

How will buildings be delivered in ten years' time?

A collection of senior construction industry leaders recently met for a 'round table' event.

The guest speaker was Professor Hisham Elkadi - head of the School of the Built Environment at Salford University, whose discussion centred upon the theme: "how will buildings be delivered in ten years' time?"

What followed was a fascinating presentation, and a lively and informative discussion.

The topic is an extensive one, whereby many different directions could be taken. Hisham's angle was extremely thought-provoking and challenged the audience to think outside of the box. Questions that he asked attendees to consider included:

- ◆ Can we tolerate disruption?
- ◆ What will the new global landscape look like?
- ◆ Will 'localisation' be the answer?
- ◆ What is 'necessary transformation'?
- ◆ Is there a 'unifying vision' for the future?
- ◆ Is Economy at a crossroads?
- ◆ How can we shape the next 100 years?
- ◆ Are we prepared for 'convergence'?

To make the best use of the time available, Hisham decided to analyse the last ten years, with the aim of helping to predict what will affect the sector in the next ten.

Hisham explained that there is a misconception that the industry has changed a great deal over the last decade, however, research challenges that thought process.

An industry poll was taken in 2005, and again in 2015, around the four main factors that were affecting progression in the construction market. The results were as follows:

2005

1. Environment
2. People
3. Process
4. Technology

2015

1. Sustainable
2. Leadership
3. Growth
4. Smart

In short, nothing has changed dramatically over the decade, however the meaning of those words has changed in line with global evolution, the digital revolution, etc.

Hisham categorised those meanings as follows:

Environment/Sustainable

Climate change will threaten the short term resilience of the industry and communities - Take flooding as an example.

Flooding affects local communities and their resilience short term, but in the long term, our wider economic prosperity will be massively affected by climate change. This is a huge issue that has led to an unprecedented statement from Mark Carney, Governor of the Bank of England in 2015, stating that “climate change will affect our economic prosperity...and the window is finite and closing.”

Resilience is needed in times of hardship but it is also a buzz word at the moment. Do you refer to having resilience in your own company or the construction industry as a whole? Engineering resilience or environmental resilience? What is the difference?

Engineering resilience means that if a product is pushed to its limit it will return to its former state, however environmental resilience is a very different matter. If nature has an extreme occurrence (like a flood) the affected areas do not return to normal.

We have to create resilience to survive, expect and accept change. We know that nature is likely to hit us more frequently and harder, hence when we design buildings we must expect and embrace change. We have to live with issues such as flooding and design accordingly – it is referred to as ‘living with ducks’. We must be adaptable – is how Hisham referred to the change from engineering resilience to environmental resilience.

Flooding is just an example, but unfortunately this is not the only environmental change that we need to accept and manage. So when the Bank of England refers to climate change affecting the economy, we have to take the relevant steps and design/develop accordingly, so that environmental disasters have as little impact on the community and economy as possible.

People/ Leadership

Skills

We need new skillsets in what has become an under-resourced and ever changing industry. The industry needs to create a very different image if it is to attract new, skilled individuals who are ‘tolerant, talented and technologically savvy’. If we succeed in moving the construction workforce in this direction, Hisham believes that there will be a big shift in how we operate.

Inclusiveness and an ageing workforce

We must capture the knowledge of the ageing population and be sure to utilise this knowledge. Apprenticeships are increasing again and the method of how we teach and learn is undergoing a monumental shift; technology and communication has changed this. Universities must also change and further education partnering with industry is more crucial than ever.

Traditional learning as we know it will cease. Learning packages within industry will change this. The whole idea of degrees will change in the future. It is vital for the sector to be prepared and accept this big change, it is the future!

Not only are qualifications changing, but so are the roles that will exist within the industry. Below is an example of how the industry will change, outlining the probability of certain job titles NOT existing in the future:

Construction worker – 80%

Building & civil engineering - 57%

Construction & project manager - 7%

Quantity surveyor – 3%

Architect – 2%

For some this chart will make for some interesting reading. It is not designed to cause concern, but instead to give insight into how the built environment will look in the future, mainly due to developments such as offsite building and technological advancement.

Can we as an industry honestly say that we are preparing for these changes?

Process/ Growth & Technology/Smart

The pace of change within infrastructure is rapid, which might alarm some. It will affect roads, car parks, the list goes on. Change will happen quickly and across the board, with areas such as offsite construction, the internet of things, disruptive industry and automation (e.g. driverless cars and 3-D printing) evolving.

The Chinese have recently built six houses using 3-D printing. The realisation that this has been achieved is dramatic, and the speed at which they have developed the technology is hugely impressive. What will be the next development?

In conclusion, A successful future within the construction sector relies on our ability and willingness to merge all of the topics presented by Hisham; environment, people, technology and process.

Currently the industry is handling these topics as separate issues. The future is the convergence of all four elements, and in many ways they are interrelated. The crucial point is our response and willingness to embrace these topics over the years to come.

About Holmes Noble

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