Change is coming

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Bob Thompson, Miquela Bezuidenhoudt and Andrew Waller identify the 5 areas of technology that will have the biggest impact on surveying ? and predict that change will bring benefits for those who adapt quickly

Property professionals, we are told, are under threat from automation. <u>Research by the</u> <u>University of Oxford in 2013</u> suggested that 95% of a valuer?s role will be automated in 2 decades but only 25% of the property manager?s job is at risk from robots (see Table 1).

Property role	Percentage of jobs that will be automated
Valuers	95%
Accountants	95%
Agents	68%
Chartered surveyors	63%
Planners	57%
Property managers	25%

Table 1: Predicted automation of property profession. Source: The Future ofEmployment: How susceptible are jobs to computerisation? Data from Carl Frey andMichael Osborne, Martin School, University of Oxford

There is already some evidence that automation Is making a difference to the industry. <u>Remit</u> <u>Consulting?s REMark research in 2015</u> found that the number of property management accountants had halved in the preceding 2 years. However, the research also showed that surveying roles had stayed at the same level in property management while facilities roles had doubled. The RICS commissioned Remit to produce an Insight paper, <u>The Impact of Emerging</u> <u>Technologies on the Surveying Profession</u> to look at what is likely to happen in terms of job automation, and what surveyors should do about it.

RICS Insight

Predictions that automation will make humans redundant have a long history, going back to the 1st Industrial Revolution, when textile workers, most famously the Luddites, protested that machines and steam engines would destroy their livelihoods.

The 4th Industrial Revolution has started with billions of people connected by mobile devices, with unprecedented processing power, storage capacity and access to information. The opportunities that these present will be magnified by emerging devices such as artificial intelligence, robotics, new materials, energy storage and quantum computing.

The idea that manual work can be carried out by machines is already familiar; now the 4th Industrial Revolution sees machines performing tasks carried out by information workers too. This is likely to usher in a period of disruptive change for all professions, including surveying.

Five key areas of technology have been identified that will have a significant impact on surveying:

- the Internet of Things (IoT);
- 5th-generation (5G) communications;
- machine learning and robotics;
- building data; and
- distributed ledger technology, that is blockchain.

In assessing the impact of these, this insight paper takes as its starting point the structure of the surveying profession as defined by RICS, overlaid with the functional structure of the industry. This allows us to draw up a skills matrix for surveying functions.

Surveyors are multiskilled professionals. Each job title will share a set of basic tasks and add a specialism to this. For example, brokers will share a set of common task descriptions with other disciplines ? covering reporting, monitoring of market information and so on ? but will focus on specialist expertise in sales or lettings.

To model the impacts of a digital future, this research uses the Remit Process Model to break down these functions into a set of 41 tasks, as shown in Figure 1.



Figure 1: Task model. Source: Remit Consulting

Each task has then been scored in 5 areas:

- data content;
- algorithmic content;
- learning content;
- interpersonal skills; and
- physical presence.

Of these tasks, 18 ? nearly half ? exhibit a high degree of vulnerability to automation ? 70%?100% ? now and over the next decade. A further 19 show a significant degree of vulnerability ? 20% or more ? over the same period.

Surveying appears to be a profession in which 88% of the core tasks are ripe for automation. This finding is a harbinger for discontinuous and disruptive change. How aware are professionals of this?

Online survey

An online survey was used to solicit opinion from the whole property sector, and 154 responses were received. The questions covered 9 scenarios based on the likely impact of technology in different areas:

- data;
- valuation;
- risk evaluation;
- lease preparation;

- monitoring of market conditions;
- lease management;
- rent collection;
- service charge collection; and
- acquisition and disposal of investment property.

We asked how likely was automation on a scale of 0 ? unlikely ? to 100 ? very likely. The overall mean across the survey was 46 out of 100. The most likely area for automation was felt to be collection of rent which scored 70; the least likely, at just more than 28, was acquisition and disposal of property. The majority of other responses were all clustered around the mean.

At a functional level, automation is likely to be especially disruptive in the areas of valuation and property, lease, asset and facilities management, and will be seen in different ways, such as:

- an increase in the consistency, transparency and timeliness of transactions;
- a step-change in the accuracy and timeliness of reporting;
- an explosion in the number of sensors deployed as part of the IoT, which will increase the visibility and responsiveness of all buildings as well as enabling remote facilities management;
- reduced cost for managing a portfolio of buildings, it being likely that the head count in particular areas ? valuation for example ? will be reduced significantly; and
- a change in the skill set required; surveyors are likely to become either data scientists or client managers, which has implications for real-estate education.

In the longer term, this revolution paves the way for property to compete on a level playing field with other asset classes, becoming a wholly securitised, flexible and dynamic asset underpinned by its residual value.

At its most basic, the evolving technology will make core tasks less onerous ? sensors will replace walking surveys, algorithms will augment the valuer?s role and reduce the time taken to value property. Computer-aided facilities management systems removed the need for the drawing office, but building surveyors are still needed for their opinion on a building?s condition.

Positive

We therefore expect the initial transition to be extremely positive ? growth will be absorbed by the greater reliance on systems, profitability should improve and firms can become more flexible in their work.

Of course, it is difficult to predict which changes will be widely adopted first. Questions of insurance liability, client acceptance and the ability of our profession to manage work differently will ultimately guide this.

However, there is wide experience of changing practices in other sectors: this is the next change in a sequence which has included sending work offshore to Europe and Asia. Some of that work has returned, and most has now become business as usual.

That experience implies that change will happen, the changes will be positive and those who adapt quickly will bring value to clients by reducing costs and improving services.

The prognosis for our industry is good. Surveyors will benefit from providing better services and deeper insights to our clients. However, as change progresses, those who have not started to use this new technology are likely to be left behind.

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Further information

- Related competencies include <u>Analysis of clients requirements</u>, <u>Property</u> records/information systems
- This feature is taken from the <u>RICS Land journal</u> (November/December 2017)
- Related categories: <u>Successful surveying</u>; <u>Property management</u>; <u>Valuation</u>; <u>Leases</u>