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The Future of Valuations

The relevance of real estate valuations for institutional investors and banks – views from a European expert group





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for institutional investors and banks –
views from a European expert group

Report for Royal Institution of Chartered Surveyors

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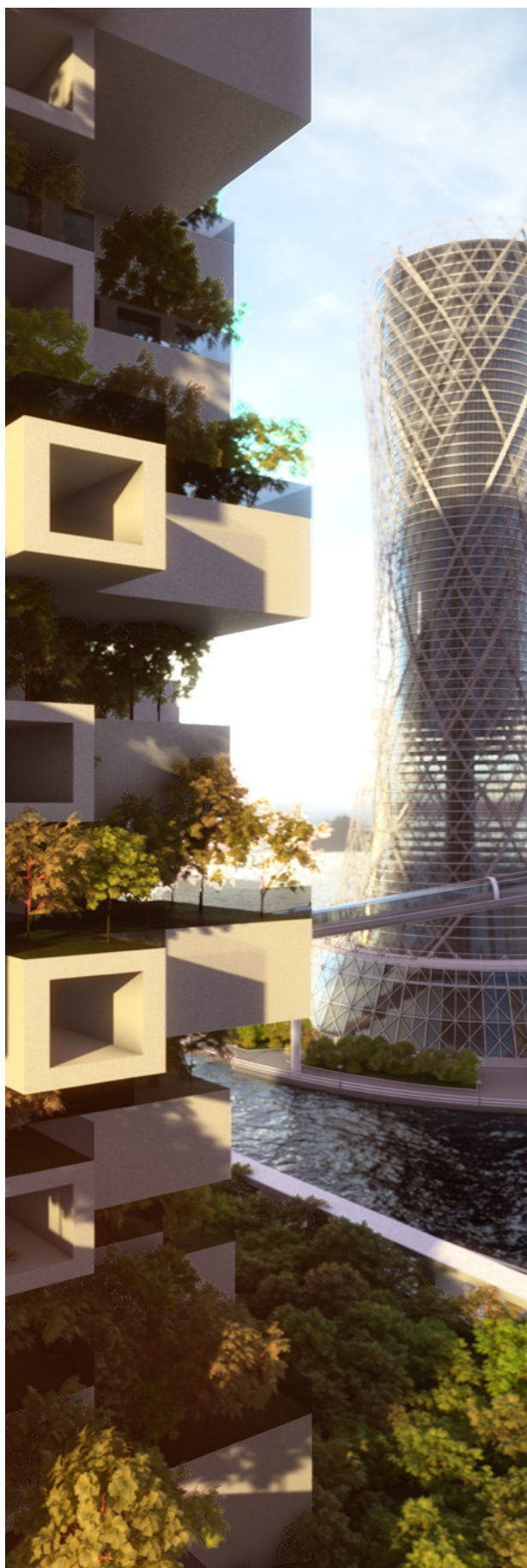
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Foreword

Property valuation has come a long way in the last 40 years, and so has the framework of standards within which valuation advice is nowadays provided. From the first issue of RICS guidance on the valuation of assets in 1976 to the progressive development of more comprehensive standards for its members in what is now known as the RICS Red Book – recently updated for the current 2017 edition – and from the inception of the International Assets Valuation Standards Committee (IAVSC) in 1981 to create International Valuation Standards (IVS – now also with a new 2017 edition) which promote greater transparency and consistency in markets across the globe, standards have considerably developed over the past four decades. At the same time, valuers have continued to grow in professionalism and skill, and the valuation process continues to become more rigorous. Finally, RICS Valuer Registration (VR), our independent quality assurance process, provides clients with the assurance that these high levels of standards and professionalism are met.

Today, the valuation profession can be seen to have made great advances. But will this continue to be so? It is clear that valuers will need to be alert to, and take account of, new expectations and requirements of clients as well as new and more sophisticated factors influencing markets, in order to stay relevant. But they will also have access to better information because of the developments in areas such as ‘big data’. The observations made in this RICS Insight paper should serve as a good starting point for all involved – providers and users alike – to pursue a debate to ensure valuations continue to add value to clients and remain fit for purpose.

Our thanks to the members of the expert group and to RICS staff, and especially for the involvement of INREV and the European Mortgage Federation-European Covered Bond Council (EMF-ECBC). Without them this paper would not have been possible.

But this paper is just the starting point. Only by continuing the discussion between valuation professionals, clients and their representative organisations will we be able to find the right way forward.

Ben Elder FRICS

RICS International Director for Valuation



Valuations are arguably more important for investment in real estate than any other major asset class. For non-listed real estate vehicles, they play a crucial role in reporting to investors, monitoring portfolio strategy and undertaking transactions, and as a basis for secondary market trading. INREV therefore warmly welcomes this paper's contribution to the challenge of futureproofing valuations and the valuation process – in effect ensuring that valuations remain fit for purpose in a rapidly evolving real estate market environment.

As digital technology advances apace, investors' expectations and demands of real estate valuations are growing. In part this reflects the increasing complexity of many real estate transactions, which often now involve large portfolios of assets. But more importantly, investors want to benefit from the full potential that technology promises for valuations, potentially making them quicker, less prone to human error and sensitive to a far wider range of evidence than is currently the case. We agree that big data, blockchain and automated valuation models (AVMs) are all likely to have a role, but an openness among valuers to new ways of harnessing information is likely to be just as crucial as any single technology.

Real estate has gained popularity among investors in the recent low interest-rate environment, but the industry should not forget that valuation remains a potential Achilles' heel, particularly in difficult market conditions. Debating the issues identified by this paper should help limit that risk and ensure that real estate remains in investors' favour.

Jeff Rupp

Director of Public Affairs, INREV



INREV, the European Association for Investors in Non-Listed Real Estate Vehicles, was launched in May 2003 as a forum for investors and other participants in the growing non-listed real estate vehicles sector. The association represents and reflects an industry with a total value of €2.1 trillion and INREV members deliver €300 billion of stimulus to the real economy of Europe.

INREV currently has over 400 members which include around 75 of the largest institutional investors as well as 40 of the 50 largest real estate fund managers, plus banks and advisors across Europe and elsewhere.

The non-profit association is focused on increasing the transparency and accessibility of non-listed vehicles, promoting professionalism and best practice, and sharing knowledge. It is based in Amsterdam, the Netherlands.

The EMF-ECBC is delighted to have been involved in this insightful piece of work on the future role of the valuer and to have had the opportunity to provide input from the perspective of 'clients' of property valuation reports. Accurate and transparent property valuation is essential to the mortgage lending and covered bond business on a number of crucial levels: from an origination perspective, in terms of risk management and the calculation of capital requirements and for the issuance of covered bonds. Any work therefore to understand the challenges and opportunities facing valuers and the services they provide into the future can only be beneficial for the entire mortgage lending value chain, especially for mortgage lenders and covered bond issuers. The fact that this paper has been elaborated by way of a collaborative effort between the valuation profession and its clients makes it all the more relevant and useful.

Luca Bertalot

Secretary-General, EMF-ECBC



Established in 1967, the EMF (European Mortgage Federation) is the voice of the European mortgage industry, representing the interests of mortgage lenders and covered bond issuers at European level. The EMF provides data and information on European mortgage markets, which were worth around EUR 7.0 trillion at the end of 2016. As of September 2017, the EMF has 17 members across 14 EU Member States as well as a number of observer members. In 2004 the EMF founded the ECBC (European Covered Bond Council), a platform bringing together covered bond issuers, analysts, investment bankers, rating agencies and a wide range of interested stakeholders. As of September 2017, the ECBC has 116 members across more than 30 active covered bond jurisdictions and many different market segments. ECBC members represent over 95% of covered bonds outstanding, which were worth nearly 2.5 trillion EUR at the end of 2016.

Executive summary

The valuation profession is likely to face a period of significant change in coming years, in terms of how the valuation process is managed, the role of the valuer as well as the added value to clients. This paper examines the challenges facing the global valuation profession, drawing on the experience and opinions of an expert panel.

This paper explores two main issues:

- 1. Technological developments** – how developments in big data, blockchain, artificial intelligence and automated valuation models (AVMs) will impact the industry in general and the role of the valuer in particular.
- 2. Changing client expectations** – focusing on institutional investors and banks, this includes looking for advice on the future (or long term) value of a building, taking into account sustainability features such as climate resilience and well-being.

A third important issue that emerged during the expert group discussions is the changing regulatory environment.

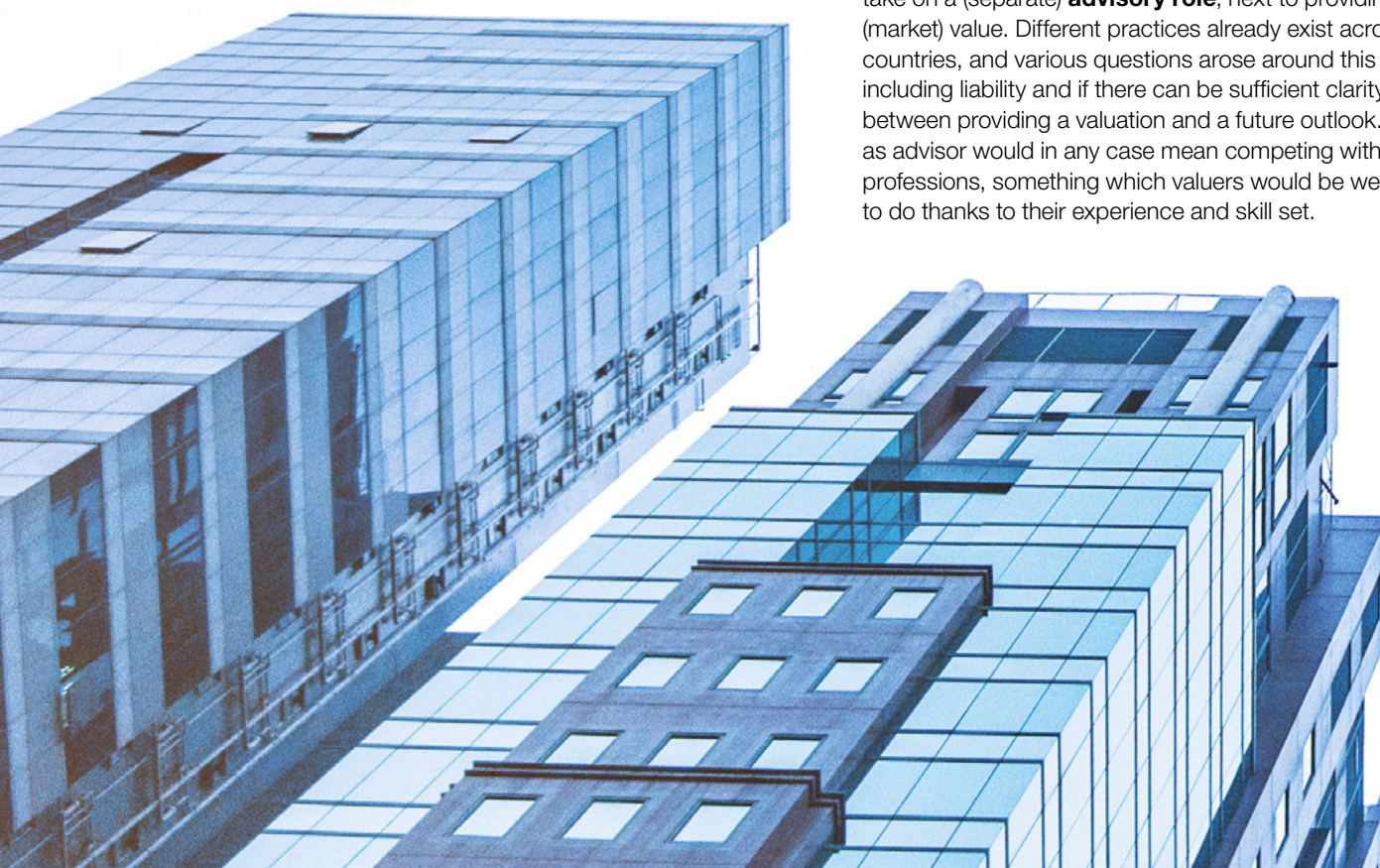
The report gives six recommendations for valuers, one for professional bodies and industry associations, and poses one question for further debate.

The six recommendations for valuers are:

- 1. Embrace technology** – valuers must be receptive to changes such as in how data is gathered and increased use of AVMs.
- 2. Enhance the client experience** – experimentation with new ways of reporting and the information provided can lead to better outcomes for the client.
- 3. Ensure independence and objectivity** – without independence and objectivity there can be no trust.
- 4. Beware of liability** – liability needs to be in line with risk and reward, with different levels depending on the assignment.
- 5. Reduce timescales** – digitisation will help the profession to become more agile. Reduced timescales should not compromise quality.
- 6. Update your skill set** – the profession must place increased emphasis on skills development, particularly in the areas of data analytics and client interaction.

For the real estate industry, professional bodies and associations, an additional recommendation is given to continue working on a **single set of international data standards**.

Finally, it was debated whether in future the valuer would take on a (separate) **advisory role**, next to providing a (market) value. Different practices already exist across countries, and various questions arose around this point, including liability and if there can be sufficient clarity between providing a valuation and a future outlook. Acting as advisor would in any case mean competing with other professions, something which valuers would be well-placed to do thanks to their experience and skill set.



1.0 Introduction

Any commodity can be valued. A valuation¹ is the result of a process determining that value. Sometimes this is relatively straightforward. Goods that can be immediately used and easily compared, such as most consumer products, do not require a professional to determine their market value. At other times determining value requires more skill and experience. This is the case when attempting to capture the value of a property: rarely will two buildings be exactly the same, and benefits from ownership or interests in property are generally realised over longer periods of time.

This paper focuses on valuation as **the process of determining the value of property**, both commercial and residential, by a **professional valuer**, specifically valuation undertaken for **banks or institutional investors**, such as pension funds, insurers and sovereign wealth funds. It stems from the RICS Futures report², published in 2015, which provides a vision of the real estate sector by 2030. It also offers advice on what industry and individual businesses should be paying attention to.

This RICS Insight Paper has been created by a group of experts from several EU countries. The content of this paper does not necessarily reflect the views of RICS, INREV and EMF-ECBC at this point in time. Rather, the aim is to stimulate debate between valuers and clients of valuations on the continued added value of valuations going forward. Our discussions drill down to the major touch points of change the expert group believes will have a significant impact on the valuation profession.

Valuations have become more sophisticated, and the underlying process has vastly improved in consistency and transparency, in part thanks to the efforts of the International Valuation Standards Council (IVSC), established in 1981, of which RICS has been a strong supporter. But ultimately, valuation purposes, and underlying methods, have not changed fundamentally in recent decades; a valuer still normally provides a client with a single figure, often an opinion of market value.

Through technological developments and client expectations, our aim with this paper is to explore what could change in the field of property valuation. It is a living document, intended to facilitate further reflection and debate between valuers, clients and their representative organisations, the 'PropTech' sector and RICS as a professional body. It touches on a wide range of topics, many of which deserve separate papers of their own. Those interested in continuing the debate further are invited to contact the author.



¹ The RICS Red Book 2017 defines 'valuation' as 'an opinion of the value of an asset or liability on a stated basis, at a specified date'. ² rics.org/futures

2.0 The how, what, who and why of a property valuation

Before we look to the future, it is useful to first reflect upon the how, what and why of valuation and the professional skills a valuer must possess.

2.1 Why do institutional investors and banks need valuations?

Valuations, mostly reflecting past or current value, are an intrinsic part of most reporting and business decisions, including financial reporting, tax reporting, litigation support and transaction support, and to support secured lending decisions³ (see table 1).

A valuation report following good professional standards and practice statements⁶ ensures clients receive:

- consistency in approach, aiding understanding of the valuation process and hence of the value reported
- credible and consistent valuation opinions by suitably trained valuers with appropriate qualifications and adequate experience for the task
- independence, objectivity and transparency in the valuer’s approach
- clarity regarding terms of engagement, including matters to be addressed and disclosures to be made
- clarity regarding the *basis of value*, including any (special) assumptions or material considerations to be taken into account
- clarity in reporting, including proper and adequate disclosure of relevant matters where valuations may be relied on by a third party.

Table1: Main valuation purposes

Institutional Investors ⁴	
1.	[Statutory] financial reporting
2.	Management reporting to shareholder and other stakeholders
3.	Performance measurement and [incentive] fee determination
4.	Regulatory authorities
5.	Securing finance/debt and on-going loan covenant compliance
6.	Corporate acquisitions and assessment of enterprise value
Banks ⁵	
1.	Mortgage origination for property purchase
2.	Underwriting of non-purchase mortgage loan products, e.g. remortgaging and re-pricing of [mortgage] loans
3.	Quality control tool in the mortgage origination process
4.	Support feasibility studies
5.	Regulatory capital requirement purposes
6.	Risk management
7.	Review of balance sheet assets [asset quality review]
8.	Non-performing loans
9.	Covered bonds and securitisation transactions [e.g. eligibility of collateral refinancing]
10.	Investment property fund and asset management
11.	Arrears management
12.	Taxation
13.	Accounting [IFRS]
14.	Property portfolio transactions
15.	Estimating cash flows

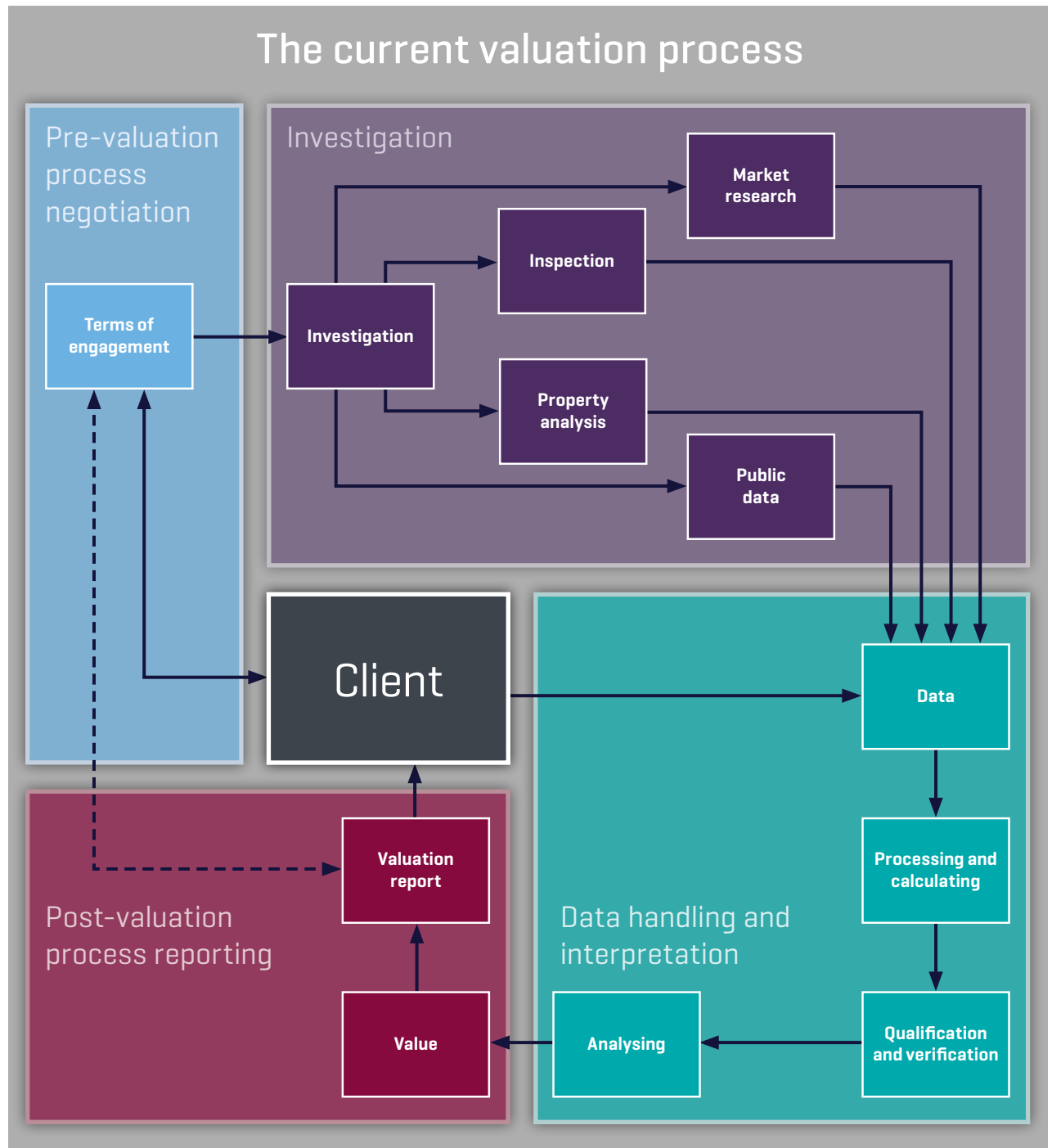
³ IVS 2017. ⁴ INREV guidelines 2017: www.inrev.org/guidelines ⁵ List provided by the European Mortgage Federation. ⁶ RICS Red Book.

2.2 The valuation process

The valuation process begins from the moment the client requests a valuation, up until the value is established and reported.

Figure 1 provides a high-level overview of the various stages in the valuation process.

Figure 1: A high level overview of the valuation process



2.2.1 Terms of engagement

A valuer and client are required to discuss and agree upon, in writing, certain details before the work starts (see Table 2).

2.2.2 Investigation

An investigation is a formal or systematic examination or research⁸ undertaken on a property. The Red Book 2017⁹ states that investigations ‘must always be carried out to the extent necessary to produce a valuation that is professionally adequate for its purpose’.

The four aspects of investigation are explained in Table 3.

Table 2: Terms of engagement⁷

Terms of engagement
Identification of the valuer, client(s), other intended uses and the property being valued.
The purpose of the valuation.
Basis(es) of value adopted.
The valuation date.
Nature and extent of the valuer’s work – including investigations – and any limitations.
Nature and source(s) of information upon which the valuer will rely.
Any (special) assumptions to be made.
Format of the report.
A confirmation that the valuation is undertaken according to International Valuation Standards (IVS) and a statement that compliance with these standards may be subject to RICS regulations.
A statement setting out any limitations on liability.

Table 3: Investigations

Inspection	Property analysis	Market research	Public databases
<p>A property inspection can either be a:</p> <ul style="list-style-type: none"> • Full <i>on-site</i> inspection, both internal and external or, • Drive-by inspection, [external only] <p>Inspections are usually carried out using standardised checklists [see annex B].</p>	<p>Valuers often specialise in certain asset types, e.g. residential, commercial, retail or industrial.</p> <p>It is the responsibility of the valuer to verify information and ensure they have relevant experience to accurately determine value.</p>	<p>A valuer needs to have a high level of insight into the local market. This can be at city, country or even international level.</p> <p>An important part of determining a building’s value is its location.</p>	<p>Public data is a valuable resource, equally available to everyone.</p>

⁷ A non-exhaustive overview on what these terms must include as outlined in the RICS Red Book 2017, VPS 1. ⁸ <https://en.oxforddictionaries.com/definition/investigation> ⁹ VPS 2.

2.2.3 Data

‘Notable differences from country to country emerged [on] the level of general market maturity in terms of market transparency or availability of data on transactions and building characteristics.’

‘The ... barriers are related to the general lack of market transparency, linking transaction and ... data, the lack of systematic and centralized collection and management of building information and finally the lack of quality assurance procedures relating to both basic transaction data and energy performance data ...’

Renovalue¹⁰

Gathering the right data through investigation and from the client is a crucial, yet often challenging, part of the process. The main steps are described in Table 4, with a more detailed description to follow in chapter 3.

2.2.4 Value and valuation report

The main result of the valuation process should be a single value, presented in the valuation report. That said, a valuation report is much more than just a value; it is the ultimate communication tool between the valuer and the client, and the way to channel the message. It provides clients with independent, comparable evidence, and a written confirmation of the value of a property that is neither ambiguous nor misleading.

2.2.5 The Client

Good contact with the client is required to receive information and ensure delivery of a fit-for-purpose valuation report. The valuer-client relationship will be explored further in chapter 4.

Table 4: Data handling

Qualification and verification	Processing and calculating	Analysing
Identifying and qualifying which data is relevant and verifying whether the data is of usable quality.	The ‘number crunching’ – translating the raw data into usable outcomes for the valuation report.	Interpreting the outcomes and turning them into explainable information for the client.

10 http://renovalue.eu/wp-content/uploads/2015/12/151114_MIR-WEB.pdf – EU funded, the RenoValue project delivered a training package for valuers to enable them to take into account sustainability and energy efficiency features in the valuation process. Roundtables took place in seven European countries. This comment was therefore made in relation to sustainability, but the working group is of the opinion that it is also valid in more general terms.

2.3 Valuation standards, methods and bases

To determine a value and deliver the valuation report to the client, the valuer has a framework at his or her disposal. For RICS valuers, these are adequately explained in the RICS Red Book. It is useful however to briefly state which valuation bases, approaches and methods are at a valuer’s disposal when delivering a valuation report.

2.3.1 Bases

Bases of value (sometimes called standards of value) describe the fundamental measurement assumptions on which reported values will be based. IVS 2017 includes six bases of value:

- market value
- market rent
- equitable value
- investment value (worth)
- synergistic value
- liquidation value.

IVS 2017 further includes a non-exhaustive list of other bases of value:

- fair value, e.g. as determined by the International Financial Reporting Standards
- fair market value, e.g. as determined by the Organisation for Economic Co-operation and Development.

Definitions of these value bases can be found in Annex A.

Market value, the most commonly used, is defined as:

‘...the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm’s length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.’

IVS 2017 further states that the valuer

‘...should not use a basis (or bases) of value that is inappropriate for the intended purpose of the valuation ... compliance with IVS may require the valuer to use a basis of value that is not defined or mentioned in the IVS.’¹¹

While the use of other bases does not occur often, it is allowed in principle.

What is important to consider for the purposes of this report is that **the above bases of valuation reflect the past**.¹² It is often said that valuers reflect the market; they do not make the market. These valuation bases appear to support that statement.

2.3.2 Approaches and methods

The different valuation bases can be attained by using several valuation approaches and methods. Table 5 lists these as described by IVS 2017.

Annex A provides more detailed explanations on the approaches and methods in Table 5. Valuers may use one method or a combination of methods depending on circumstances. The client should be aware and understand why a certain choice has been made.

Table 5: Valuation approaches and methods¹³

Approaches	Methods
<ul style="list-style-type: none"> ▪ Market approach ▪ Income approach ▪ Cost approach. 	<ul style="list-style-type: none"> ▪ Comparable transaction ▪ Discounted Cash-Flows (DCF) ▪ Replacement cost ▪ Reproduction cost ▪ Summation.

¹¹ IVS 104:20.2 ¹² Market Value may also reflect the current situation up to the valuation date, and certain bases (such as investment value) may have a forward-looking aspect to it ¹³ IVS 2017

2.4 Valuer skill set

According to IVS 2017, the role of a ‘*valuer*’ is an:

‘...individual, group of individuals or a firm who possesses the necessary qualifications, ability and experience to execute a valuation in an objective, unbiased and competent matter.’

Valuers fulfil a pivotal and responsible role operating at the interface between clients, financial providers and holders of property assets. As such, a competent valuer must possess a mix of competencies: hard skills such as gathering data through investigation, inspection and research, tempered with analytical insight, the exercise of professional judgement and people skills. Understanding the client’s needs and expectations, and explaining the use and limitations of a valuation in a way the client understands and accepts, is an important part of the role.

The RICS Valuation Pathway Guide¹⁴ lists the competencies a valuer is required to have. These include the following:

2.5 Conclusion

Valuation is a complex process, requiring a range of skills. A valuer is required to make several judgements to ultimately determine value. Valuations and valuers have a long history, and play a crucial role in many real estate-related decisions. In the next two chapters we will look at valuation trends that may necessitate a rethinking of existing processes and methods: technological developments and changing client expectations.

Conduct rules, ethics and professional practice	Inspection	Valuation	Health and safety
Client care	Communication and negotiation	Conflict avoidance, management and dispute resolution procedures	Team working
Measurement of land and property	Accounting principles and procedures	Data management	Sustainability

¹⁴ The RICS Assessment of Professional Competence – Valuation (August 2015) lists the competencies a valuer needs to be able to demonstrate in order to become an RICS member. The competencies listed in the RICS Valuation Pathway Guide are written in such a way to apply globally, both in mature and in developing markets. This means they may need further interpretation at a local level.

3.0 The advance of technology

‘The world is about to experience an exponential rate of change through the rise of software and services’

World Economic Forum, Deep Shift: Technology Tipping Points and Societal Impact

‘Our biggest competitor or threat is a company that we do not know yet, which could be two friends working together in a garage.’

PwC and the Urban Land Institute: Emerging Trends in Real Estate – Europe 2017

In April 2015, RICS published its Futures report outlining the key drivers of change for the land, real estate and construction sectors. It included a section¹⁵ on the shift from transactional to advisory roles, stating that:

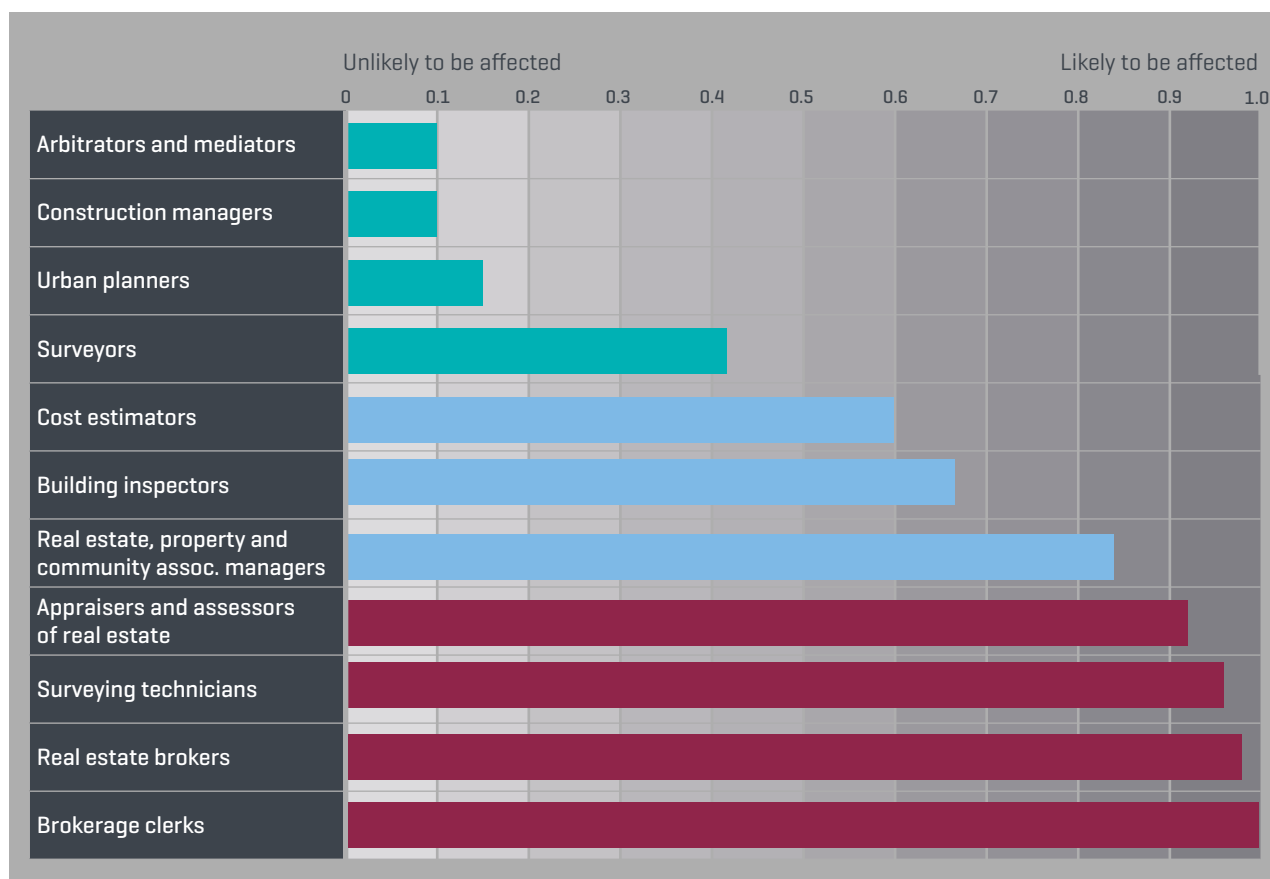
‘...disintermediation, triggered by access to information and the processing power of technology, is causing parts of agency, brokerage, valuation and cost estimation roles to take on a more services-and-advisory-based approach.’

The below figure from the Futures report was extracted from a study¹⁶ investigating 702 professions and the likelihood that they are at risk due to future computerisation.

This figure shows that valuation is among the most likely to be affected in the (near) future. The main question is whether these developments could help the valuer deliver a more accurate and efficient valuation, or alternatively, completely or partially, replace the role of the valuer.

This chapter will look specifically at recent developments in data (including big data), blockchain, artificial intelligence and automated valuation models.

Figure 2: Probability of professions being affected by technology

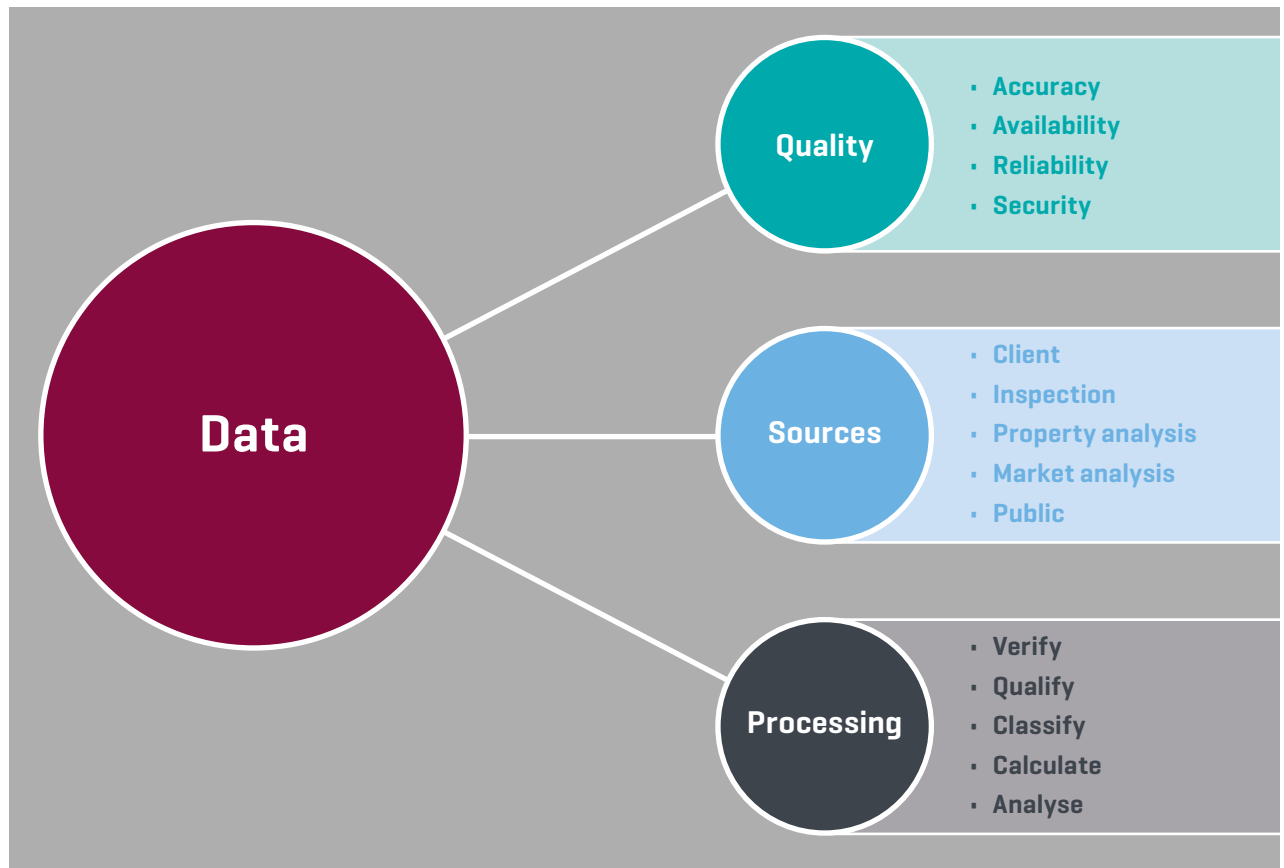


Source: Frey and Osborne 2013

15 RICS Insight: "Our Changing World: Let's be ready", paragraph 4.3.1, page 39

16 Carl Benedikt Frey & Michael A. Osborne – "The future of employment: how susceptible are jobs to computerisation"

Figure 3: Data and valuation



3.1 Data – the world’s most valuable resource¹⁷

‘A kid with a smartphone has more intelligent access to knowledge than the President of the United States 20 years ago.’

Ray Kurzweil

Data already plays a central role in the real estate sector and the valuation process, and will only become more important. Before going into the technological developments, we need to understand the role of data, as well as the challenges in gathering it, namely quality, sources and processing.

3.1.1 Quality

Data quality has a direct impact on valuation accuracy, and it must therefore be reliable, accurate, openly available and lastly secure, as the corruption of data

increasingly becomes an issue. Valuers must be transparent about the quality of data to ensure that clients have sufficient understanding of the accuracy of the value and the valuation report.

3.1.2 Sources

Currently, valuers predominantly use primary (or ‘direct’) data sources, such as client, inspection and property analysis, complemented by market analysis and public sources. Here the challenge is often accessibility. The expert group noted that a client is not legally obliged to provide a valuer with all the information available.¹⁸

3.1.3 Processing

Verifying, qualifying, classifying, calculating and analysing data. This links back to the importance of data quality, as a higher level of uncertainty about the accuracy and reliability of the data gathered leads to a higher risk of inaccuracy in valuation outcomes, or ‘garbage in, garbage out’.

¹⁷ The Economist, May 6th 2017, page 7 – The world’s most valuable resource. ¹⁸ Which differs from e.g. the relation between a client and an accountant.

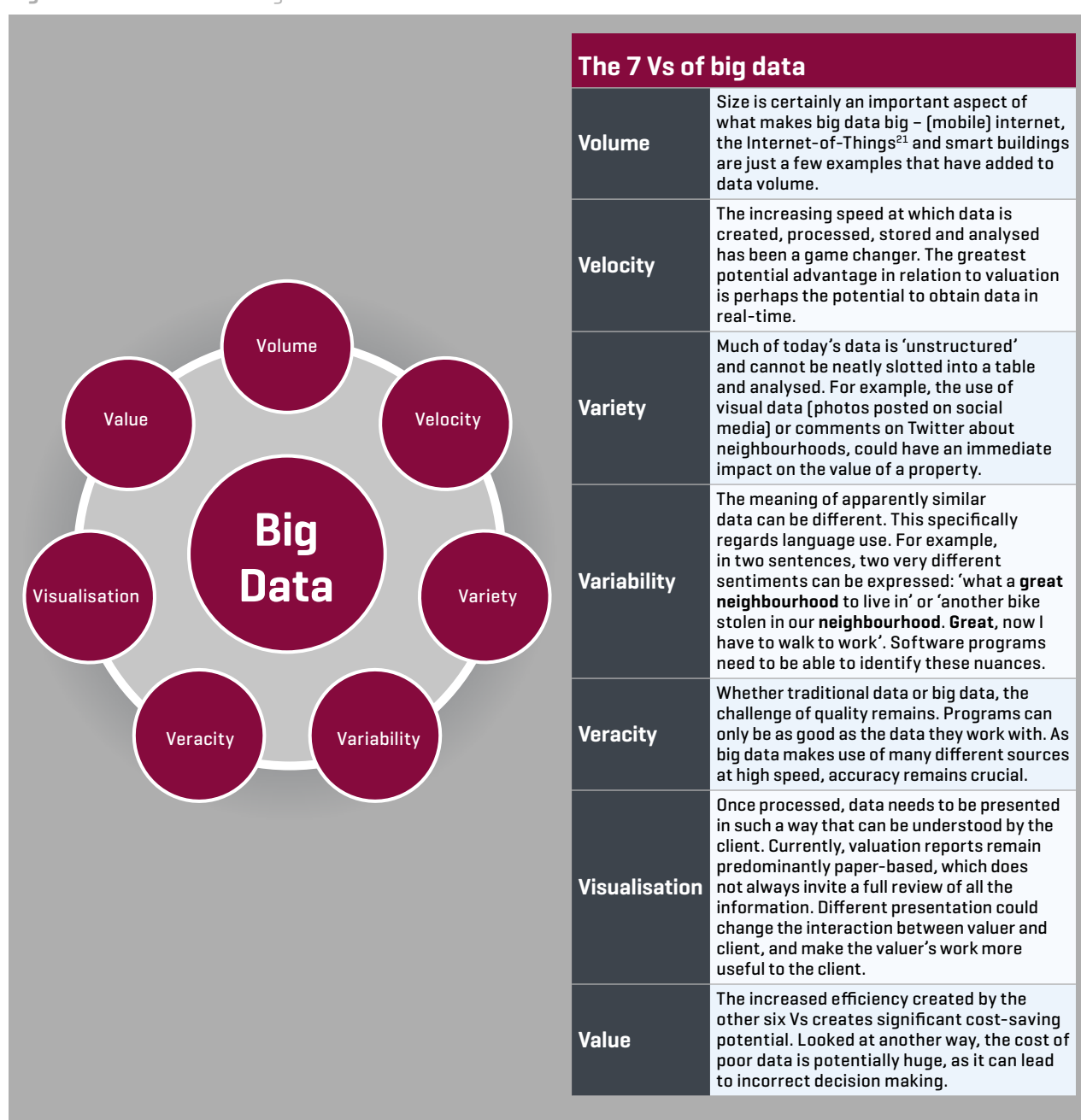
3.2 Big Data

‘The general consensus in the sector is that big data is relevant, even revolutionary. It is not a threat to companies. Instead, it offers them an opportunity to successfully face future competition.’

Catella – ‘Big data in the real estate sector – a big opportunity or a big threat?’

In the RICS glossary of PropTech terms¹⁹ big data is defined as ‘data sets so large or complex that traditional data processing applications are inadequate’. Often, big data is further defined using a number of Vs. Originally three, this has been expanded by some to seven²⁰, as shown in figure 4.

Figure 4: The seven Vs of big data



19 www.rics.org/uk/knowledge/glossary/glossary-and-acronyms-of-proptech/ 20 <http://dataconomy.com/2014/05/seven-vs-big-data>
 21 www.theguardian.com/technology/2015/may/06/what-is-the-internet-of-things-google

3.2.1 Big data and real estate

While big data in real estate is still in its infancy, it is fast becoming a key basis of competition and growth for firms, including those in the real estate, construction and built environment sectors. As digitisation is still not at the core of many real estate companies, there is tremendous room for growth. At the same time, it is felt that real estate professionals are behind the curve and may not have sufficient training and experience to make optimal use of big data.

Table 6 lists the potential advantages and challenges of big data for the real estate industry. Example 1 shows a project undertaken by the banking sector.

Example 1: Real Estate Taxonomy²⁶

SBR Banks in the Netherlands are developing a system of Real Estate Taxonomy-based Standard Business Reporting (SBR). At the moment banks receive real estate reports in many formats (paper, PDF, Word, Excel, etc.), which leads to inefficiencies and inaccuracies, as data is held in different places in different ways. Through standardisation and digitisation, information will be exchanged consistently and continuously. Valuers are playing a central role in this project, as they are responsible for assessing and delivering the data to the client.

Table 6: Advantages and challenges of big data for real estate²²

Advantages	Challenges
<ul style="list-style-type: none"> ▪ Greater forecast stability and accuracy, improving the decision-making process ▪ Used correctly, it can produce more information and, by extension, enhance market transparency ▪ Its suitability for performing fast and comprehensive analyses 	<ul style="list-style-type: none"> ▪ The relatively high price tag ▪ Ethical considerations around privacy trade-offs and data protection laws, relating to the issue of data ownership, data-sharing, anonymity, security and consent ▪ Potential for manipulation ▪ The accessibility and usability of data ▪ Issues around feedback loops [when big data affects numbers that are entered back into data calculations] ▪ Lack of standardisation of data/collection methods. International Property Measurement Standards²³ have been acknowledged as one of the efforts to create this standardisation²⁴ ▪ Data collection and processing is often spread throughout a company and can be performed by [e.g.] junior staff, research or specialised staff. It stands to reason that, looking forward, data collecting and processing will become a more specialised profession, or a more automated one ▪ The importance of speaking the same language when data is standardised. Software tools can be of help here. A global example is XBRL²⁵

²² 2015 Catella Research paper "Big data in the real estate sector – a big opportunity or a big threat?" ²³ <https://ipmsc.org> ²⁴ 2015 Catella Research paper "Big data in the real estate sector – a big opportunity or a big threat?" ²⁵ <https://en.wikipedia.org/wiki/XBRL> ²⁶ <https://sbrbanken.nl/sbr-banken-breidt-vastgoedtaxonomie/>

3.2.2 Big data and valuation

In relation to valuation, big data can be used by valuers to paint a clearer picture of the present value and assist in a future 'value' prediction of any real estate property. Examples of data impacting property values include crime and school data, flood map data, home prices, delinquency rates, home equity, housing inventory, local industries and much more.²⁷

Also, big data:

- can transmit information on values and help create detailed visualisations such as heat maps and 3D-illustrations
- has predictive qualities, which could help valuers in commenting on future directions of value and determining projected value²⁸
- could (partially) replace the primary data sources mentioned earlier. Freely available secondary data tools such as Google Analytics and Google Trends can provide added value.

On the one hand, big data could²⁹ augment human expertise, not replace it. Currently, a valuer spends a significant amount of time on data-related work compared to other aspects of the valuation process. Big data could reverse this. On the other hand, big data could mean that in future less valuers will be needed to perform the same job.

Will less time spent on data-related work mean more time will be spent on other aspects of the valuation process to ensure higher quality valuations? Or will less time spent on data-related work simply mean less time spent on valuations? Only time will tell.

The expert group believes that to a certain extent big data can provide all the advantages mentioned. However, today more specialised property remains an issue and there is also a danger of information overload. It was noted that different valuation purposes need different data, and the question here is whether big data will be able to take that into account.

Finally, the ultimate question was raised: who, in the end, will analyse all this information, and how will this be done? Currently, this role remains human, but recent progress in artificial intelligence may change this in future.

What we can say at this point is that big data is an unfinished, constantly changing umbrella-concept, but is developing fast and has great potential for the real estate sector and valuations.

Example 2: CycloMedia

CycloMedia is a Dutch company specialising in the large-scale and systematic visualisation of environments based on 360° panoramic photographs, which are stored in an online database. Their products offer the possibility to view and inspect a property online. It is possible to view real estate objects both from street level and from the air, enabling a valuer to assess the condition of real estate objects without having to visit them. It can also be used to validate data such as external floor area and create images for reports. This system does not look at the inside of the building.

²⁷ https://www.housecanary.com/images/Valuation_Review-the-importance-of-big-data-in-appraising.pdf ²⁸ Red Book 2017, VPS 1: "It is recognised that for some purposes a projected value may be required in addition to a current valuation. Any such projection should comply with the applicable jurisdictional and/or national standards." ²⁹ https://www.housecanary.com/images/Valuation_Review-the-importance-of-big-data-in-appraising.pdf

3.3 Blockchain

'The potential of blockchain lies in the fact that trust is built into the technology's design.'

ABN Amro

Another relevant and recent development is blockchain. Mostly known for Bitcoin, its potential goes potentially far beyond the establishment of a digital currency.

3.3.1 What is blockchain?

Blockchain is an algorithm-based public ledger where transactions are recorded and confirmed anonymously; a decentralised asset database that can be shared across a network of sites, geographies or institutions, requiring no third-party involvement. Blockchain is essentially a digital ledger, where commercial information is recorded, stored and trusted, but with a key difference to traditional ledgers: Algorithms enabling the collaborative creation and storage of information. These 'distributed ledgers' have properties and capabilities that go far beyond traditional ones.³⁰

All participants within a network have their own identical copy of the ledger. Any changes are reflected in all copies quickly, creating full transparency. This information is put in 'blocks' which are then strung into a 'blockchain'. Once something is in the blockchain, it is there forever, and the public nature of the system means that anyone can check it, any time.

Basically, blockchains will allow transactions to move from the analogue to the digital era in a secure and transparent way. In an article published in the RICS Land Journal, it is compared to the effect of the internet and email on post offices, as:

'...before email, you needed envelopes, stamps, trucks, sorting facilities and postal workers to organise and distribute the mail if you wanted to send a letter. Once people can easily verify property records themselves and transfer a title digitally, brokers, escrow companies, title insurance companies, country recorders and notaries will go the way of the post office.'

The advantages and challenges of blockchain are described in Table 7.

Table 7: The advantages and challenges of blockchain

Advantages	Challenges
<ul style="list-style-type: none"> ▪ A self-regulated and secure system, more so than current analogue and digital ledgers, as it is decentralised and not dependent on any single server or person ▪ It can save costs and increase efficiency, as it can allow for a quick and easy transfer of assets by cutting out intermediaries who currently hold information that is not shared ▪ Increased transparency and fraud prevention. Blockchain enables a clear log of the data that is inserted, and is often checked by multiple sources, reducing opportunities for forgery. 	<ul style="list-style-type: none"> ▪ Security: while seen as less susceptible to fraud than paper and digital documents, checks and balances need to be in place to limit the risk of fraud. As a popular saying goes, 'anything digital can be hacked' ▪ The potential lack of willingness of involved parties to share data in the first place, as sharing data may go against their interests.

30 UK Government Office for Science (2016) – Distributed Ledger Technology: beyond block chain

3.3.2 Blockchain and valuations

*'Blockchain will enable every property, everywhere, to have a corresponding digital address that contains occupancy, finance, legal, building performance and physical attributes that conveys perpetually and maintains all historical transactions.'*³¹

Jason Ray, Chief Customer Officer at Indigo

Blockchain may very well cause major disruption among notaries and real estate professionals directly involved with transactions, such as real estate agents. At this point in time, the potential impact for valuers and valuations as identified by the expert group is seen as less severe, with blockchain having the potential to deliver increased:

- **transparency and trust:** as transactions are one of the most important data inputs into the valuation process, blockchain could simplify and speed up part of the work, increasing the reliability of information gathered and therefore the accuracy of the valuation.
- **portability of valuations:** leading to less valuations being requested. However, questions around liability and usability for third parties remain.

Example 3: Blockchain and mortgage valuation

In October 2016, the Bank of China and HSBC announced they would launch a property survey database.

The Bank of China has led tests on a property valuation system for home loans based on blockchain technology. It will use the secure database capabilities of blockchain to provide quick property valuations for mortgage applicants in Hong Kong. As customers shop around for mortgages, the same survey work is often conducted multiple times on the same property. Blockchain could be used to create a decentralised network of banks and surveyors through which the latest valuations can be listed, verified and shared – in a matter of seconds.

Example 4: Torch: blockchain in commercial real estate

ABN AMRO has launched a pilot to explore how the blockchain application Torch can help parties involved in real estate transactions record and exchange information.³²

Real estate transactions involve numerous parties, such as buyers, sellers, tenants, landlords, appraisers, notaries, banks, the Land Registry Office, the Chamber of Commerce and regulators.

In this blockchain pilot, commercial real estate clients are given the opportunity to enter their lease contracts for properties financed by ABN AMRO in the Torch app. If the property needs to be valued, the bank employee uses Torch to send the necessary details directly to an appraiser. When the valuation report is finished, the appraiser shares it with the bank and the client. The regulator (in this case the Dutch Central Bank, which is responsible for monitoring how banks value and finance commercial real estate) also has access to Torch and this information.

According to the ABN AMRO press release:

*'The potential of blockchain lies in the fact that **trust** is built into the technology's design. In addition, it makes transactions programmable by means of so-called **smart contracts**. As such, blockchain can offer efficient, reliable and tailor-made support to multi-party processes, like commercial real estate transactions – or like logistic processes, an area where ABN AMRO has also launched several blockchain pilots. This latest pilot is part of the bank's strategy to offer innovative solutions for commercial real estate financing.'*

³¹ RICS Property Journal (November 2016). ³² www.abnamro.com/en/newsroom/press-releases/2016/blockchain-pilot-in-commercial-real-estate.html

3.4 Artificial Intelligence and automated valuation

'AI can learn from previous situations to provide input and automate complex future decision processes, making it easier and faster to arrive at concrete conclusions based on data and past experiences.'

World Economic Forum – Deep Shift: Technology Tipping Points and Societal Impact

3.4.1 From chess to poker: the breakthrough of Artificial Intelligence

The claim of artificial intelligence (AI) is that it can perform a task as well or better than a human, with a higher degree of accuracy and in less time. Computers have not only become more powerful in an exponential way,³³ relatively recently they have also become 'smarter'. Whereas the term AI has been around since 1956, it is only recently that machines have begun to be able to solve the kinds of problems once reserved for humans.

Advancements in computing power and the possibilities of AI can be seen in the field of games, specifically board games. Table 8 provides a description.

From only using computing power in 1997, nowadays AI relies on other developments as well, such as neural networks³⁴ and reinforcement learning.³⁵ For the purpose of this paper we will not elaborate on this, but these developments are fundamentally different and could have far-reaching implications.

AI is currently everywhere, busily disrupting sectors or on the verge of doing so. Self-driving cars are a prime example; it is not unreasonable to suggest that the jobs of taxi and truck drivers may be at risk in the not-too-distant future.

Whereas earlier technological disruptions caused changes in predominantly routine and manual labour, it is expected that AI could also have an impact on high-skilled, non-routine and cognitive work. If true, what impact could it have on valuation?

3.4.2 Valuation applications

AI valuation applications take inputs from many disparate sources³⁶ and through an evolutionary process, generate algorithms that output valuations. These are tested against known 'good' valuations to appraise the weightings of the input multipliers. The AI accepts feedback, essentially the difference between the results and the 'correct' answer, evolving the algorithm hundreds of times until outputs closely resemble 'accepted' valuations. At this point the application could be ready to accept new instructions to value assets that have unknown valuations.

Table 8: The progress of AI

Year	Event	Significance
1997	Chess: Gary Kasparov was beaten by an IBM supercomputer called <i>Deep Blue</i> .	This event is generally seen as the first time man was beaten by machine. Deep Blue, however, relied solely on brute computational force. Put simply, it was a very powerful computer, operating on logic.
2016	Go: Google DeepMind's <i>AlphaGO</i> beat 18-time world champion, Lee Sedol	Go is a complex board game that requires intuition, creativity and strategic thinking. It was long considered a more difficult challenge in AI than chess because the number of potential moves is much greater. More computing power may have worked at one point in time, but the solution was centred around the machine learning and playing against itself millions of times to get stronger.
2017	Poker: The AI computer programme <i>Libratus</i> beat 4 of the worlds' best poker players in a Texas Hold'em tournament	A specific algorithm was developed for AI to tackle the game of poker. This was yet another breakthrough, as poker players only have partial information about the game state, as they cannot see all the cards. Also, there is the human element of bluffing.

³³ Moore's law, dating back to 1965, states that computing power would double approximately every two years. Whilst logic dictates this doubling cannot be extrapolated into the future indefinitely, Moore's law is still valid today and is likely to remain so in the near future. ³⁴ https://en.wikipedia.org/wiki/Artificial_neural_network ³⁵ https://en.wikipedia.org/wiki/Reinforcement_learning ³⁶ Traditional ones such as age of the asset, state of repair and location, but also non-traditional ones through Big Data, such as demography, crime rates, etc.

3.5 Automated Valuation Models

Automated valuation models (AVMs) have been around for quite a while now, and are becoming much more sophisticated. They have been variously looked upon by the valuation profession as a helpful tool or as a potential threat. What is clear is that AVMs are:

- here to stay
- used predominantly for residential property only
- undergoing many developments, with significant progress made in their usability and accuracy.

Detailed information on AVMs and techniques used (such as multiple regression analysis (MRA), indexation, and artificial neural networks (ANN), can be found in the RICS information paper *Automated valuation models (AVMs)*.³⁷

For this paper, we will focus on the future of AVMs: how they are likely to develop; and whether current technological developments can broaden their usability.

3.5.1 What is an AVM?

The RICS information paper *Automated valuation models (AVMs)*, describes AVMs as:

‘...one or more mathematical techniques to provide an estimate of value of a specified property at a specified date, accompanied by a measure of confidence in the accuracy of the result, without human intervention post-initiation.’

In practice, there is often an element of human interaction before and after, as an AVM can also be used to assist a qualified valuer in producing an estimate of value. Table 9 lists the advantages and challenges of AVMs.

3.5.2 How are AVMs currently used?

The European AVM Alliance describes AVMs as a ‘tool for all stakeholders in the residential property market’. Specifically, AVMs can have a use for portfolio valuation, valuation audit and mortgage origination.³⁸

The consensus is that currently AVMs are most (if not exclusively) suitable for residential property. This is because for an AVM to be reliable and consistent, the volume of comparable transactions needs to be reasonably high, with the differences between properties identified through straightforward attributes (such as number of bedrooms or floor space). The ‘confidence factor’, based on estimated accuracy, is an important consideration³⁹ on whether to rely on an AVM.

Finally, it is worth noting that, next to a value, AVMs can provide a value range, which will have a standard deviation that can be wide (less accurate) or narrow (more accurate) depending on the mentioned confidence factor.

3.5.3 AVMs and AI

The use of AI relies on the strength of the input data and the similarity of assets that have been used to programme the original algorithm. The skill a valuer brings to this area should be the recognition of when AVMs are an appropriate tool and when to rely on alternative models.

Table 9: The advantages and challenges of AVMs

Advantages	Challenges
<ul style="list-style-type: none"> ▪ Saves time, money and resources, and helps manage the ever-increasing data stream, providing a level of certainty ▪ Removes the human element, reducing the risk of fraud. 	<ul style="list-style-type: none"> ▪ System can be subject to fraudulent activity ▪ It cannot perform a physical inspection of the property, instead assuming an average condition that may not reflect reality ▪ Lower performance applies with new build properties due to a lack of comparable properties and historic data ▪ There is potential for distorted valuations if bad data is allowed to seep into the system.

³⁷ http://www.rics.org/Global/Automated_Valuation_Models_1st_edition_PGguidance_2013.pdf ³⁸ COO of Hometrack Data Services, David Catt
³⁹ Depending on the valuation use, there may be circumstances where a client is satisfied with a relatively low level of confidence.

Als are essentially black boxes. Once they have been trained it is very difficult to describe how a valuation has been calculated and even more difficult to modify the valuation model without affecting the work undertaken to generate previous accurate valuations. It may prove very complicated for a valuer to explain the methodology that an AI-equipped AVM has employed should there be a legal requirement to do so.

Clearly, when combined with automated input streams, AVMs can operate far more quickly than their human counterparts and as such could increasingly become an indispensable tool for valuers.

3.5.4 Alternative futures and the role of AVMs

At this point in time, AVMs cannot substitute the valuer in all instances. However, it is hard to imagine improved AVMs (based on AI and big data developments) not having an impact on valuations. It stands to reason that as AVMs develop, their usability will expand towards different property types and more complex valuations.

What the impact will be exactly remains a matter of opinion at this stage. Some contributors to this paper believe AI could replace the valuer, whereas others believe it will help the valuer. These opinions have been summarised in table 10.

Table 10: Contributors opinions

AI enhanced AVMs will *replace* the valuer

'I believe that, in future, the majority of valuations will be carried out by AI systems. The big accountancy firms are already seeing a complete change of the way they work, with the human audit work to be replaced by software with a much smaller group of employees with different, data-related, skills behind it. Most aspects of a valuer's work are basic and not more complex than other kinds of advisory activities. We already see a first step with automated valuation models (AVMs) undertaking mass valuation work performed for banks. What AVMs do today, AI will be able to do much better tomorrow.'

Laura Piantanida MRICS
Managing Director, Reddy's Group srl

AI enhanced AVMs will *help* the valuer

'Valuation is often described as "part art, part science". AI will certainly change the way valuers work and the time they spend on the different parts of the valuation process. AI can significantly streamline the routine aspects of the valuation process, allowing valuers to spend less time on gathering and analysing data, and more time on interpreting data and providing real estate advice on the basis of market value and the valuer's expertise and knowledge. AI may even eliminate the "science" part of valuation, but it will not replace the "art" of valuing, where the valuer interprets the data, and makes a judgement on the impact of that data on value.'

Alexander Aronsohn FRICS
IVSC Technical Director

3.6 Other developments

It is worth noting some other developments that are likely to have an impact on the valuation process.

3.6.1 Terms of engagement – smart contracts

Smart contracts are computer protocols that facilitate, verify or enforce the negotiation of performance of a contract, or that make a contractual clause unnecessary. They are blockchain-based systems that could facilitate agreement on the terms of engagement and limit the chance of conflicts as well as the need for lawyers.

3.6.2 Inspection – drones

Drones can already be used to inspect property exteriors from different angles than a human can. In many countries there are regulations and restrictions in place on the use of drones,⁴⁰ and in any case the use of a professional drone pilot is advised.

3.6.3 Inspection – the Internet of Things and smart buildings

The developments around the Internet of Things and the concept of ‘smart’ buildings (including smart meters) could lead to less need for inspection of the inside of the property, if measured and recorded in a standardised way. ‘Smart’ can go from simply collecting data (e.g. smart thermostats) to actually regulating the building’s environment (e.g. smart thermostat controlling).

3.6.4 Inspection – image streaming/recording

Perhaps not a new technology, but recording devices can be used when inspecting the inside of a property, saving the valuer travel-time. A question here is whether this recording can be done by anyone, or if it requires training. Also, the recording could be streamed live, with the valuer guiding the person holding the recording device, or can be watched by the valuer at a later stage.

3.6.5 Valuation report – visualising

Valuation reports are still predominantly paper-based. They can be uninviting to read, and clients may only be interested in two things: the final value and the signature of the valuer responsible.

Reporting beyond paper may add benefit of the valuer’s services to the client. Technological developments such as videos, 3D (BIM) visualisation, heat mapping and the use of virtual reality could have a positive impact.

3.7 Conclusion

Considering the valuation process as described in the previous chapter, it stands to reason that the described technological developments will have an impact on parts of the valuation process and potentially on the role of the valuer itself.

Less time may be spent on:

- **investigation**, as big data and blockchain increase and improve data availability, accuracy and transparency
- **inspection**, as the use of drones and the internet-of-things increases
- **verifying** and **analysing** data as AI develops.

This may result in fewer valuers being needed to perform the same service to clients, or to valuers spending less time on individual valuations.

Not all technologies may develop as described. Certainly they will not reach maturity at the same time. Annex C gives an indication of when certain technologies may reach their tipping point.

An added value of technological developments could be the change in the way a valuer reports the result to the client. Valuers who can embrace new digital ways of reporting will be able to provide a different level of service to their clients.

Next to technological developments, the development and adoption of international standards, most notably in the field of property measurement (IPMS – International Property Measurement Standards) and construction costs (ICMS – International Construction Measurement Standards) should lead to increased comparability and transparency, and therefore to increased accuracy and reliability of valuation data. Next to these, RICS and other organisations are also looking into the development of relevant data standards. The above raises an important question: how can valuers continue to add value to their clients? To determine that, we will first need to look at what the client expects from a valuation report.

40 Michael Holden – RICS Building survey and drones (<https://michaelholdenfrics.co.uk/blog-post/rics-building-survey-drones>)



4.0 Changing client expectations

'Property valuations play an important role in many aspects of business and corporate decision-making. The role of valuations in the commercial and residential lending sector is self-explanatory in that they act as a risk control measure in the capital adequacy system maintained by financial institutions.'

Kamalahasan Achu

In this chapter we will look at the main drivers that may change, or have already changed, client expectations for valuation. Valuations have come under increased regulatory and public scrutiny. While market value remains the dominant basis for many valuation purposes, the global financial crisis showed limitations to the reliance on market value in the case of a severe market downturn.

4.1 Investors, banks and real estate – current trends

'Valuation has become a difficult task in the current market conditions. The mismatch between the expectations of valuation reports users (property owners, investors, banks, auditors and regulators) and what valuers actually do has ... increased and appears to be difficult to overcome.'

Well-valued real estate – 28 recommendations for valuations and valuation reports

Before going into detail, it is important to look at what is on clients' radars and how this could potentially impact on the value of their real estate portfolio.

4.1.1 'FinTech'

With their increasing experience in financial technology or 'FinTech', banks may be quicker to embrace the advantages of PropTech developments than the real estate sector itself.⁴¹

Also, technological developments can make commercial real estate data more widely available and transparent, which could lead to clients performing certain real estate services in-house.

4.1.2 War for talent

Increasing urbanisation and millennials' preference for an open and flexible work culture are changing the employment marketplace. There could be a greater demand for mixed-use developments and a changing demand in terms of location. Traditional office space in out-of-town business districts and poor public transport connections may suffer.

4.1.3 Security

Any data breach will negatively impact consumer confidence in the financial sector. As buildings become more digital, e.g. by making them 'smart' and through the Internet of Things, how does this impact on a building's value?

4.1.4 Collaborative/sharing economy

Access to buildings may become more preferred over ownership. Dynamically configurable spaces and flexible leases are increasingly on offer and also demanded by clients, following a trend where commercial real estate could be more seen as a service rather than an asset to be leased.⁴²

4.1.5 E-commerce

Increased buying and selling online has an impact both on retail and logistic space.

4.1.6 Future of mobility

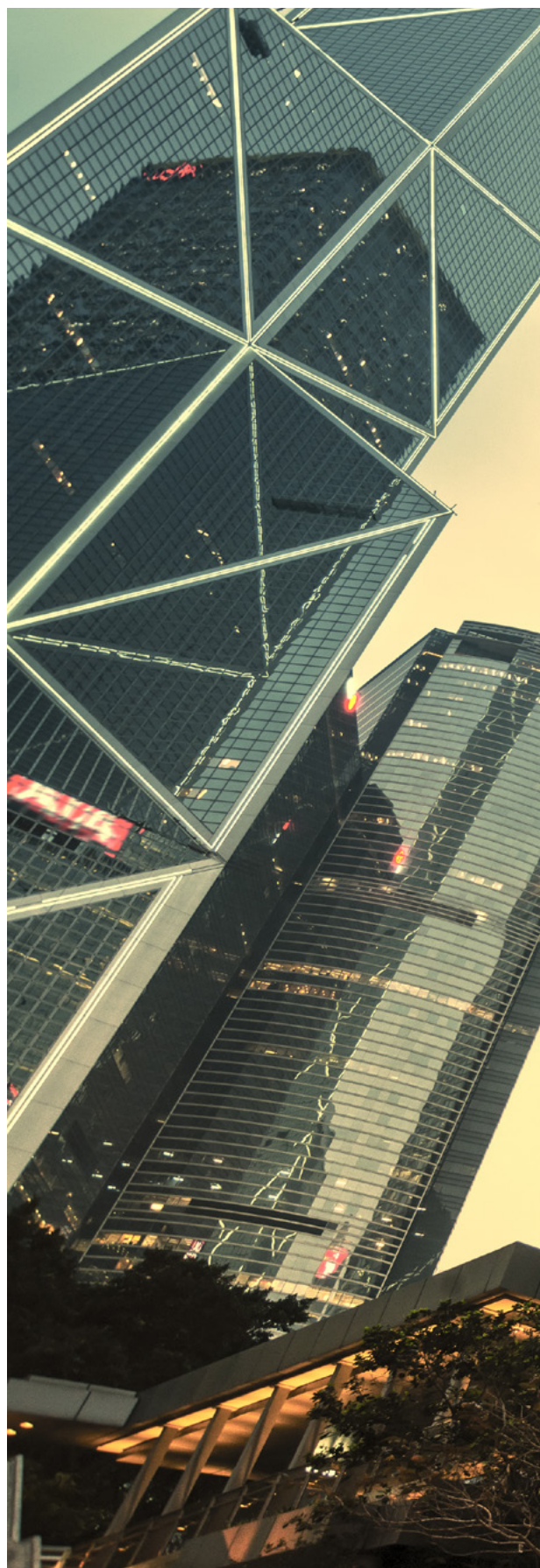
Self-driving cars and 'pay-per-use' cars replacing car ownership will have an effect on residential real estate, as well as the value of parking spaces and location of office buildings.⁴³

4.1.7 Demographic trends

Ageing, migration and social inequality are trends that impact on urban structure and therefore require attention in terms of their potential impact on building values.

4.1.8 Climate change

Climate change adaptation and mitigation in the built environment is a clear source of concern. This will be addressed in more detail in the sustainability section of this chapter.



41 For example in the use of Blockchain technology. See 3.3 42 PwC and ULI: Emerging Trends in Real Estate – Europe 2017 43 PwC and ULI: Emerging Trends in Real Estate – Europe 2017

Table 11: EU legislation and guidance referencing property valuation

EU legislation and guidance referencing property valuation	
The Mortgage Credit Directive⁴⁴:	The first EU Directive requiring Member States to establish valuation standards. It advises that these standards are based on existing international valuation standards such as the International Valuation Standards (IVS) from IVSC, the RICS Red Book and the TEGoVA Blue Book. There are also requirements for the valuer, e.g. on independency and competency.
The Capital Requirements Regulation⁴⁵ and Directive⁴⁶	Implementing the requirements of the Basel Committee on Banking Supervision. ⁴⁷ Valuation definitions for market value and mortgage lending value, as well as requirements for valuation frequency.
The Alternative Investment Fund Managers Directive (AIFMD)⁴⁸	Regulating various types of investment fund managers, including property investment funds, contains a specific article on valuation, including a requirement of unlimited liability in case of negligence that is causing issues both for valuers and investors.
Solvency II⁴⁹	Specifies, e.g., capital requirements for insurance firms, including provisions for the valuation of both assets and liabilities.
Non-Performing Loans⁵⁰	Guidelines from the European Central Bank containing a chapter on collateral valuation for immovable property, including recommendations for frequency and methodology of valuations, the use of international valuation standards and requirements for valuers.

4.2 The regulatory environment

Post global financial crisis we have seen an increase in regulation affecting the finance sector, including the valuation aspect. Table 11 provides a non-exhaustive list of relevant legislation and guidance from the EU.

Regulation aimed at financial services often gives preference to short-term investment, which can have negative consequences for real estate investments by banks and institutional investors, which generally focus on the long-term.

A side effect of increased regulatory requirements is an increase in valuation demand. Valuers are asked more and more to work with banks and investors (such as insurance companies, pension funds and sovereign wealth funds) to look at their portfolios (and those of their clients) to ensure legislative compliance.

4.3 Sustainability and value

'As part of the wider efforts to implement the Paris Agreement, every real estate asset owner, investor and stakeholder must now recognize they have a clear fiduciary duty to understand and actively manage environmental, social, governance (ESG) and climate-related risks as a routine component of their business thinking, practices and management processes.'

Failure to address these risks will not only hinder global efforts to address the climate challenge, but will also hurt long-term returns, undermine economic sustainability and reduce the caliber of the infrastructure passed to future generations.'

United Nations Environment Programme – Finance Initiative (UNEP-FI) – Sustainable real estate investment

Sustainability, as defined by the Red Book is "taken to mean the consideration of matters such as (but not restricted to) environment and climate change, health and well-being and corporate responsibility that can or do impact on the valuation of an asset. In broad terms it is a desire to carry out activities without depleting resources or having harmful impacts." Climate-resilient and sustainable real estate can affect property value. More efficient and 'green' properties can reduce operating expenses, support efforts to achieve top-of-market rents, reduce vacancy and void periods, lower risks of mortgage default and meet the increasing needs of occupiers who are using their offices to make their employees more engaged, healthy and productive.

However, valuers reflect the market; they do not lead it. Solid evidence of factors impacting the value of properties is needed. So far, despite the growing number of studies in this area, most research aiming to provide the empirical evidence that valuers need has been of limited use, as very few analysed local transaction data. The RICS guidance note *Sustainability and commercial property valuation* encourages valuers to be aware of sustainability features

44 Directive 2014/17/EU 0 45 Regulation (EU) no 575/2013 46 Directive 2013/36/EU 47 CRR/CRD IV implements the Basel 3 requirements
48 Directive 2011/61/EU 49 2009/138/EC 50 Guidance to banks on non-performing loans – March 2017

and the implications these could have on property values in the short, medium and long term. Valuers are also advised to collect appropriate and sufficient sustainability data as and when it becomes available for future comparability, even if it does not currently impact on value. The importance of building the right dataset as a minimum requirement for proving the impact of sustainability on value should not be underestimated. Example 5 provides a practical example of how banks and valuers are working together to create such a dataset.

While the discussion on sustainable buildings and potential 'green' value is ongoing, the built environment as a whole remains behind on sustainability and energy efficiency. In the EU, the introduction of mandatory energy performance certificates (EPCs) has been a huge step forward, but still needs to be improved. A global report⁵¹ published by the International Energy Agency on how technologies perform towards a sustainable energy transition, says that 'buildings', 'building envelopes' and 'lighting, appliances and equipment' are all off track. With the adoption of the Paris Agreement at COP21, we can expect all ratifying countries to increasingly pursue strategies aimed at reducing greenhouse gas emissions and transitioning towards a low-carbon economy. The built environment may very well become a focus area even more than it is today.

Making buildings better for the people in them could also potentially have an impact on value. In the residential sector, the Healthy Homes Barometer 2017⁵² states that people are 40 per cent more likely to have asthma simply due to living in a home with damp or mould, with the cost to European societies of asthma and chronic obstructive pulmonary disease estimated at €82 billion per year. In offices, productivity can be increased through a focus on creating a healthy, sustainable building.⁵³

The discussion around a building's sustainability is often directly linked with another discussion among valuers and between valuers and clients; a building's future, or long-term, 'value'.

Example 5: Green mortgages – the European Mortgage Federation leading the way⁵⁴

The EU-funded EeMAP initiative aims to create a standardised 'energy-efficient mortgage', where building owners are incentivised to improve the energy efficiency of their buildings or acquire an already energy-efficient property with preferential financing conditions linked to the mortgage.

At the heart of the initiative is the assumption that energy efficiency mitigates risks for banks as a result of its impact on a borrower's ability to service their loan and on the value of the property.

The project builds on two key assumptions:

1. improving energy efficiency of a property has a positive impact on property value
2. energy-efficient borrowers have a lower probability of default.

Led by the European Mortgage Federation-European Covered Bond Council (EMF-ECBC), other partners include the World Green Building Council and RICS. The project will be finalised in April 2019.

RICS leads the workstream on valuation, which aims to establish a 'data warehouse' that will enable valuers to start taking energy efficiency fully into account when valuing a property for mortgage purposes.

Other deliverables include training, an inspection checklist and instructions for banks on how to value these properties.

51 International Energy agency (2017) – Tracking Clean Energy Progress 2017 <https://www.iea.org/etp/tracking2017/> 52 http://velcdn.azureedge.net/~media/com/health/healthy-home-barometer/507505-01%20barometer_2017.pdf 53 An example of how to measure this is the standard developed by the International Well Building Institute which looks at how design and operations of buildings impact and influence human behavior related to health and well-being. They look at over 100 features, divided into seven overarching concepts: air, water, nourishment, light, fitness, comfort and mind. See: <http://standard.wellcertified.com/> 54 see www.energyefficientmortgages.eu for more information.

4.4 Long-term value

When investing in or financing real estate, banks or institutional investors⁵⁵ generally have a long-term outlook. This goes against short-term pressures such as regulatory requirements and shareholder expectations. As already indicated, the use of market value on its own, under any circumstances and for any purpose, has shown limitations, especially during the global financial crisis.

A market value basically looks at the past and can create a lagging effect.⁵⁶ This can lead to an underestimation of current market value in upward market movements, and an overestimation in a downward market movement.

There is no doubt that market value will remain the main valuation base for many purposes. But at the same time, clients are increasingly asking for 'long-term value'. Different terms are used, such as long-term value, (real) economic value, sustainable value and the already existing mortgage lending value. However, until now it has never been fully developed. Clients know why they want 'long-term value', but not necessarily what it looks like. Example 6 gives an overview on descriptions provided by INREV and the EMF-ECBC.

For valuers, part of the reluctance to engage in the discussion may revolve around definitions of value and liability. Looking into the future value of a building can also be described as a 'risk assessment' or prediction rather than a 'value'. Also, with the future being inherently uncertain, providing a future value or risk assessment cannot have the same liability consequences as when providing a market value.

With a majority of the real estate sector believing that future real estate cycles will be more volatile and that successful real estate investors will need to take on more operational risk,⁵⁷ the question is, how can valuers best use their knowledge, skills and valuation framework to assist clients in such conditions? Two recent initiatives, one from the UK and one from Germany, are described in examples 7 and 8.

Example 6: banks and investors on long-term value

The EMF-ECBC on mortgage lending value

In its 2017 study on the *Valuation of Property for Lending Purposes*, the EMF-ECBC provides an EU regulatory overview, including extracts relating to mortgage lending value. No preference is given on any type of value, but in relation to market value and mortgage lending value, the following statement is made:

'Where a valuation is carried out using the market value one could signal that the valuation has been carried out at the top of the cycle and may not be sustainable. It may not be possible to purchase/sell a property at this price. Where a valuation is carried out using the mortgage lending value one could signal that this is the sustainable value.'

INREV and long-term value

In the INREV research paper *Real estate as a long-term investment: the impact of regulatory change on long-term investing strategies*, it is stated that 'There are many good arguments for using a mark to market valuation approach', but that at the same time:

'The validity of assessing current values of illiquid assets through mark to market accounting is ... also debatable. As the OECD noted, "the mark to market philosophy may be particularly damaging for long-term investors, attributing instant market values to assets whose valuations may take years to accurately assess".'

⁵⁵ Such as pension funds, insurance funds or sovereign wealth funds ⁵⁶ The 'lagging indicator' according to Investopedia is "a measurable economic factor that changes only after the economy has begun to follow a particular pattern or trend. It is often a technical indicator that trails the price action of an underlying asset, and traders use it to generate transaction signals or confirm the strength of a given trend. Since these indicators lag the price of the asset, a significant move in the market generally occurs before the indicator can provide a signal." ⁵⁷ PWC and ULI – Emerging trends in real estate, Europe 2017

Example 7: Long-Term Value discussions in Germany

Long-Term Sustainable Value – a European initiative

In Germany, MLV ('beleihungswert') is a long-standing and widely accepted concept, embedded in legislation. During the annual conference of HypZert in 2016, a draft approach to determine long-term sustainable value (LTSV) paper was presented, developed by an international group of valuers. This paper recognises market value, i.e. that a 'spot value' has and will continue to have its use, for example in the case of transactions. For other purposes (such as lending, equity requirements/weighting, securitisation and accounting) value could be treated from a different perspective, either exclusively or as additional information to market value.

LTSV is designed as a risk management tool and derived by reference to long-term observations of market movements and data at the time of valuation, based upon the durable characteristics of the asset and its environment. It reflects a price which could in any event be achieved under normal market conditions over a long period of time into the future.

The definition of LTSV (MLV as described in article 4, par 74 of the EU's Capital Requirements Regulation (CRR)) is the value of immovable property as determined by a prudent assessment of the future marketability of the property, taking into account long-term sustainable aspects of the property, the normal and local market conditions, and the current use and alternative appropriate uses for the property. The main objective of the initiative (L-TSV Network) is to provide an internationally applicable methodology for the assessment of a long-term sustainable value, dissociating it from the prescriptive German MLV approach.

Underlying principles include the flexibility and potential for alternative use and the exclusion of speculative elements.

Example 8: Long-Term Value discussions in the UK

A Vision for Real Estate Finance

In May 2014, a group of real estate industry experts published A Vision for Real Estate Finance in the UK, providing seven recommendations for reducing the risk of damage to the financial system from the next commercial real estate (CRE) market crash.

The report argues that the financial system's ability to weather future CRE booms and busts can be strengthened by loosening the link between the CRE cycle on the one hand and pro-cyclical behaviour of both lenders and regulators on the other.

One of the recommendations concerns the use of long-term value measures for risk management, stating that:

'For CRE lenders subject to regulatory capital rules, Loan-to-Value (LTV) based capital requirements should be linked to a long-term measure of collateral value that is insensitive to the investment cycle.'

This report has been followed up by a paper published in June 2017 titled *Long-term value methodologies and real estate lending*,⁵⁸ where a new expert group (including RICS) concluded that:

'...estimates of long-term valuations can provide useful advance signals on when the CRE market may be overvalued and face a high risk of a major fall in values.'

Three methodologies were investigated and evaluated.

- 1. Adjusted market value (AMV):** derived from comparisons of current market value, as reflected in an appropriate capital value index, to a long-term trend line.
- 2. Investment value (IV):** based on a traditional discounted cash flow (DCF) model valuation, but using a 15-year backward-looking rolling average of the relevant equivalent yields series, rather than current yields or forecasts of future yields.
- 3. Mortgage lending value (MLV):** based on the German 'beleihungswert', MLV is a 'prudent valuation' representing the value at which experience suggests a property may be sold at any point throughout the life of a loan, irrespective of speculative or cyclical fluctuations, the result of which is almost always below market value.

Preliminary conclusions show that at this stage, AMV⁵⁹ appears to be the most reliable of the three methodologies, while at the same time being relatively simple and inexpensive to use. IV has potential, but needs further analysis and could benefit from using a sustainable rent concept rather than rental forecasts. MLV was regarded as potentially practical at property level but less so at portfolio level, and as requiring greater adaptation to the UK market.

58 "Long-term value Methodologies and Real Estate Lending – an initial analysis and reconciliation of the characteristics of three alternative long-term value methodologies; Adjusted Market Value, Investment Value and Mortgage Lending Value, compared to market value." A report by the Long-term Value Working Group of the Property Industry Alliance Debt Group. (30 June 2017) 59 At the IPD All Property level

4.5 Additional points of consideration for clients

This section describes aspects a client should be aware of as they can impact on the quality and usability of a valuation: uncertainty and the impact of liability on the valuer and valuations.

4.5.1 Valuation uncertainty

Property valuation is characterised by uncertainty.⁶⁰ As stated in the RICS Red Book:

'All valuations are professional opinions ... a valuation is not a fact. Like all opinions, the degree of subjectivity involved will inevitably vary from case to case, as will the degree of "certainty"... Ensuring user understanding and confidence in valuations requires clarity and transparency.'

At all times, but especially when there is a greater degree of uncertainty concerning the value reported, the valuer needs to be transparent 'in order to ensure that the report does not create a false impression'.⁶¹ If uncertainty is ignored or remains unreported, the 'utility of a valuation for the client is low, which undermines the reliability and the reputation of valuers'.⁶²

Clients understandably prefer certainty, but should not attribute more to a valuation than is merited. Global professional standards cannot guarantee certainty, but they can reduce uncertainty and/or make it transparent.

4.5.2 Valuer liability – unintended consequences

In case of malpractice, a valuer, like any service provider, can be held liable. For this, a valuer should have an adequate professional indemnity insurance (PII).⁶³ Next to PII, RICS:

'...strongly recommends the use of liability caps⁶⁴ to members, wherever legally permissible, as a way in which to manage the risk in valuation work, and to ensure that there is a fair allocation of risk and reward between members and their clients.'

However, when the cost of PII becomes disproportionate to the risk and reward of valuations, this could lead to reduced client protection and market failure.⁶⁵ This became reality in several European markets with the adoption and implementation of the EU Alternative Investment Fund Managers Directive (AIFMD).⁶⁶ The AIFMD has an article dealing with valuations. Under this article, an external valuer is liable to the AIFM for any losses suffered as a result of his/her negligence or intentional failure to perform its tasks, regardless of any contractual arrangement providing otherwise.

In many member states valuers have proven unwilling to accept this unlimited liability. This is obviously an issue for valuers themselves, but also for investors who fall under the scope of AIFMD. They would either have to set up a valuation function in house, creating costs without any real corresponding benefits, or no longer be able to rely on the independent valuations of objective, third-party external valuers to determine the value of the assets in their real estate investment funds. INREV and RICS have both recognised this, and are undertaking joint engagement efforts to ensure the unlimited liability clause is revised.

The expert group does not dispute the need for liability clauses and PII. What is important is that these clauses are proportional to the role of the valuer. Two questions around liability are worth exploring further:

- are different levels of liability depending on the service provided by the valuer appropriate (e.g. the delivery of a market value vs the valuer acting as an advisor)?
- with the increased use of AVMs, which aspects remain the liability of the valuer?

Next to liability and indemnity, RICS strongly recommends the use of alternative dispute resolution (ADR) services as a way to avoid litigation and liability.

⁶⁰ Both in terms of differences between different valuations of the same property, or the value provided in a single valuation. ⁶¹ RICS Red Book 2017. ⁶² Ewa Kucharska - Stasiak ⁶³ RICS regulated firms, for example, are required to have adequate and appropriate PII in place. ⁶⁴ A contractual agreement that a client can only claim damages up to the amount agreed, even if the law would otherwise award a greater sum in damages. This is not the same as PII (which sets a limit for the firm), but a separate agreement between the valuer and the client. ⁶⁵ RICS Report on Professional Indemnity Insurance (PII) for Valuations in the UK (2011) ⁶⁶ See 4.2

4.6 Valuer independence and objectivity

Valuer independence and objectivity are absolute and non-negotiable requirements of a professional valuation.⁶⁷ However, there can be many incentives and pressures for both valuer and client to adjust the value. One study⁶⁸ found evidence that:

'...valuations do not stand above the market, but are instead an integral part of it. Opportunities for client influence exist and appear to be used. ... A presumption underlying much of the academic work undertaken to date is the independence of valuations from the market price setting process. This is not necessarily factual.'

Close interaction between valuers and their clients is a normal part of the valuation process, but the possibility of influencing should always be kept in mind.⁶⁹ There should always be a separation. Many rules, recommendations or guidelines dealing with valuation and valuers will state that the valuer must work independent and without bias. Examples from RICS, INREV, EMF-ECBC and EU legislation can be found in Annex D.

Challenges within the client-valuer relationship include the following examples:

- when acting for a purchaser, investment agents may have an incentive to provide a confirmatory valuation since their fee income depends upon completion of the transaction, or is calculated as a percentage of the property or portfolio
- valuers will be motivated to retain the client's business and keep the client happy
- larger firms often provide non-valuation services to the client, which leads to discussions on how these firms ensure the valuation department operates at arm's length
- smaller firms can be overly dependent on a limited number of clients for their income
- fund managers have incentives to attempt to influence valuations since they are used in the measurement of performance
- a client may have their own internal valuation department, which can create certain pressures
- the valuer is also dependent on the client for information. Contrary to (e.g.) accountants, a valuer cannot demand information.

These and other reasons can put a valuer under great pressure to provide a desired value.⁷⁰

At best, influencing the valuation outcome only has short-term 'benefits' (not considering serious consequences such as fraud claims). Studies show that there is no long-term advantage in influencing valuations, as a correction will always take place at a certain point in time.

To ensure independence, a Dutch report⁷¹ contains the following advice:

- actively comply with standards, establish an ethical code as well as consequences for failing to comply with this code
- safeguard independence⁷² between valuer, broker, client and the real estate asset
- disclose relevant information
- adopt a position on internal rotations
- do not be financially reliant on the client or the outcome of the valuation.

When independence and objectivity are in question, trust will be in question, and this could severely harm the future role of the valuer as well as the client's ability to use valuations. We are living in an increasingly transparent world, so proving independence will only become more important.

4.7 Delivery time

A decade ago, up to 40 days for producing a valuation report was not uncommon. Now, many valuations are delivered within ten days, or even faster, as clients demand ever shorter deliveries of valuation reports to accommodate their business requirements (for example shortened times between mortgage applications and offers).

Valuers who can deliver at speed will improve the client experience and are likely to receive more business, But questions remain on how to continue to ensure quality, accuracy and meeting regulatory compliance with less time available. Digitisation and other technological developments are likely to help speed up the valuation process.

While it is understandable that clients need valuation reports faster, it should be noted that this should not go against the professional obligations of a valuer as set out by IVSC and RICS.

67 Independence and objectivity are not one and the same, but share many of the same characteristics. In terms of independence, often specific criteria may need to be satisfied to achieve a defined state of independence, as described in the Red Book, PS 2, paragraph 4." 68 Andrew Baum, Neil Crosby, Paul Gallimore, Patrick McAllister, Adelaide Gray – The influence of valuers and valuations on the working of the commercial property investment market 69 The RICS Red Book acknowledges this by stating that "A threat to the member's objectivity can arise where the outcome of a valuation is discussed before its completion with either the client or another party with an interest in the valuation. While such discussions are not improper, and indeed may be beneficial to both the member and the client, the client must be alert to the potential influence that such discussions may have on his or her fundamental duty to provide an objective opinion. Where such conversations take place, the member must make a written record of any meetings or discussions, and whenever the member decides to alter a provisional valuation as a result, the grounds for doing so must also be carefully noted." 70 This was acknowledged by a representative of the Dutch Financial Services Authority who gave the following statement as a reaction to hidden camera journalism where a residential valuer was shown providing a value the client was asking for: "everything can be led back to undue pressure on the valuer. For example, because of the loan-to-value principle lenders have an interest in a valuation which is as high as possible." 71 "Well Valued Real Estate – 28 recommendations for valuations and valuation reports" <https://www.nba.nl/globalassets/brochures/platform-taxateurs-en-accountants-pta/pta-wellvaluedrealestate-2014.pdf> 72 As part of ensuring independence, RICS valuers should read the mandatory requirements for all RICS members on Conflicts of Interest in the RICS Professional Statement – Conflicts of Interest (March 2017)

4.8 Conclusion

'The biggest challenge for the European real estate industry is to plan and build things that people really want to be in, not us, but the generation after us.'

Director, pan-European lender, PwC and the Urban Land Institute: *Emerging trends in real estate – Europe 2017*

Current trends and the changing regulatory environment are just a few factors creating uncertainty as to the future value of a property. Furthermore, the real estate sector sees:

*'...the increased operational aspect to performance and developments in transparency/speed of information flow as ultimately changing the way real estate is valued.'*⁷³

Clients are increasingly expecting valuations to be delivered faster, with sustainability features taken into account plus, ideally, a future outlook. Valuers, clients and organisations are advised to continue the discussion, work together and build on existing documentation and guidance to find a solution on what valuers can do, and what clients can reasonably expect.



⁷³ PwC and ULI – Emerging Trends in Real Estate, Europe 2017



5.0 Adding value – the future role of valuations

'From technology to social and demographic change, the forces reshaping the sector are growing stronger and more interconnected.'

PWC and ULI – Emerging trends in real estate, Europe 2017

This final chapter reflects on the issues and trends discussed earlier in the paper to describe what the future role of the valuer could look like, and what is needed to make this happen.

5.1 Valuation uses

In chapter 2 we listed the main purposes why valuations are requested by institutional investors and banks, including purposes such as reporting requirements, performance measurement and legislative requirements. For investments and risk management other bases and methods may be beneficial to consider.

Client needs are changing, and there is an increasing demand for:

- a future outlook, often described as a 'long-term value'. Clients know why they want a long-term value, but do not specify what it could look like. Valuers may feel they lack the appropriate framework to deal with this request, and may fear liability to the same level as when they provide a market value
- a faster delivery of the valuation, with clients dictating the timeline.

It is expected that transparency, professionalism and independence will also increase in importance.

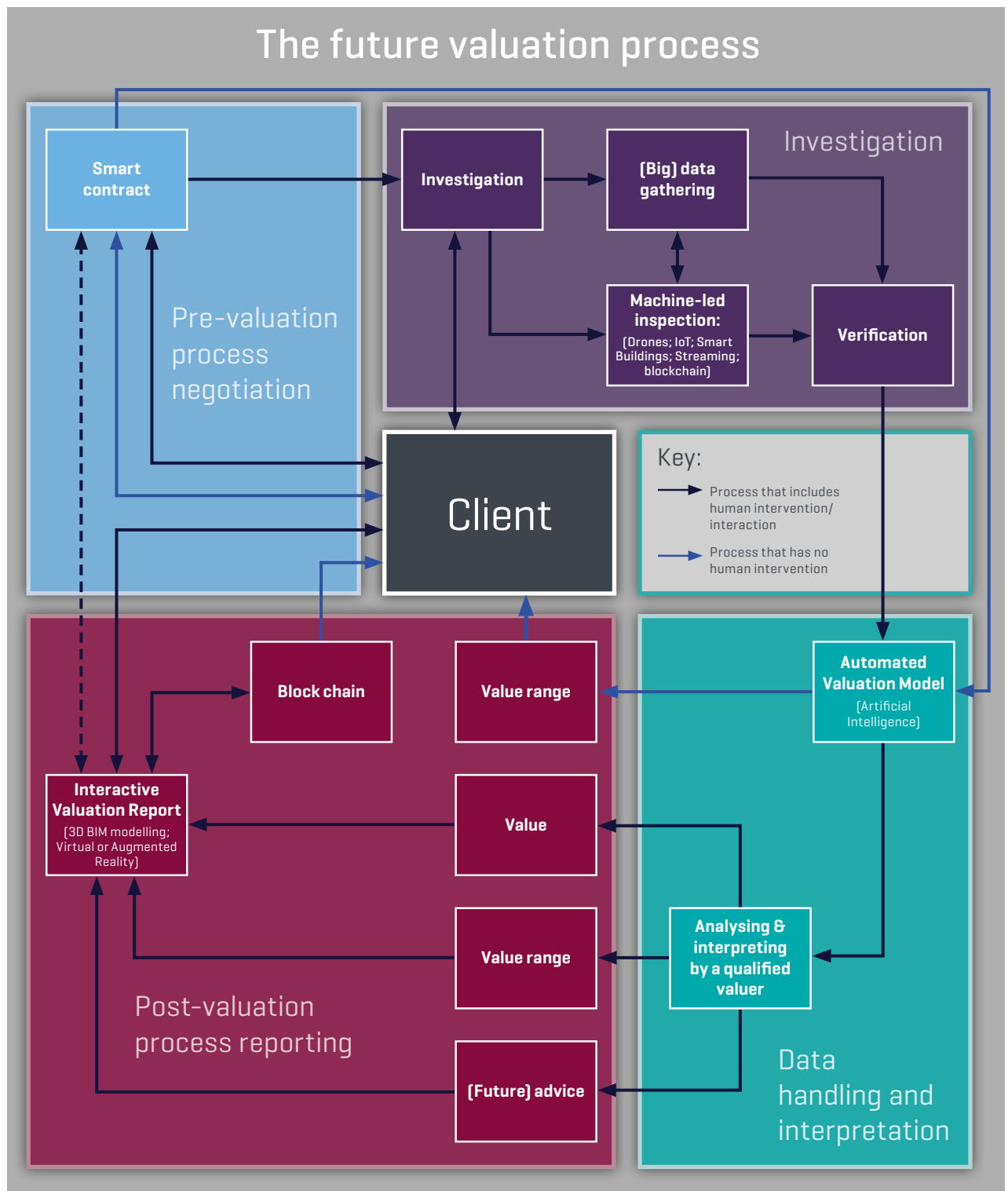
Every profession speaks a different language. What is important is that valuers and clients increase the dialogue to better understand client needs, and for the valuer to find ways to accommodate those needs. Not to please the client at all costs, but to always act independently in the client's best interest.

5.2 The future valuation process

The valuation process has become more detailed and refined throughout the years, but at its core it has remained a process leading to one figure.

What we believe we can expect from the future valuation process is more fragmentation. With the current valuation process (Figure 1, chapter 2), the valuer is involved from beginning to end. In the future process, the valuer may only work on parts of this process, with others carried out by other professionals, through automation or in house by the client themselves.

Figure 5: A high level overview of the valuation process



Keeping in mind the aforementioned technological developments, we believe a future valuation process could look as follows.

5.2.1 Smart contracts

Smart contracts, or computer protocols that facilitate, verify or enforce the negotiation of performance of a contract, could replace negotiation of the terms of engagement. This will automate the process based on protocols and standards, saving time and costs.

5.2.2 Machine-led inspection

On-site inspection and property analysis may in future be partially or entirely replaced once certain technologies become mature and registering/storing, and storing of building information is improved. Examples include:

- drones changing and improving how external site visits are undertaken, as different heights and angles can be reached
- image streaming, if properly carried out and stored, could also make an on-site visit unnecessary, although the person doing the recording will need to be knowledgeable, trained or guided. This may not be very reliable for spotting building defects
- smart buildings and the Internet of Things improving all aspects of data quality (accuracy, availability, reliability and security), with data being accessible remotely
- building passports, based on BIM and blockchain, ensuring building information and data remains available.

The valuer may feel it is necessary to follow up with a personal on-site inspection on the basis of information and data received. Current checklists, whether used by human or machine, could also be updated. Annex A gives an example in the field of sustainability.

5.2.3 Big-data gathering

The valuation process will be less dependent on primary data sources (clients, inspection, property analysis, market analysis and public data) only, and will increasingly make use of secondary data which can be specifically designed, or public tools (e.g. Google Analytics, Twitter, etc.). Big data will include different data types⁷⁴ compared to current primary data. An added advantage will be (near) real-time availability of data. An important point of consideration, both for valuer and client, is the quality and reliability of the big data sources.

5.2.4 Verification

In the future, verification of data is expected to remain a task that will need to be carried out by a human. This should be a competent valuer, but there are also circumstances where this could be done by a junior person with skills in statistics and analytics.

5.2.5 Automated Valuation Models (AVMs)

As technologies such as big data and artificial intelligence improve, so will AVMs. New algorithms move AVMs from low-risk valuations with sufficient comparables (e.g. in certain parts of the residential sector), towards more complex valuations for all property types. It may be that for certain low-risk valuations, all that will remain of the valuation process is the client, the smart contract and an AVM. For more complex valuations, the entire process will still be followed, with the role of the valuer as an objective and impartial judge remaining crucial.



⁷⁴ e.g. traffic streams, noise, emissions, density of amenities, public transport, to name but a few

5.2.6 Analysing and interpreting

In many cases, and certainly for more complex valuation, a valuer will need to check and interpret the outcome of the AVM. Statistical analysis will become an important aspect of the valuer's skillset.

5.2.7 Provision of a value (range) and/or advice

Today, most valuation reports lead to a single figure, mostly a market value, and the contributors to this paper believe this will remain the dominant way of providing a value. However, with AVMs already providing a valuation range,⁷⁵ this option could become more important for certain clients and certain valuation purposes.

The added value of technological developments in combination with a skilled valuer also lies in providing advice. This is nothing new; valuers are often asked to provide additional comments and strategic advice. Going forward, this advice will need to have a future focus, and be based on valuation methods and bases. For this type of advice a different approach should be taken towards valuer liability compared to providing a (market) value or value range.

5.2.8 Interactive valuation report

This concerns a move away from PDF or paper reports towards interactive content, supported by developments such as augmented or virtual reality, and BIM 3D-modelling. Interactive valuation reporting provides the client with useful information that goes beyond value to aid in decision-making.

5.2.9 Blockchain

Valuation reports will be able to be stored in a blockchain, making them accessible to many potential clients or readers. The use of blockchain could lead to a potential reduction of valuations needed by multiple clients around the same time, and/or act as a historic source when re-valuations are needed. Third-party liability in case of increased valuation portability through blockchain is something that requires further consideration and discussion.

5.2.10 The client

Clients have become more diverse and structured, and are operating in a more complex and highly regulated environment. In the future the client will get more choice. From a one-size-fits-all valuation process, this new process looks more like a valuation menu card where clients can choose anything, from the use of an AVM only for low-risk valuations, to a full valuation process. This will lead to an interactive report providing a value or a value range to indicate the level of accuracy and uncertainty, as well as advice on the future value of a property.



⁷⁵ Depicted as a bell curve

5.3 Valuation standards, methods and bases

5.3.1 The standard

The valuer's framework has been adequately described in chapter 3. This framework will not become obsolete. Valuation bases, methods and approaches as described in the International Valuation Standards (IVS) and the RICS Red Book remain relevant. If anything, because of technological developments and changing client expectations, following international standards will only become more important. It will remain important for these standards to allow local requirements to be taken into account.⁷⁶

Next to the continuous development of IVS, other standards⁷⁷ will be crucial to ensure high quality and comparable data. These include:

- **data standards** – to share, exchange, and understand data, we must standardise the format as well as the meaning⁷⁸
- **property measurement standards** – to compare buildings and establish the (future) value of buildings, measuring floor space consistently around the world is a minimum requirement. Wide-spread adoption of International Property Measurement Standards (IPMS) will facilitate this.

5.3.2 Bases and methods

Market value is the most used and endorsed basis of value, and is likely to remain so in the years ahead. While market value cannot provide a future value, it can serve as a basis for providing future value advice. Chapter 4 described the client's wish for a long-term value. The only valuation base with a future outlook currently in use is mortgage lending value (MLV). MLV, however, takes a cautious approach to value. While this is suitable for certain valuation purposes, clients may also be curious to know whether the value will, over time, increase or decrease.

Next to the main approaches and methods mentioned in Table 5, IVS 2017 further states that it '...does not provide a comprehensive list of all possible methods that may be appropriate' and that 'Compliance with IVS may require the valuer to use a method not defined or mentioned in the IVS'.

Through maturation of big data, it could be that, for example, the comparison method will increase in importance, as more (and different) comparables become available. Valuers should also consider new valuation methods which are currently not (widely) used, such as the Monte Carlo simulation described in example 9.

Example 9: Monte Carlo Simulation

Valuations have an inherent uncertainty. Quantifying and reporting valuation uncertainties can provide useful information to a client, certainly when a future value is requested. Monte Carlo simulation is seen by some as an appropriate tool to deliver this, as it can not only be used to determine value, but also analyse market developments and other circumstances that could influence value. Monte Carlo simulation is a technique whereby a calculation is simulated many times, each time with different starting conditions. This results in a probability distribution of all possible outcomes, out of which a value and level of uncertainty can be determined.⁸⁰

⁷⁶ In an article in IPE Real Estate, Steve Williams of Real Capital Analytics explores the pros and cons of an international standard compared to a system of national standards. He concludes by stating that "there should be an overarching global performance standard which emphasizes the quality of the supporting analysis but within an applied methodology that acknowledges local customs." The application of established methodology, Steve says, can be local in context but the standards applicable to how valuers carry out and report their work, must be global and robust. <https://realestate.ipe.com/investment-/valuations-in-search-of-a-global-standard/10003328.fullarticle> ⁷⁷ IVS and the RICS Red Book have both been updated in 2017 ⁷⁸ <https://www2.usgs.gov/datamanagement/plan/datastandards.php> ⁷⁹ As developed by the IPMS Coalition – www.ipmsc.org ⁸⁰ Aliyu Ahmad Aliyu, Muhammad Umar Bello, Rozilah Binti Kasim and David Martin (2014) – Intangible elements of uncertainty in property valuation: theoretical underpinning (Journal of Economics and Sustainable Development, vol.5, no.17, 2014, page 57-62); Nick French (2007) – Valuation uncertainty: common professional standards and methods.

5.4 Valuer skill set

In section 3.4 we looked at the current skills a valuer needs to have according to the RICS Valuation Pathway Guide:

'Nine of the ten most in-demand jobs in 2012 did not exist in 2003.'

World Economic Forum – Deep Shift: Technology Tipping Points and Societal Impact

Conduct rules, ethics and professional practice	Inspection	Valuation	Health and safety
Client care	Communication and negotiation	Conflict avoidance, management and dispute resolution procedures	Team working
Measurement of land and property	Accounting principles and procedures	Data management	Sustainability

A new way of working will require a different approach to this skillset. Some of the above mentioned skills are likely to become more important, others less. Additional skills will need to be acquired as well. These include:

- **statistical analysis** – the collection, analysis, interpretation, presentation and organisation⁸¹ of data will become a core component of the valuer's skillset
- **AVM interaction** – there will be many different types of AVM, and valuers will need to understand how to use and interpret the tool
- **people skills** – this includes increased focus on client interaction, care, communication, conflict avoidance, etc. Valuers will need, more than ever, to understand the client and speak their language
- **strategic real estate consultancy** – already in the RICS Valuation Pathway Guide as an optional competence, valuers need to consider how they can become an advisor
- **sustainability** – an inherent aspect of long-term value, being able to assess the impact of (e.g.) energy efficiency and wellbeing on a building's value will require a different outlook, and a different way of data gathering. To address this specific skills gap, RICS has developed a training toolkit for property valuation professionals on how to factor sustainability into the valuation process and how to raise this with clients who in future may be increasingly demanding the valuer's assessment of the value aspect of sustainability features. Valuers who are interested in increasing their basic understanding of this topic can follow a free training course on the RICS Online Academy.⁸²

5.5 Conclusion

It seems inevitable that technology, client demand and legislation will have an impact on the role of the valuer. Of course, not everything will happen at the same time,⁸³ but the expert group believes that valuations, the valuation process and therefore the role of the valuer will change. Technology will improve and speed up the valuation process, but the human element will remain in two distinct roles:

- gathering the data and performing an initial assessment to ensure that the data that goes into the valuation process is of the required quality
- senior/experienced professionals who assess the information that comes out of the automated process and can present this clearly to the client.

The expert group foresees that providing a market value will continue to be the primary basis of a valuer's work and of benefit to the client. But next to this, it should be considered and further discussed whether the valuer could more and more become an advisor to the client, e.g. on the future value outlook, assisting with risk management.

81 Wikipedia 82 <https://academy.rics.org/e-learning/property/valuation/renovalue-integrating-sustainability-into-valuation-practice>
83 See Annex B for an indication of when technological tipping points are expected to occur.

6.0 Recommendations

'One of the long-standing assumptions that still prevails is that the real source of value is in bricks, mortar and location rather than the usability, adaptability and service quality of the property.'

PWC and ULI – Emerging trends in real estate, Europe 2017

Two main drivers for change in the role of the valuer and valuations were identified: technological developments and changing client demand, both described in separate chapters. A third driver which emerged during the many discussions of the expert group is the changing regulatory environment.

Technological developments will have a big impact on the built environment sector, including valuations. We described this through a new hypothetical valuation process, potentially replacing a valuation process which has essentially remained unchanged in the past decades.

Professional valuations are and will remain: '...vital to a healthy property/asset market and a stable economy, forming the basis of performance analysis, financing decisions, transactional or development advice, dispute resolution, taxation and various statutory applications.'⁸⁴

Market value will remain relevant for many valuation purposes. At the same time, clients are increasingly looking for advice on future value prediction, both in terms of sustainability and financial stability. Also, clients are expecting valuations to be delivered in ever shorter timeframes.

This paper does not provide any definitive answers. If anything, it raises more questions. The purpose of this paper is to provide insights on a vast number of issues that are likely to affect the role of the valuer and valuations, and to serve as a starting point for further discussion between valuers, clients, the PropTech sector, professional bodies such as RICS, industry bodies such as INREV and the EMF-ECBC, and other organisations with sectoral interest. Continued discussion is needed to ensure valuations remain fit for purpose, and for the valuation profession to continue to add value to real estate decision making.

To enable this discussion, the expert group feels the following recommendations (six for valuers, one for professional bodies and industry associations, as well as one question for further debate) serve as a good starting point.

The six recommendations for valuers:

1 Embrace technology

Going forward, basic data collection will play a decreasing role in the work of the valuer. Developments in, for example, big data and AI will change the valuation process, improve valuations and increase the importance and effectiveness of automated valuation models (AVM).

Not all technologies will develop at the same speed (see annex C), but technological developments will have an impact on the valuation process, and valuers need to familiarise themselves to be able to make best use of these. With changing data ownership and a more standardised and automated way to gather and process, data is the new oil.

Valuers need to be aware of the impact of technologies such as big data and automated valuation, and are strongly recommended to increase their understanding. In certain cases, such as with low-risk valuations, the AVM may completely replace the valuer. In many instances however, the valuer and the AVM will need to work hand in hand, with the professional valuer ensuring that data used by the AVM is properly checked using forecasts, then the results are analysed and interpreted, and reported on in an understandable way for the client. The valuer will need to embrace technology, or be overtaken by it. It is hoped that the use of AVMs will ultimately make it possible for professionals to spend more time working on complex valuations which require more data and more time for reflection.

A final thing to consider is how technology itself, incorporated in buildings, might affect the value of a building. The use of BIM, smart buildings and the Internet of Things may very well have an impact.

2 Enhance the client experience

Technological developments will not only bring new ways of working, but also new ways of reporting. PropTech should be about focusing on the client and serving only their interest. From a paper-based report valuers should consider how they can enhance the way they present the information, for example through 3D-BIM visualisation and by using videos.

In addition to presentation, valuers should also look at the type of information a client is asking for and what they can provide. With sustainability (including climate issues as well as wellbeing) increasing in importance, advice on the future outlook of a building (and therefore its future value) will become an important additional service a valuer can offer.

⁸⁴ RICS Assessment of Professional Competence – Valuation (August 2015)

A valuation report that is objective, high quality, independent and, where needed, provides advice besides value, will be key to the future role of the valuer.

3 Ensure independence and objectivity

If independence is in question, so will trust. Valuer independence is an absolute and non-negotiable requirement for a professional valuation. But in reality, valuers and clients can experience many pressures to adjust value.

Studies show that there is no long-term advantage to influencing valuations, as a correction will always take place at a certain point in time. RICS valuers are advised to read the RICS professional statement on conflict of interest⁸⁵ and, in line with this, keep in mind the following recommendations⁸⁶:

- actively comply with standards, and establish an ethical code as well as consequences for failing to comply with this code
- safeguard independence between valuer, broker, client and the real estate object
- disclose relevant information
- adopt a position on internal rotations
- do not be financially reliant on the client or the outcome of the valuation.

4 Beware of liability

Liability is an important aspect of providing a service. A valuer is, and should always be, liable in certain circumstances. RICS valuer registration requires valuers to have professional indemnity insurance in place, providing assurance to both valuer and client in the few cases this is needed.

However, we have seen that with an excessive demand on liability, such as within the EU legislation for alternative investment fund managers, this negatively affects both valuers (who cannot afford the insurance) as well as the client (who cannot get a professional valuer to perform the valuation). In future discussions on liability, it needs to be considered whether a distinction could or needs to be made between a valuer being liable for a market value, or when a request is made to the valuer to act as advisor for a future outlook on the building's value. In this case, the valuer basically acts as a consultant, which would require a different approach to liability. Currently the discussion between valuers and clients may revolve too much around the word 'value', rather than the underlying meaning and what the client requests.

In addition, technological developments and increased use of AVMs may require a different approach to liability, and merit a further discussion on which part of the valuation a valuer can remain liable for.

5 Reduce timescales

The valuation process will not only change; it will also become faster. In many countries, clients are demanding ever shorter deliveries of valuation reports to accommodate their business requirements (for example shortened times between mortgage applications and offers). Technological developments and digitisation will help increase the speed of the valuation process, and valuers who can best deliver on speed will improve the client experience and are likely to receive more business. However, questions remain on how to continue to ensure quality and accuracy, and meet regulatory compliance, against client pressures to reduce time and minimise costs.

6 Update your skillset

Valuers will need to widen and deepen their knowledge.⁸⁷ As it can be expected that valuers will spend less time on the technical aspects of valuations and more on the analysis and interpretation of data, as well as on interaction with the client, they need to look at their current skillset and focus part of their continuing professional development (CPD) on preparing for the future. Beyond technological developments and client interaction, a valuer could become more familiar with different valuation methods and bases.

7 Create a single set of international data standards

Data and especially data quality play a central role in the valuation process. In an increasing digitised world it is important for the real estate industry, professional bodies and associations to continue working on a single set of international data standards which underpin valuation standards.

8 The valuer as advisor?

The expert group had a discussion on the valuer acting as an advisor to the client. Different stages of maturity exist across countries when it comes to the advisory role of the valuer. Within this context, the expert group debated two roles for a valuer, which could be interlinked or distinct:

- **the valuer as valuer** – providing independent valuations meeting demands of professionalism, independence, impartiality and objectivity (e.g. for regulatory purposes and shareholder protection), based on market value or other existing bases.
- **the valuer as consultant** – providing commercial advice to the client on a range of issues and looking into the future, with the client remaining responsible for the business decision. This consultancy role should become a standalone service, rather than merely a by-product of a traditional valuation. The valuer as an advisor or consultant would meet demands of professionalism and independence, but not necessarily of impartiality and objectivity.

⁸⁵ <http://www.rics.org/knowledge/professional-guidance/professional-statements/conflicts-of-interest-global-1st-edition/> ⁸⁶ Extracted from "Well Valued Real Estate" (Netherlands) – www.nba.nl/globalassets/brochures/platform-taxateurs-en-accountants-pta/pta-wellvaluedrealestate-2014.pdf ⁸⁷ Marcel de Boer MRICS – Vastgoedjournaal, September 2016

The above would mean valuers would increasingly operate in a highly competitive environment, with many professions (e.g. estate agents, accountants, auditors, architects and engineers) offering a similar service. With their extensive knowledge of both the market and buildings, valuers are well positioned to face this competition. A traditional valuation based on market value will continue to be relevant, and with:

- the right training
- a different outlook on technologies and methods
- a discussion on long-term value that is not about liability but about client expectation and valuer competence

the valuer could comfortably fulfil both their core role as well as that of consultant⁸⁸.

All of these points, and the last one in particular, require a further discussion between valuers in clients. This paper can serve as a starting point for that discussion.

Final words

The trends described in this paper present a lot of opportunities to valuers who wish to seize them, especially where valuations are high risk and/or complex. In the field of low-risk and less complex valuations, automation may lead to a reduction in the number of valuers needed. There may be an increased polarisation between valuers who need to be efficient and valuers who offer a non-standardised process. It will be up to the individual valuer to see where their niche lies, and up to the individual client to understand and decide what they are looking for in a valuation. But all things considered there is no doubt that valuations and valuers will continue to add value to the client.



⁸⁸ Keeping in mind, as stated in the Red Book, that a valuation report cannot be “ambiguous nor misleading”.

7.0 Recommended further reading

Technological Development

- www.rics.org/proptech
- RICS Insight – The Impact of Emerging Technologies on the Surveying Profession

Training available from the RICS Online Academy⁸⁹

- Valuation – Foundation Programme
- International Valuation Standards
- The International Valuation Standards in Context
- Valuation – commercial property
- Valuation – residential property
- RICS Property Measurement (including IPMS)

Professionalism & client guidelines

- RICS Red Book 2017⁹⁰
- RICS Professional Statement on Conflict of Interest⁹¹
- INREV Guidelines on Property Valuation⁹²
- EMF-ECBC Study on the Valuation of Property for Lending Purposes⁹³

Sustainability

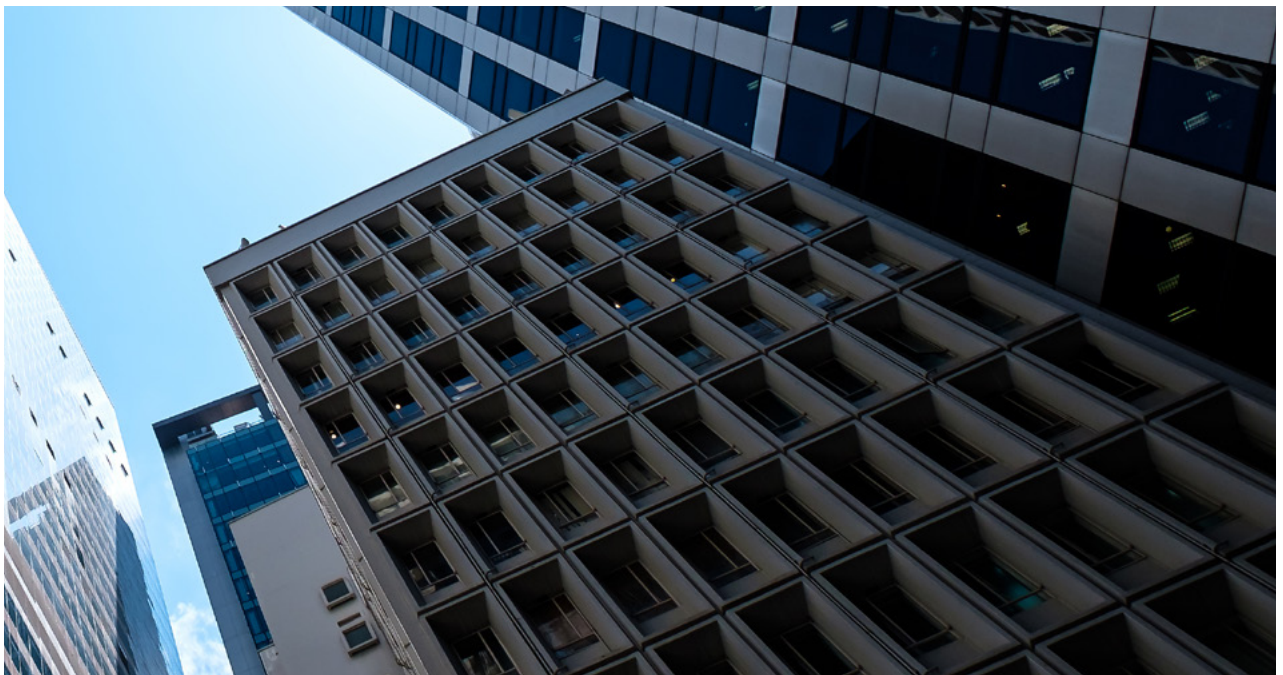
- RenoValue training – Integrating Sustainability into Valuation Practice (free online training course)⁹⁴
- RICS Guidance Note on Sustainability and Commercial Property Valuation⁹⁵

Automated Valuation Models

- RICS Guidance Note on Automated Valuation Models⁹⁶
- European AVM Alliance⁹⁷
- IAAO Standard on Automated Valuation Models⁹⁸

Long-term value

- RICS Guidance Note on Mortgage Lending Value (to be published early 2018)
- UK Vision for Real Estate Report and follow-up report: 'Long-term value methodologies and real estate lending'⁹⁹
- European Initiative on the Development of a Long-Term Sustainable Value (LTSV)¹⁰⁰



89 RICS Online Academy: <https://academy.rics.org/> 90 http://www.rics.org/Global/red_book_2017_global_pgguidance_160617_rt.pdf
 91 http://www.rics.org/Global/Conflicts_of_interest_global_1st%20edition_PGguidance_2017.pdf 92 <https://www.inrev.org/standards/#property-valuation> 93 <https://hypo.org/app/uploads/sites/3/2017/09/EMF-ECBC-Study-2017-FINAL.pdf> 94 <https://academy.rics.org/e-learning/property/valuation/renovalue-integrating-sustainability-into-valuation-practice> 95 http://www.rics.org/Global/Sustainability_and_commercial_property_valuation_2nd_edition_PGguidance_2013.pdf 96 http://www.rics.org/Global/Automated_Valuation_Models_1st_edition_PGguidance_2013.pdf
 97 <http://www.europeanavmalliance.org/> 98 http://www.iaao.org/media/standards/AVM_STANDARD.pdf 99 <http://www.ipf.org.uk/industry-involvement/long-term-value-methodologies-real-estate-lending.html> 100 <http://ltsv.info/>

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Annex A – Valuation bases, approaches and methods explained

Source: IVS 2017 – 104 and 105

1. Bases

Market value

Market value is the estimated amount for which an asset or liability should exchange on the valuation date between a willing buyer and a willing seller in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

Market rent

Market rent is the estimated amount for which an interest in real property should be leased on the valuation date between a willing lessor and a willing lessee on appropriate lease terms in an arm's length transaction, after proper marketing and where the parties had each acted knowledgeably, prudently and without compulsion.

Equitable value

Equitable value is the estimated price for the transfer of an asset or liability between identified knowledgeable and willing parties that reflects the respective interests of those parties.

Investment value (worth)

Investment value is the value of an asset to a particular owner or prospective owner for individual investment or operational objectives.

Synergistic value

Synergistic value is the result of a combination of two or more assets or interests where the combined value is more than the sum of the separate values. If the synergies are only available to one specific buyer then synergistic value will differ from market value, as the synergistic value will reflect particular attributes of an asset that are only of value to a specific purchaser. The added value above the aggregate of the respective interests is often referred to as 'marriage value'.

Liquidation value

Liquidation value is the amount that would be realised when an asset or group of assets are sold on a piecemeal basis. Liquidation value should take into account the costs of getting the assets into saleable condition as well as those of the disposal activity.

Fair value

IFRS 13 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

2. Approaches

Market approach

The market approach provides an indication of value by comparing the asset with identical or comparable (that is similar) assets for which price information is available.

Income approach

The income approach provides an indication of value by converting future cash flow to a single current value. Under the income approach, the value of an asset is determined by reference to the value of income, cash flow or cost savings generated by the asset.

Cost approach

The cost approach provides an indication of value using the economic principle that a buyer will pay no more for an asset than the cost to obtain an asset of equal utility, whether by purchase or by construction, unless undue time, inconvenience, risk or other factors are involved.

3. Methods

Comparable transaction

The comparable transactions method, also known as the guideline transactions method, utilises information on transactions involving assets that are the same or similar to the subject asset to arrive at an indication of value.

Discounted cash flows (DCF)

Under the DCF method the forecasted cash flow is discounted back to the valuation date, resulting in a present value of the asset.

Replacement cost

Generally, replacement cost is the cost that is relevant to determining the price that a participant would pay as it is based on replicating the utility of the asset, not the exact physical properties of the asset.

Reproduction cost

Reproduction cost is appropriate in circumstances such as the following:

- a) the cost of a modern equivalent asset is greater than the cost of recreating a replica of the subject asset, or
- b) the utility offered by the subject asset could only be provided by a replica rather than a modern equivalent.

Summation

The summation method, also referred to as the underlying asset method, is typically used for investment companies or other types of assets or entities for which value is primarily a factor of the values of their holdings.

Annex B – The valuer checklist for inspection

This annex describes potential items to take into account during inspection. The examples come from the RICS Red Book 2017 and the RICS guidance note *Sustainability and commercial Property valuation* (2nd edition). As part of the ongoing discussion between valuers and clients, it may help to reconsider what should be taken into account when inspecting a property.

Red Book 2017

Many matters may or will have an impact on the market's perception of the value of the relevant interest, aspects of which may only become fully apparent during an inspection of the property. These can include⁹⁹:

- characteristics of the locality and surrounding area, and the availability of communications, services and facilities that affect value
- characteristics of the property and its use:
 - dimensions, areas and use(s) of constituent elements
 - age, construction and nature of buildings or structures
 - accessibility both for occupiers and for visitors
 - installations, amenities and services
 - fixtures, fittings and improvements
 - plant and equipment that would normally form an integral part of the building
 - apparent state of repair and condition
 - hazardous materials kept on the property.
- characteristics of the site:
 - natural hazards such as ground instability, mining or mineral extraction, risk of flooding from all mechanisms, including pluvial and fluvial sources
 - non-natural hazards such as ground contamination where there are substances in, on or under the ground resulting from historic or current uses.
- potential for development or redevelopment:
 - any physical restrictions on further development.

RICS Guidance Note on Sustainability and Commercial Property Valuation, 2nd edition

A1: Inspection and investigation

Location

How accessible is the property to:

- public modes of transportation?
- private modes of transportation?
- users with special needs (e.g. physical disability)?
- green and open areas?
- user-relevant basic services?

Site considerations

What is/are the:

- land use and likelihood of achieving a change of type and quality of land use?
- current and planned on-site defences against environmental risks?
- likely or known on-site contamination?
- building's exposure to sunlight/shading?
- conditions of the soil (e.g. bearing capability, potential for geothermal energy usage)?

Building

In relation to the building's specification, condition and configuration, what is/are the building's:

- energy asset rating (if one exists)?
- energy performance (consumption of non-renewable resources during use)?
- carbon emissions?
- source of energy sources available and/or used?
- services in relation to age and efficiency and future life expectancy?
- potential for energy renewal usage?
- likely risks to the local environment through emissions, etc.?
- water consumption during operation?
- water conservation or installation of measures to promote water use efficiency?
- waste reduction facilities (e.g. on-site waste segregation for recycling)?

⁹⁹ Red Book 2017 – VPGA 8 – valuation of real property interests

- capacity to be adaptable/flexible to enable it to be used differently in the event of changing demand patterns?
- likely resilience to the consequences of climate change (e.g. storm damage, maintaining usability if temperature change ensues)?
- barrier-free accessibility to and inside the building (e.g. for disabled users)?
- safety under extreme conditions (such as fire and adverse weather)?
- design and construction in relation to its ability to facilitate future re-use and recycling of materials in the event of refurbishment and/or demolition?
- health impacts in relation to building materials and building specification (daylight/natural ventilation, etc.)?
- ability to support user comfort (thermal conditions, visual conditions, acoustic conditions and indoor air quality)?
- overall likelihood to maintain a long future life based on the developing sustainability agenda including the periods between refurbishments?
- availability of solutions to resist environmental risks (e.g. flood prevention schemes for buildings at risk)?

Documentation

What documentation is available in relation to:

- statutorily required certifications or ratings (e.g. as required in the EU under the Energy Performance in Buildings Directive)?
- voluntary certifications, including the date granted and grade achieved (e.g. LEED, BREEAM, etc.)?
- any other externally verifiable evidence of sustainability (e.g. winner of any sustainability-orientated design awards)?
- building passports/building files (in the sense of object/building documentations along the building life cycle)?
- ground expert testimonies, building diagnostics, blower-door-tests, etc.?
- planning documentation that supports claims of sustainability?
- life-cycle assessments, ecological footprint analysis, etc.?
- lease terms that encourage or mandate behaviours and standards in relation to environmental and social factors?
- management of the building in line with ethical/social responsibility goals (e.g. Environmental Management Systems, etc.)?

A2: The relationship of data to value

In reviewing and using the data gathered, valuers should consider:

- To what extent does the analysis of sustainability characteristics of the subject property meet the best practice of comparable buildings?
- Does the building present environmental risks that can be quantified and linked to insurance and the ability to form appropriate security for a loan?
- Does the building fail to meet best practice in relation to health, well-being and occupier comfort standards?
- Where a building is below best practice standard, would it be economic to remedy the deficiencies given the context in which the building sits, taking due account of any local or national incentives or discounting schemes that would/could reduce the costs of retrofitting?
- Does the building present operating cost advantages or in other ways present a profile that might make it more attractive to tenants/owner-occupiers than comparable properties?
- What impact does the presence/absence of sustainability characteristics have on the timing and level of resale or re-letting values and the ease of marketing?
- Where the building is currently compliant or even beyond compliance, to what extent is this likely to change in the future given the direction of legislation?
- In the case of tenanted property, what is the likelihood that the actual or potential tenant would use the sustainability feature currently lacking, such as energy efficiency or carbon reduction, etc., as a bargaining tool during rental negotiation (i.e. is there likely to be a 'brown' discount)?
- In the case of tenanted property, does the lease or other documented management process support programmes of sustainability improvements?
- Overall, is the subsector of the market and the likely potential tenant/buyer profile 'sustainability aware'?

Annex C – Expected tipping points for technological shifts to hit mainstream society

Source: World Economic Forum – Deep Shift: Technology Tipping Points and Societal Impact

Year	Shift	Tipping point	Percentage of respondents expected this tipping point to have occurred
2022	The internet of and for things	1 trillion sensors connected to the internet	89
2022	3D printing and manufacturing	The first 3D-printed car in production	84
2023	Big data for decisions	The first government to replace its census with big-data sources	83
2023	Governments and the blockchain	Tax collected for the first time by a government via a blockchain	73
2024	The connected home	Over 50% of internet traffic delivered to homes for appliances and devices (not for entertainment or communication)	70
2025	Ai and white-collar jobs	30% of corporate audits performed by AI	75
2025	The sharing economy	Globally more trips/journeys via car sharing than in private cars	67
2026	Ai and decision making	The first AI machine on a corporate board of directors	45
2026	Smart cities	The first city with more than 50,000 inhabitants and no traffic lights	64

Annex D – Organisations and legislation on valuer independence

Table 13: Valuer independence as described by organisations, legislations and regulators

<p>The RICS Red Book</p>	<p><i>‘For clients and other valuation users these global standards ... provide assurance of ... independence, objectivity and transparency in the valuer’s approach.’</i></p> <p><i>‘Independence and objectivity are inextricably linked to the proper observance of the confidentiality of information and to the wider issues of the identification and management of conflicts of interest.’</i></p> <p><i>‘Bringing the required levels of independence and objectivity to bear on individual assignments, respecting and maintaining confidentiality, and identifying and managing potential or actual conflicts of interest are of crucial importance.’</i></p>
<p>INREV Guidelines</p>	<p><i>‘The external valuer must be independent. When other services are provided by an external valuer which could possibly harm the independence ... these must be disclosed.’</i></p>
<p>European Mortgage Federation–European Covered Bond Council [EMF-ECBC]</p>	<p><i>‘The EMF-ECBC 2017 study on the valuation of property for lending purposes contains guidelines on the independence of the valuer, which conclude by stating that: ‘quality valuations are of paramount importance for sound mortgage lending activity and, as a result, for the confidence of covered bonds and MBS investors. Ensuring an independent performance by the valuer is essential to achieve a quality valuation. It is the responsibility of the lender to have adequate mechanisms in place to ensure that valuers are well protected from undue influence from commercial units and from the participation in the transaction.’</i></p>
<p>Mortgage Credit Directive [2014/17/EU]</p>	<p><i>‘Member States shall ensure that internal and external appraisers conducting property valuations are professionally competent and sufficiently independent from the credit underwriting process so that they can provide an impartial and objective valuation.’</i></p>
<p>Alternative Investment Funds Managers Directive – AIFMD [2011/61/EU]</p>	<p><i>‘The valuation shall be performed impartially...’</i></p>
<p>Capital Requirements Regulation – CRR [No 575/2013]</p>	<p><i>‘The property valuation is reviewed ... and that review is carried out by a valuer ... who is independent from the credit decision process.’</i></p>
<p>European Central Bank – Guidance to banks on non-performing loans</p>	<p><i>‘Banks should develop and implement a robust internal quality assurance policy and procedures for challenging valuations completed internally and externally. ... the general principles are ... the independence of the external appraiser selection process. ... Additionally, the internal audit department should regularly review ... the independence of the appraiser selection process.’</i></p>



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