Building confidence
A future-gazing report for architects and building specifiers
Foreword

Phil Savage
Commercial contracts sales manager at Pilkington United Kingdom Limited

Welcome to this report from Pilkington on the UK architecture and specifier industries, which explores some key issues including the economic outlook, changes in technology and other developments in the built environment.

We’d like to thank the senior consultants and technicians who took part in the research and provided valuable insights into an industry that plays a leading role in shaping the buildings in which we live, work and socialise.

The UK is known internationally as a centre of excellence in architecture, with more than 50 educational centres focussed on training architects and drawing talented people from around the world.

This feeds an industry of more than 3,400 private architectural practices as well as a great many more specialists working inside developers and building contractors. Overall, an estimated 90,000 people work in architecture-related jobs, whether as architects, specifiers, technicians or project managers.

Involved from an early stage in virtually every building project, this industry is highly exposed to changes in levels of confidence and investment in the construction sector, and is among the first to feel the effects of changing economic conditions.

This exposure has seen the industry going through challenging times ever since the financial crisis of 2007-8, following which it lost an estimated 12 per cent of its workforce.

Since then, however, architecture-related industries have been recovering at a faster pace than the construction sector as a whole, even if they have not yet gained back all of the losses suffered during the crash.

It’s encouraging, therefore, to see the growing confidence levels among architects and specifiers revealed by this report.

By sharing these findings with architects and specifiers across the industry, our aim is to provide further insight on the opportunities and challenges they face in the years ahead.

We hope it proves an informative and heartening read.

1 Architects’ Journal – Are there too many architecture schools? July 2013
2 RIBA-registered architectural practices, September 2016
3 Creative Industries Council – Focus on employment, June 2016
4 Architect Magazine – Architecture and construction are beginning to dig out from the recession, January 2014
5 Architect Magazine – Architecture and construction are beginning to dig out from the recession, January 2014

“The UK is known internationally as a centre of excellence in architecture, with more than 50 educational centres focussed on training architects and drawing talented people from around the world.”
Key findings

- **12.5%**: the average growth forecast for architecture firms over the next two years.
- **15.4%**: the average growth forecast for specification firms over the next two years.
- **60%**: of architects and specifiers say Brexit has caused delays to current projects.
- **45%**: of architects and specifiers believe Brexit will decrease appetite to invest in new building projects.
- **37%**: of architects and specifiers believe current building regulations aren’t fit for purpose.
- **67%**: of architects and specifiers are frequently asked by clients to design or specify buildings above current building regulations and codes.
Executive summary

Architects and specifiers play a central role in shaping the built environment. They form the bridge between the commercial objectives of the developers who invest in creating new buildings and the requirements of the end users who will occupy them.

In this report, we surveyed senior professionals in the industry to gain further insight both on the outlook for architects and specifiers themselves, and on some of the technological and regulatory issues shaping the construction sector as a whole.

Despite ongoing challenging conditions in the construction sector and the additional uncertainty created by the Brexit vote, all of the architects and 98 per cent of the specifiers we surveyed are forecasting growth over the next two years.

Routes to growth for the industry include a move into new business areas and organic growth from existing clients.

There is also clearly an appetite for investment among those looking for growth. On average, respondents plan to invest 10 per cent of their overall turnover in research and development over the next two years.

Brexit – constructive or destructive?

The biggest UK story of 2016, the vote to leave the European Union, has divided opinion among architects. Some 46 per cent believe it will decrease the appetite for foreign investment in UK construction projects, while 40 per cent believe the opposite will happen.

Specifiers took a slightly more pessimistic stance, with only 18 per cent believing investment will increase as a result of Brexit.

Either way, the survey shows that the immediate effects are already being felt, with 60 per cent of architects and specifiers saying they have seen delays to projects as a direct result of the vote.

The regulatory landscape – up to the job?

There has been rapid development in the construction sector in recent years as it seeks to respond to major issues, including a shortage of new housing, an affordability crisis for new homes and the need to meet energy performance targets across commercial and residential projects. However, developments in building regulations have been slower paced. The 2013 updates to Part L were less significant than expected and the 2016 regulatory changes having been dropped, slowing the three-year cycle.

Despite this, two thirds of architects and specifiers (63 per cent) believe current building regulations are fit for purpose. Interestingly, the survey suggests that they are viewed increasingly by clients as a minimum standard, with 67 per cent of respondents saying they’re frequently asked to deliver buildings above the regulatory requirements.

Overall, the results depict a vibrant and confident industry that is responding to the challenges it faces with creativity and pragmatism.
Industry growth

It’s well known that the past decade has been challenging for the construction sector in general, but for the architectural and building specifier industries in particular, the added uncertainty post-referendum means turbulent conditions are expected to continue.

Despite this, all of the architects that took part in the survey are predicting growth over the next two years. 62 per cent anticipate more than 10 per cent growth. In fact, the average expected growth is 12.5 per cent and more than a quarter of architectural practices (28 per cent) are anticipating more than 16 per cent growth.

Specifiers showed even greater confidence, with 84 per cent expecting to grow more than 10 per cent and the average firm anticipating 15.4 per cent growth. More than half (52 per cent) are forecasting growth of more than 16 per cent. However, two per cent of specifiers anticipate no growth at all.

These figures are significantly above industry forecasts for growth in the construction sector. For example, in January 2016, analyst Experian anticipated growth for the year at just 2.6 per cent while the Construction Products Association’s (CPA) forecast, published after the Brexit result, is more cautious still. Of the three scenarios it presents – one cautious, one optimistic and one in the middle – its central scenario anticipates close to zero growth (-0.2 per cent) in the industry over the next two years.

The involvement of architects and specifiers early on in building projects means this confidence could extend further down the supply chain in the years ahead.

The discrepancy between architects’ confidence and wider industry predictions could also be related to the polarising effect of the Brexit vote, which divided architects almost down the middle regarding whether it will have a positive or negative effect on the industry – but more on that later.

6 Building – Experian downgrades construction output forecasts, January 2016
7 Construction Products Association – Spring Forecast 2016, April 2016

Business growth forecast for the next two years as a percentage of current turnover
Expansion strategies

The results suggest the majority of architects and specifiers are planning to achieve growth in the years ahead through proactive expansion into new practice areas and geographical regions.

For architects, the top predicted means of expanding in the next two years are the taking on of new skill sets or technical or business disciplines (named by 50 per cent), and the expansion of operations into new geographical locations around the UK (48 per cent). These are followed closely by internal job creation and investment from external investors (both 44 per cent).

For individuals tasked with specifying building materials for projects, the most popular route to growth mentioned is increased specialisation (48 per cent), followed by taking on new skill sets or disciplines and organic growth from current client portfolios (both 44 per cent).

Slightly more than a quarter (28 per cent) of architects name mergers and acquisitions as a potential route to growth, whereas among specifiers this is closer to half (42 per cent). This suggests that we are likely to see some consolidation in the construction industry in the years ahead, but that it is likely to be limited among architectural practices.

Sectors mentioned as potential areas for growth

Growth through consolidation is also more likely to be named by those in smaller firms – 50 per cent among businesses of 21-40 employees, falling to 38 per cent for firms with a headcount of 41-80 and 28 per cent for larger organisations.

How do you feel about the outlook of the architecture/specification industry?

Architects

Specifiers

Very positive | Not at all positive

1 | 2 | 3 | 4 | 5

14% | 32% | 42% | 12% | 0%

38% | 30% | 28% | 4% | 0%
Target sectors

In terms of the sectors in which architects and specifiers are expecting to see their volumes of work increasing, residential – including both small bespoke projects and larger commercial schemes – is mentioned by the largest number as the most promising, with the larger developments winning out over bespoke projects.

Behind residential, the commercial office, industrial, hospitality and leisure, and retail sectors are also highlighted.

Potential barriers

With improving energy performance high on the agenda for the construction industry at all levels of the supply chain, it is perhaps no surprise that sustainability is named as the number one barrier to growth by the highest proportion of architects (22 per cent). It also suggests that architects are generally concerned about the impact their buildings have on the environment.

However, it is not the most commonly mentioned concern by architects across the board, which is actually the rising price of materials. Interestingly, however, cost was not seen as a major barrier to designing low energy buildings.

For specifiers, energy price volatility is named by the largest number of respondents, perhaps reflecting specifiers’ greater involvement with the post-completion operation of buildings.
Response to Brexit

The biggest UK story of 2016 is undoubtedly the UK’s vote to leave the European Union, and the responses to the survey suggest this has divided the opinion of architects and specifiers.

The results suggest that the impact of the referendum result is already being felt, with almost two thirds (60 per cent) of respondents saying they had seen clients delay current projects following the outcome.

However, despite the apparently negative immediate effects, 40 per cent of architects and 18 per cent of specifiers say they anticipate Brexit having a positive effect on foreign investors’ appetite to put money into new UK projects. This is compared with 46 per cent and 44 per cent respectively who say the opposite. Just 14 per cent of architects and 38 per cent of specifiers anticipated there would be no significant effect.

Looking further ahead, views on whether Brexit will slow commercial construction in the UK over the next five years are similarly polarised, but with a small majority anticipating a positive outcome. Overall, 34 per cent anticipated a slowdown and 47 per cent foresaw no negative impact, with the remainder undecided.

40 per cent of architects say they believe the vote will not slow the market down, with 38 per cent saying the opposite and 22 per cent undecided.

Whichever side of the argument proves to be correct, it’s safe to say that the next few years will be an interesting time for businesses across the construction industry.

Will Brexit slow construction planned in the next five years?

<table>
<thead>
<tr>
<th>Response</th>
<th>Architects</th>
<th>Specifiers</th>
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<tbody>
<tr>
<td>Yes</td>
<td>38%</td>
<td>30%</td>
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<tr>
<td>No</td>
<td>40%</td>
<td>54%</td>
</tr>
<tr>
<td>Unsure</td>
<td>22%</td>
<td>16%</td>
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66% of architects and 54% of specifiers have seen clients delay current projects as a result of the Brexit vote.
We have already seen that UK architects and specifiers have ambitious growth plans for the next two years, and practices are also clearly prepared to invest in their businesses.

Over the next two years three quarters (74 per cent) of architects are planning to invest more than five per cent of their total turnover in technology or research and development (R&D). Almost half (42 per cent) are planning to spend more than 10 per cent of turnover. This includes visualisation, prototyping, fabrication and modelling tools and the development and upgrading of design software.

On average, respondents say they are planning to spend almost 10p in every £1 of turnover (9.2 per cent) on R&D.

Specifiers are even more generous with development spending. 94 per cent are planning to spend more than five per cent of turnover and 52 per cent anticipate investment in technology and R&D above 10 per cent. Nearly a third of specifiers (30 per cent) say they plan to put more than 15 per cent of their turnover back into development expenditure. The average anticipated spend for specifiers is also a little higher than that of architects, at 11.8 per cent.

Design software is the biggest area of projected investment overall, named by two thirds (68 per cent) of architects and specifiers, followed by fabrication and physical modelling with 63 per cent planning to invest. Looking just at architects, however, spending on fabrication and modelling is slightly ahead of software investment, with 68 per cent naming it compared with 66 per cent for software.
Advanced design software has been a standard requirement for architects for many years now. The technology is relatively mature in comparison to 3D printing, which has evolved rapidly in recent years, perhaps explaining why architects are setting more budget aside for upgrades in that area. While software spending might mean upgrading existing programmes, fabrication and modelling investment is more likely to involve whole new systems.
The regulatory landscape

The views of architects and specifiers on the role of building regulations in shaping the built environment is one of the most interesting outcomes of the survey.

The responses suggest that regulations are not seen as a bar that clients need projects to meet with as little additional cost as possible. In fact, they are seen as a minimum standard frequently exceeded in a bid to deliver excellent building performance.

The large majority of respondents gave their seal of approval to current building regulations, with almost two thirds (62 per cent) of architects and a similar proportion of specifiers (64 per cent) saying they feel existing regulations are fit for purpose.

When asked how frequently clients asked for buildings to be designed or specified above and beyond current building regulations and codes, more than two thirds (67 per cent) say this happens either frequently or very frequently. Just five per cent say it happens infrequently and all respondents say they had encountered it.

This suggests that many architects and specifiers do not see the need to bring regulations up to the level of current practice.

Challenges in achieving nearly-zero energy buildings

The UK is committed to a target of making all new buildings “nearly-zero energy” from 2021 and all public buildings from the earlier date of 2019. While this is an EU Directive and its implementation in the UK may be uncertain post-Brexit, it is expected to remain the benchmark for developers in the years ahead.

To qualify as a nearly-zero energy building, residential schemes will need to achieve energy performance better than approximately 44 kilowatt hours of energy consumed per square metre of footprint per year.

Asked about the challenges when designing or specifying nearly-zero energy buildings, the availability of energy-efficient glazing products is a major concern, flagged up by 68 per cent of architects and 64 per cent of specifiers. This is followed by lack of understanding of energy-efficient products currently available on the market.

This suggests there is a significant awareness and education job to be done by manufacturers and suppliers of high energy performance building materials, in order to help designers and specifiers help their clients achieve their sustainability commitments over the next five years.

“The large majority gave their seal of approval to current building regulations, with almost two thirds (62 per cent) of architects and a similar proportion of specifiers (64 per cent) saying they feel existing regulations are fit for purpose.”
Lack of government incentives is named as the third biggest barrier, but this is more common among specifiers (62 per cent) than architects (50 per cent). For architects, a lack of client demand is the third biggest roadblock to achieving excellent energy performance.

Perhaps surprisingly, of all the barriers highlighted, cost is the lowest, with only 22 per cent of architects and 12 per cent of specifiers naming it as a main challenge, suggesting clients are increasingly happy to invest in highly performing and sustainable buildings.

Looking specifically at glazing, one of the main elements of a building in terms of its contribution to overall energy performance, 42 per cent of architects say they find building regulations limiting when it comes to designing glazed façades, with only 12 per cent saying they don’t feel limited by them.

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**How existing building regulations limit design potential of glazing**

<table>
<thead>
<tr>
<th>1 Very much</th>
<th>2</th>
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<th>4</th>
<th>5 Not at all</th>
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<tr>
<td>24%</td>
<td>29%</td>
<td>33%</td>
<td>13%</td>
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**Main challenges when designing a nearly-zero energy building**

| Availability of energy-efficient glazing products  | 66% |
| Lack of understanding of product availability     | 63% |
| Lack of government incentive                      | 56% |
| Lack of client demand                             | 51% |
| Availability of energy-efficient building products| 50% |
| Cost                                              | 17% |
Changes in the built environment

The need to meet the competing goals of energy-efficiency, affordability, sustainability of raw materials and the changing expectations of end users will inevitably shape the appearance of our built environment in the years ahead.

Looking at the envelope of commercial architecture of the past 10 years or more, it’s fair to say the dominant exterior material is glass, and this looks set to continue according to the survey.

When asked what would be the most popular material in building façades in the next decade, one in three specifiers (36 per cent) and one in four architects (26 per cent) say glass, making it the most popular choice overall.

Interestingly architects, traditionally known for their desire to bring as much light into buildings as possible, chose concrete over glass for first place. This could link back to the previously mentioned lack of awareness of high-energy-performance glazing products and the dominance of sustainability in their thinking.

Having said that, when asked whether they expected the use of glazing in commercial building façades to increase or decrease over the

How do you see new products, such as switchable and dynamic glazing, having an impact on making buildings more energy-efficient?

“Looking at the envelope of commercial architecture of the past 10 years or more, it’s fair to say the dominant exterior material is glass, and this looks set to continue according to the survey.”
next decade, over half (58 per cent) anticipated an increase while just 12 per cent expected its use to decline, with the remainder unsure.

In addition, three in four architects (76 per cent) and four in five specifiers (80 per cent) say they are seeing increasing client demand for innovative glass products, and more than half say they think advanced glazing products are set to have an impact on making buildings more efficient.

Again, there is a clear message for glass manufacturers and their supply chain that more could be done to communicate the existence and availability of high-energy-performance glass and glazing products.

Are you seeing increased client demand for innovative glass products?

Predictions for the most common new-build façade material over the next decade

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<thead>
<tr>
<th>Material</th>
<th>Architects</th>
<th>Specifiers</th>
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<tbody>
<tr>
<td>Glass</td>
<td>31%</td>
<td>76%</td>
</tr>
<tr>
<td>Concrete</td>
<td>28%</td>
<td>80%</td>
</tr>
<tr>
<td>Aluminum</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>Timber</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Brick</td>
<td>12%</td>
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</table>
"I believe glass, as both protector and transmitter of light, will have an ever-increasing role."

The role of glass in 21st century architecture

Ian Ritchie
Ian Ritchie Architects

The headline message I take from the report is that professionals are optimistic about growth despite many of their clients being more cautious.

While it’s encouraging to see the confidence among architects and specifiers, it’s important to remember that they are not in a position to drive the industry forward when the economy is somewhat stalled. That role falls to those who fund projects.

Having said this, the positive plans that are in place for investment in research and development are reassuring to see, as this will be crucial in making the technical advances and developments that will deliver the next generation of buildings. But again, ultimately the extent to which this is possible will depend not on architects’ and specifiers’ confidence but on levels of investment in the built environment.

This brings me to the Brexit vote. It’s interesting to see how architects and specifiers are divided on whether the decision will ultimately be good or bad for investment in the UK, and it’s certainly heartening to see that not everyone in the industry is predicting doom and gloom.

At the same time, there’s no question that the immediate outcome is uncertainty, which rarely has a positive effect on investment levels, and this is likely to last for at least two years. The fact that so many respondents to the survey have seen their current projects delayed indicates we’re already seeing the effects.

Future glazing

When it comes to the future of glazing technology, I’m reminded of an oft-repeated line that supposedly represents many architects’ thinking: ‘glass is the answer, but what was the question?’

This is reflected in the survey, where architects and specifiers remain very optimistic about the use of glass products in buildings in the years ahead.

However, there is a clear need for innovation if this is to be more sustainable, especially when architects and specifiers are under pressure from clients to improve the thermal performance of buildings, and with many feeling that building regulations are lagging behind rather than leading.
This demand is mainly coming from a financial drive to lower energy costs, both in the residential and commercial spheres. This is a reasonable objective now, but dare I say that this may turn out to be less important in the future when electrical energy will be cleaner and less costly?

But that scenario is still a long way off, and sustainability and lower building maintenance costs are clearly still very high on respondents’ agendas – as they should be. Good environmental performance should be in the bloodstream of our industry.

On that note, a final thought for the future. When it comes to sustainability, it is people’s behaviour that makes the big difference. With this in mind, the new challenge is to deliver environments and buildings that really meet human need measured by how the brain and body of users actually respond.

Architecture may then be defined as a neuro-design learning loop. Natural and artificial light and their quality inside buildings, at all times of day and night, will be central to this. I believe glass, as both protector and transmitter of light, will have an ever-increasing role in 21st century architecture.
References and methodology

Field research for this report was undertaken in August and September 2016 by Coleman Parkes Research.

Respondents to the survey are either the main decision maker or are involved in the decision making process when it comes to specifying building materials.

‘Architects’ refers to those respondents who provide architectural services as their primary occupation and who work for an architectural practice. ‘Specifiers’ refers to those who work in end-user or non-architectural organisations.

To gather representative data from this diverse industry, a broad cross-section of 100 professionals from the architecture and building specifier industries were polled. They were drawn from companies ranging in size from less than 20 employees to more than 100 and from a broad geographical spread around the UK.

This level of sampling provides robust and accurate figures to +/-5 percentage points at 95 per cent confidence limits. The sample was controlled to provide as close a representation of the market as possible.

Our survey questions focused on growth plans, Brexit, building regulations and codes, research and development, and technology as well as wider issues around design and the built environment.

• Architects’ Journal – Are there too many architecture schools? July 2013
• RIBA-registered architectural practices, September 2016
• Creative Industries Council – Focus on employment, June 2016
• Architect Magazine – Architecture and construction are beginning to dig out from the recession, January 2014
• Building – Experian downgrades construction output forecasts, January 2016
• Construction Products Association – Spring Forecast 2016, April 2016
• Buildings Performance Institute Europe – Nearly-zero energy buildings definitions across Europe, April 2015
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