generate real savings is not yet there.

Keepmoat's initial "aim" is to achieve the same build cost as traditional methods – not to save money – and accepts that it might not even do this straight away. Others have been more ambitious, with figures as low as £400 per square metre mooted, compared with more than £1,000 using traditional methods. Some experts though, such as Richard Petty, lead director of residential advisory at JLL, have given short shrift to these numbers, describing the lower costing predictions as "frankly fanciful".

Part of the problem is that modular is not simply about churning out the cheapest liveable accommodation the factory can produce. The chequered history of pre-fabricated housing means consumers are wary of homes that look too artificial; it is difficult to sell something that looks like a portable cabin. Newer methods provide rendering to make the homes appear traditional.

The two display homes at Gallions Reach appear to be made out of bricks – indeed, the untrained eye would detect no difference between these properties and traditional constructions.

The advantages of this approach – making the products easier to sell and opening up the possibility of using offsite construction for infill projects on existing estates or even conservation areas – are reflected in higher costs and count among the reasons why big builders have stuck to traditional methods.

While lower quality in the past may have left a lingering poor reputation for 'prefab' housing, current quality issues with traditional new build may help turn the tide towards factories. In 2017, poor quality new build housing has been one of the biggest housing issues in the consumer media, with scandals engulfing private builders such as Bovis and the housing association sector.

Modern factories, if they fulfil their promise, could theoretically reduce quality problems that can befall new build homes.

"If we can start getting products built with zero or very close to zero defects that is going to do a lot to enhance the reputation of the industry," says Mr Lunts.

One housing association hoping to make use of this is Richmond Housing Partnership (RHP), which has just received delivery of a prototype of its new 'pod homes' – 26 square metre, one-storey homes which are some of the first to roll off the production line at L&G's factory in Leeds.

The thinking behind this is that the precision and quality of factory-manufactured homes can deliver a small home that is still liveable. And with smaller size, cost savings come in.

A living room and bedroom (above) in an offsite home in Gallions Reach in Beckton, east London (exterior pictured left), built by Ilke

"In London, we need to be building between 40,000 and 50,000 homes per year."

RHP plans to let the homes to single people who would not be able to afford to rent through the market at £140 per week.

A potential sticking point for the industry is financing. Mortgage lenders understand and are content with traditional build, but have not always been as confident in offering mortgages on offsite products.

To combat this, Buildoffsite – a membership organisation that promotes the sector – has created an accreditation scheme named BOPAS, jointly developed by Buildoffsite, the Royal Institution of Chartered Surveyors, Lloyd's Register and Building Life Plans, in consultation with the Council of Mortgage Lenders, to assure lenders the products are mortgageable in perpetuity.

With all of these drivers, will offsite take off? Sarah Daly, director of strategic sustainability at consultancy Sustainable Homes, thinks so.

"Within five years or less, modular will be completely normalised, with most of the major house builders either owning their own factory or procuring from the existing supply chain," she says.

Big players

It is uptake by the big house builders that represents the next big step for the offsite sector. Some have tried it before. According to a source, Barratt Homes, the UK's largest house builder, was on the verge of doing so when its then-chief executive Frank Eaton was killed in a car crash in 2002.

"The big house builders have a very successful model which they can make money out of, and their culture and background is construction, not manufacturing, so why would they change if they don't have to?" says Nick Whitehouse, a founding member of Buildoffsite.

"But most of them have done research, most of them have done piloting, and they are waiting to see what the industry does."

The big driver that is expected to make the difference is skills. As house builders wait to see what direction the new government takes after the Conservatives failed to win a majority, firms are twitchy about where their future workforce will come from in an industry that is already undersupplied with staff.

Ultimately, it is this shortage of the traditional skills, most experts agree, that will force the hands of the big builders.

Until then, the innovation and early adoption is being led by the social housing sector along with some proactive builders and start-ups. Those two houses on a deserted gas works in east London are among the first fruits of this work, but they will not be the last. ■