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TECHNOLOGY

OUTLOOK

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What is the real estate
industry scared of?

INTRO

" In today's business and technology environment, should we be surprised by the pace of transformation? "

Five years ago the world looked quite different but many of today's technological developments had long been discussed. If we look forward ten years most companies will have changed significantly or may not exist at all. The real estate industry is now witnessing some fundamental changes. In the decades ahead, real estate stakeholders will look back on the early 21st Century as an often-out-dated marketplace.

This piece will explore how the industry's use of technology is evolving, what are the values affecting the growth of technological change and offer suggestions on how to plan for new technological strategies.

Many areas of the real estate industry have been transformed by the implementation of technology.

From the construction of buildings to their asset and property management, we are seeing structural changes in the way occupiers, investors and real estate advisory companies do and will do business in the future.

CONSTRUCTION
VIRTUAL MODELLING AND REAL TIME INFORMATION

According to a recent report published by PWC[1], the number of start-ups working in the construction sector increased by **14%** from 2011 to 2017.

Despite a large degree of independence, they often have mutually beneficial ties with established construction and development companies. These start-ups integrate a large range of topics including digitalising processes, intermediation platforms and **BIM** (Building Information Modelling).
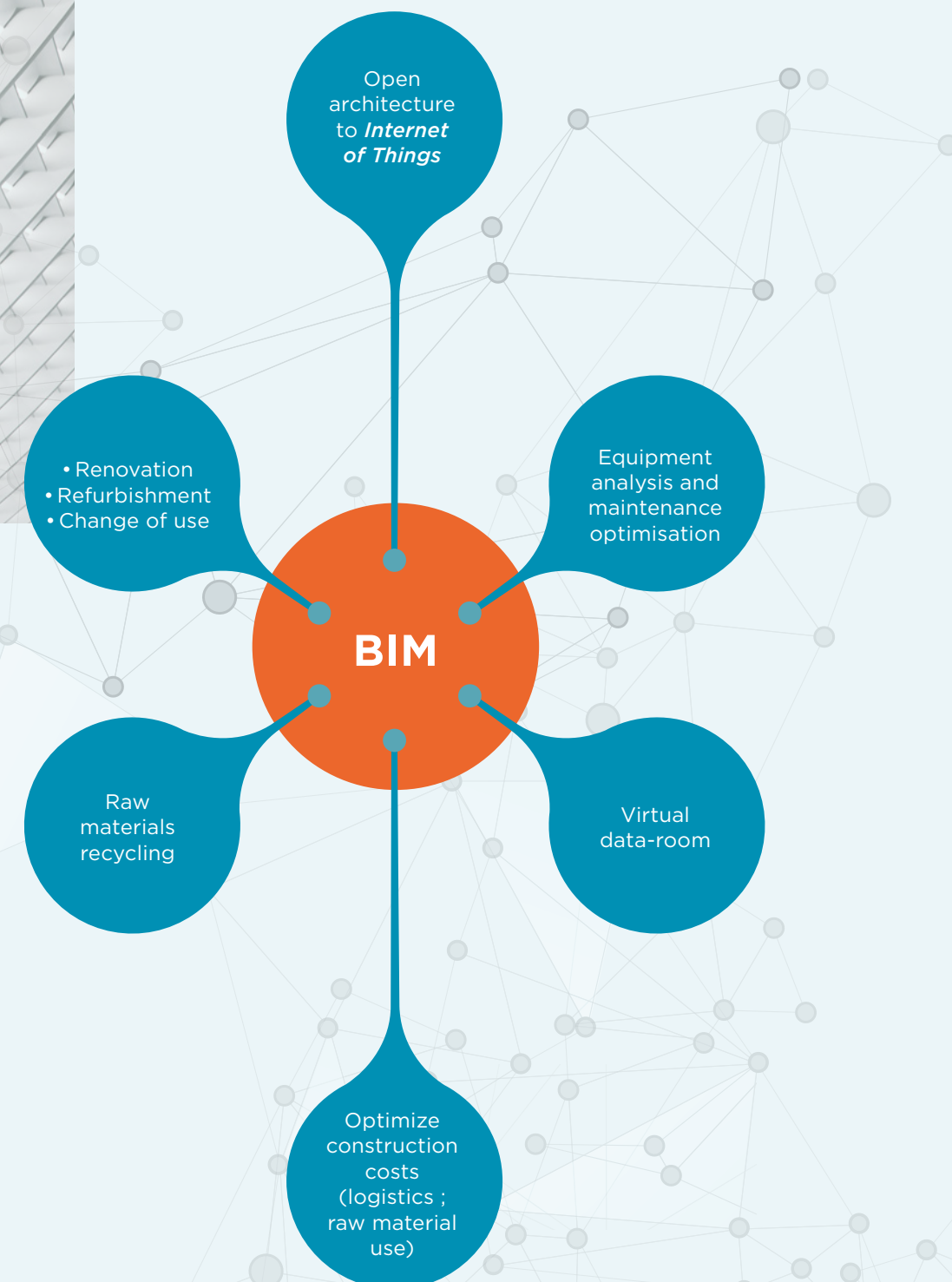
BIM involves the use of intelligent 3D modelling to generate and manage digital imagery of the physical and functional characteristics of the building during the construction process. It is considered one of the major revolutions of the building sector. However, according to a recent European Construction Sector Observatory report[2], its

use is still minimal across the industry, with 61% of real estate companies in Europe having not yet used the technology. The lack of adoption can be attributed to the slow implementation of policy and correct practises, and the shortage of people trained to use the technology.

In other areas of construction, start-ups are also looking into the R&D of innovative materials and the way they can be implemented in the future. Examples include materials with higher resistance capacities, environmentally-friendly materials, and the use of robotics to aid in the most dangerous parts of constructing a building.

1 PricewaterhouseCoopers, Innovation et BTP : la transformation du secteur est en marche, Décembre 2018, p.11

2 European Construction Sector Observatory, Building Information Modelling in the EU construction sector, March 2019, p.7

Open architecture to *Internet of Things*

• Renovation
• Refurbishment
• Change of use

Equipment analysis and maintenance optimisation

BIM

Raw materials recycling

Virtual data-room

Optimize construction costs (logistics ; raw material use)

Source: Cushman & Wakefield Research

ASSET & PROPERTY MANAGEMENT
CONNECTIVITY AND ANALYTICS ARE THE NEW NORMAL

- **Property and asset management are being transformed using technology.** The generation of big data gives rise to concepts like **'Smart Buildings'** - whose features are a key a selling point. The demand for data analytics is growing by 23% a year and will be worth $3.2bn (€2.9bn) by 2023[3] while only 20% of PropTech companies are related to property management[4].

- **Smart Buildings streamline time-consuming processes and provide full visibility into building operations by utilising IoT technologies.** This consists of building a system of linked devices, machines, or even people, to share data over a network in an automated way. The insight can allow property managers to reduce expenses, build a better environment for the building's occupiers and track inefficiencies. Smart Buildings are reported to save 38% in energy consumption and boost productivity by 23%.[3] With legislation and regulation pushing towards more corporate accountability for environmental issues and 86% of millennials looking into investing sustainably, it is becoming the baseline expectation.[4]

[3] Companies are taking advantage of their new ability to track their workers - The Economist

[4] Proptech 3.0: The future of real estate.

Smart buildings streamline time-consuming processes.

A SHIFT AHEAD IN EFFICIENCY AND SERVICE

Technology fuels a shift in the use of physical space. It helps identify how occupiers use the space and provides ways for users of the space to experience it differently. As space and technology become more entwined, we are seeing an increase in the amount of services people can use in a set space.

In general, people require an ever-increasing level of flexibility in their everyday lives. The availability of products and services are expected to be provided on-demand; a necessity for every future-proof business. Processes such as automation are no longer limited to a select few.

Apps such as IFTTT and Zapier enable everyday users to automate processes on a variety of platforms and services. At times, they can use this to interact with the space around them and create efficiency in doing so.

According to the EOCON Time Utilization Survey, office space is just used for 42% of the day. With the analysis of workplace data, inefficiencies can be identified, and insight can be produced on how space can become more efficient, flexible and safe. This is a prevalent practice among serviced office operators.

Technology also causes a shift in the process of finding space. Increased use and availability of data enables real estate agents to better advise the occupier. Moreover, rather than taking a reactive approach, technology enables agents to take a proactive role in advisory. Identifying trends from market, macro-economic and demographic data helps to guide occupiers throughout the process. Virtual and augmented reality can help visualise the potential of space, which is valuable in development and relocation opportunities.

MACHINE AND HUMAN INTELLIGENCE

Brokerage activity has already adopted data-driven models; contractual agreements can be monitored and enforced with the development of smart contracts. In addition, by using technologies such as blockchain, brokers can open their assets to a wider scope of investors. New platforms such as Bricket and Arex are aiming to create blockchain-based marketplaces to accommodate real estate investment transactions (such as the sale of the Saint-Regis Aspen resort in Colorado)[5], fund-raising and trading. These solutions work by issuing bonds over the platforms to investors in the form of e-tokens which are given a value. Once the developers sell the assets, the e-token holders receive back capital gains.
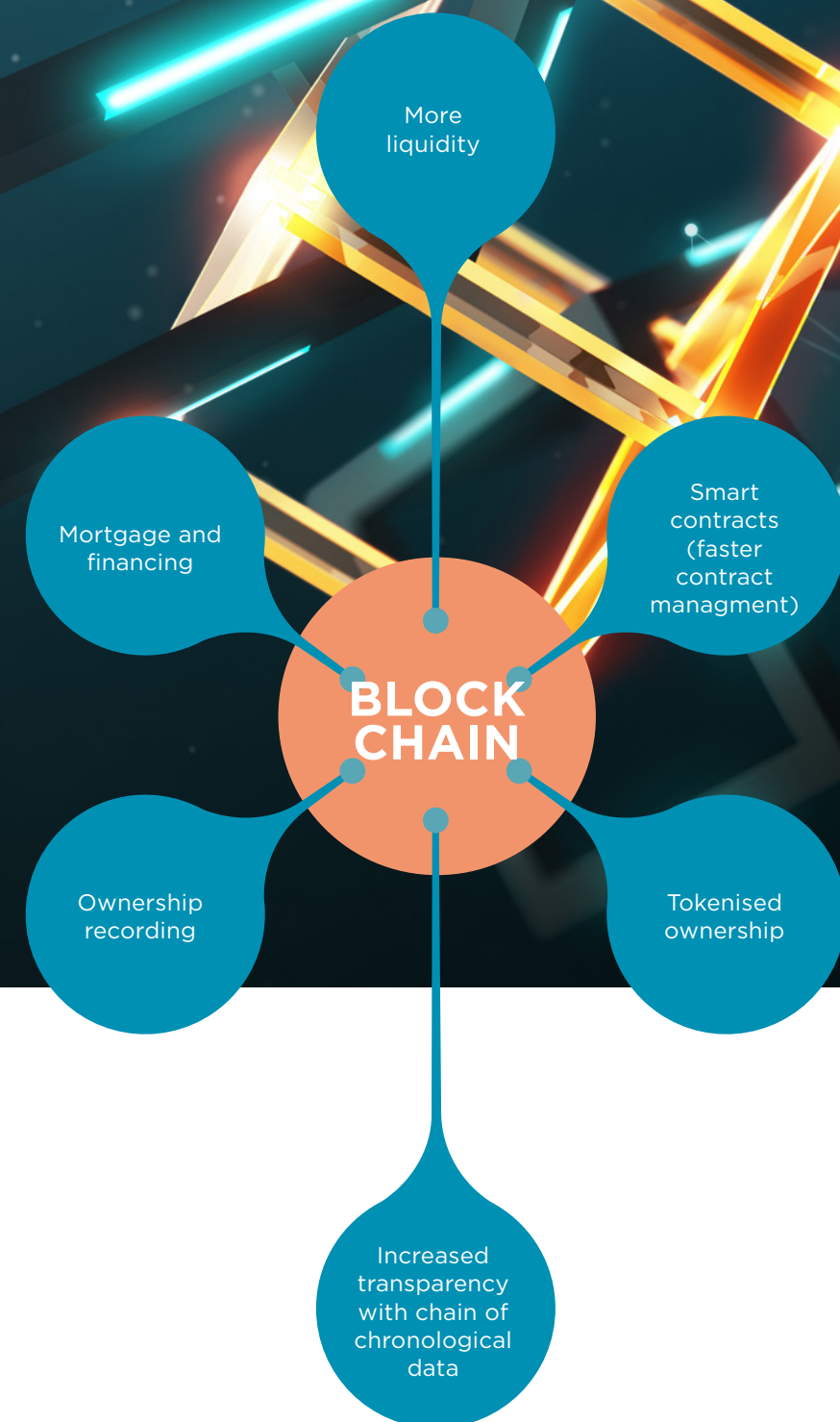
Recent findings from the World Economic Forum predicts that at least 10% of global GDP will be stored on blockchain platforms by 2025[6]. However, there are increasing legal concerns surrounding the adoption of blockchain in real estate. These platforms are not yet fully regulated on an international level, which is a problem, as the technology simplifies cross-border investment. The practise is being closely monitored by the European Union but currently provides ample opportunity for the real estate brokerage industry to develop disruptive models.

Large data points involving letting and sales data have become increasingly helpful to predict market prices and model cash flows. Vendors and purchasers can use artificial intelligence (AI) to aid in the decision-making process of trading property. AI is being trained to recognise facades and estimate quality and, therefore, pricing and letting rents. Platforms such as Skyline use machine learning to spot market signals and help adjust strategies of commercial property portfolios. Zillow, a US-based listing website, is also using machine learning to estimate property prices. They are even purchasing property to sell directly to their users in order to avoid the typical time-consuming process when buying property.

[5] https://medium.com/krypital/security-token-case-analysis-aspen-coin-the-first-real-estate-security-token-offering-bbbcc52ace5

[6] World Economic Forum, Building Block(chain)s for a Better Planet, September 2018

WHAT DOES BLOCKCHAIN OFFER?

More liquidity

Smart contracts (faster contract managment)

Mortgage and financing

BLOCK CHAIN

Ownership recording

Tokenised ownership

Increased transparency with chain of chronological data

Source: Cushman & Wakefield Research

WHAT YOU NEED TO KNOW IN 2020

TOP TEN SKILLS ARE CHANGING AS THE FOURTH INDUSTRIAL REVOLUTION PROGRESSES

For many sectors, and indeed for the real estate industry, the main challenge in this technological revolution is adapting business practices and tools to remain competitive.

We need to consider the possibilities of technology in our fields and the capabilities of what we can achieve when using it effectively. The real estate industry has been slow in adopting technology. The risks involved could offset expected immediate returns. These risks include obsolescence caused from the speed of technological progress, redundancies caused by the offset of labour skills and differing returns on investments.
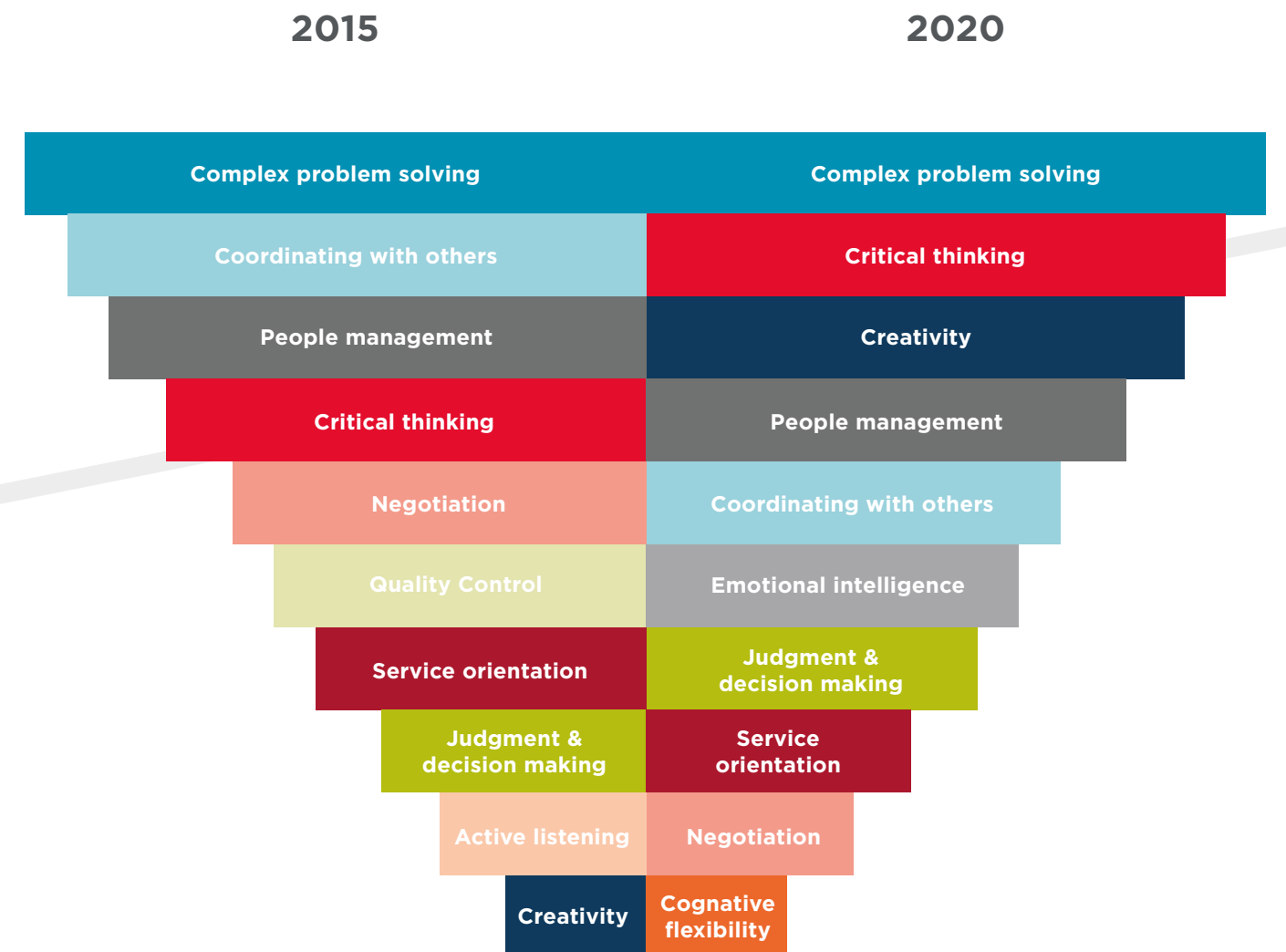
Real estate stakeholders are looking for ways to optimise investments and avoid decreasing returns. Some are taking a venture capital approach by investing in companies that are building technological tools, whilst others utilise or expand their own resources to build the tools internally.

A prominent method is to hire workers with skills in the technological realm and integrate them within the traditional skillsets in real estate. On a micro-level, there are changes in the way people think about using space and buildings in which technology plays a major role.

A growing part of the real estate landscape now consists of initiatives from technology companies and new entrants who will continue to challenge the industry. Established players are responding by creating partnerships with tech companies.

With new technologies continually being released, new questions are being raised and operations and processes need to be set. The key statement to keep in mind is that **technologies should be used to enable a meaningful future for humankind[7]**. On a global level, the emergence of big data (the systematic production and collection of data) enables the capturing of data points on personal information.

2015	2020
Complex problem solving	Complex problem solving
Coordinating with others	Critical thinking
People management	Creativity
Critical thinking	People management
Negotiation	Coordinating with others
Quality Control	Emotional intelligence
Service orientation	Judgment & decision making
Judgment & decision making	Service orientation
Active listening	Negotiation
Creativity	Cognative flexibility

Source: World Economic Forum, Agenda "The 10 skills you need to thrive int he Fourth Industrial Revolution". 19 January 2016.
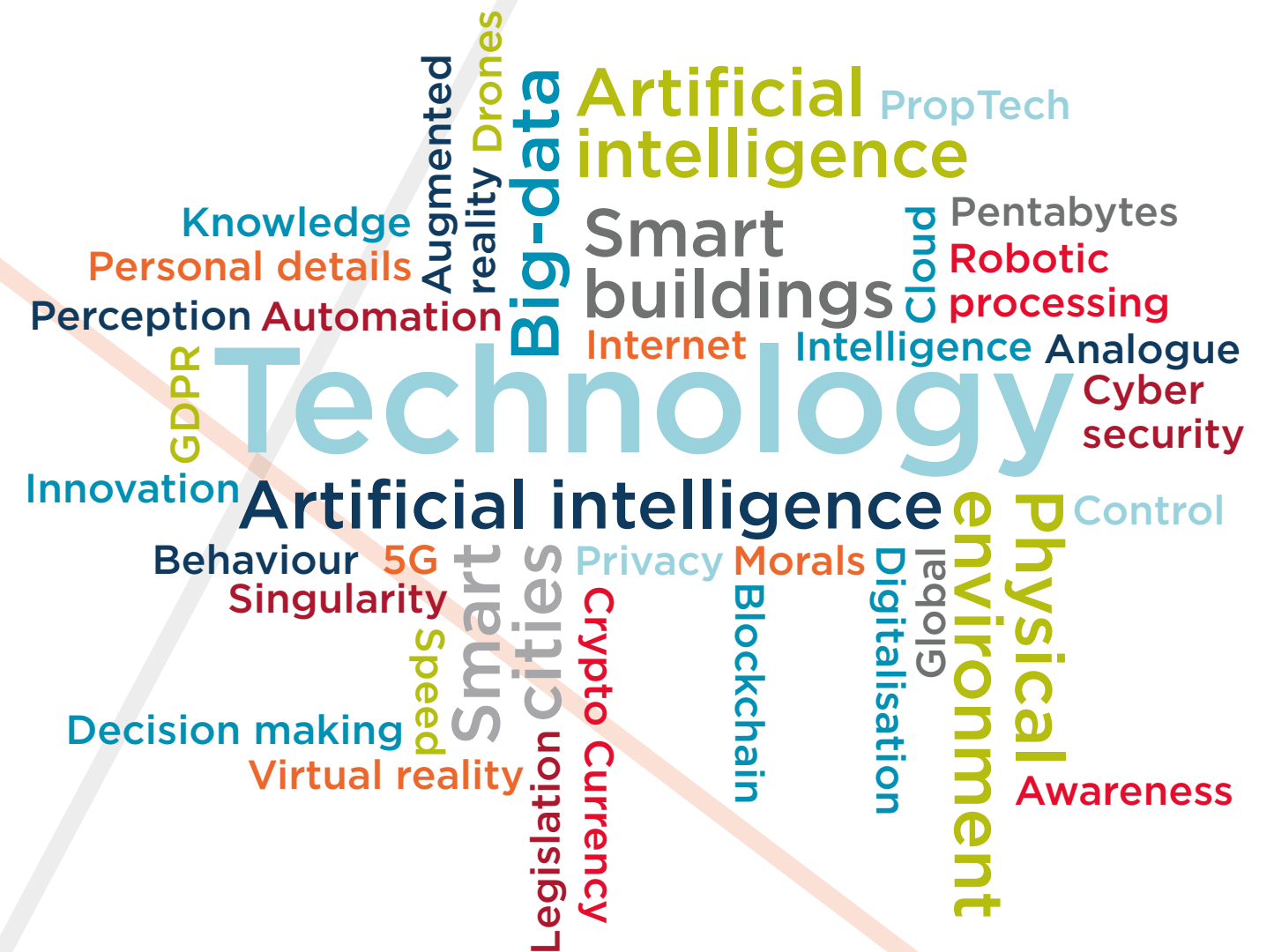
Who owns people's data?

Do we have the right to remain anonymous?

Who benefits financially from using our data?

These are some serious ethical issues that should be considered when technology becomes further intertwined with the real estate landscape. In areas such as medicine and law, for example, codes of conduct are outlined and strictly implemented; by applying the same methodology to technology we can minimise malpractices and encourage good practices.

The real estate industry needs to start recognising the importance of our changing attitudes towards technology in the future. Most notably, the real estate industry needs to start identifying what value we we generate by using new technology.

Technologies such as automation fast-tracks routine processes and limits human error; in adopting this, we can focus on providing the additional value an automated process cannot.

Technology — word cloud: Augmented, Drones, Artificial intelligence, PropTech, Knowledge, Big-data, Smart buildings, Cloud, Pentabytes, Personal details, reality, Robotic processing, Perception, Automation, Internet, Intelligence, Analogue, GDPR, Technology, Cyber security, Innovation, Artificial intelligence, Physical environment, Control, Behaviour, 5G, Smart cities, Privacy, Morals, Digitalisation, Global, Singularity, Speed, Crypto Currency, Blockchain, Decision making, Legislation, Virtual reality, Awareness

7 Davis, N., Larsen, A.M.E., & Philbeck, T. (2018). Values, Ethics and Innovation. [online] World Economic Forum. Available at: https://www.weforum.org/whitepapers/values-ethics-and-innovation-rethinking-technological-development-in-the-fourth-industrial-revolution [Accessed 5 Aug. 2019].

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In addition to producing regular reports such as global rankings and local quarterly updates available on a regular basis, C&W also provides customized studies to meet specific information needs of owners, occupiers and investors.

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