

# NEW WORLD OCCUPIERS AND MARKET DISRUPTORS

*by*

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1. I want to start the talk by watching an extract from the Today Show 1994. Some of you may have seen it. What is interesting about it are a number of things:
  - (1) the lack of knowledge of what the technology can do and its potential
  - (2) the pace of change – note the references to “dictionary “ and to “telephone line”
  - (3) and of course the wholly inappropriate comment from the male presenter which probably today would have led to his suspension .
  
2. Now for a question. How many of you have booked in to MIPIM? I’m not talking about MIPIM at Cannes 2019, but the MIPIM Proptech conference in Paris in June 2018?. And there is the earlier Proptech event in London on 2 May 2018, Future Proptech concentrating on digital transformation.
  
3. So what is Proptech? Prop Tech deals in the development of tools and solutions to streamline, enhance or make accessible the process of buying, letting and managing property. Professor Baum, The University of Oxford, Saïd Business School, in his 95 page report PropTech 3.0 “The The Future of Real Estate”.

[https://www.sbs.ox.ac.uk/sites/default/files/Press\\_Office/Images/proptechreport/PropTech%203%20-%20The%20Future%20of%20Real%20Estate.pdf](https://www.sbs.ox.ac.uk/sites/default/files/Press_Office/Images/proptechreport/PropTech%203%20-%20The%20Future%20of%20Real%20Estate.pdf)

defined Proptech as:

“... one small part of the wider digital transformation of the property industry. It describes a movement driving a mentality change within the real estate industry and its consumers regarding technology driven innovation in the data assembly, transacting, and design of buildings and cities” (Baum 2017)

4. Baum identifies 3 main Proptech movements:
  - (1) **Smart Buildings** describes technology-based platforms which facilitate *the operation* of real estate assets. The platforms may simply provide

information about building or urban centre performance, or they may directly facilitate or control building services. This sector supports real estate asset, property and facilities management.

**(2) The Shared Economy** describes technology-based platforms which facilitate *the use* of real estate assets. The assets can be land or buildings, including offices, shops, storage, housing and other property types. The platforms may simply provide information for prospective users and sellers of space, or they may more directly facilitate or effect rent- or fee-based transactions. This sector supports the real estate occupier markets.

**(3) Real Estate Fintech** describes technology-based platforms which facilitate the trading of real estate asset *ownership*.

5. I shall touch on a number of these matters below.

### **Smart Buildings**

#### **Connectivity**

6. The Internet is among the top three most important factors for tenants who are searching for office space, along with cost and location. Internet speeds will become more and more important: The Akamai, State of the Internet, Q1 2017 Report <https://www.akamai.com/uk/en/about/our-thinking/state-of-the-internet-report>
7. The global average fixed line connection speed increased to 7.2 Mbps.
8. A report by Cable. co.uk in August ranked the UK in 31<sup>st</sup> place with average speed of 16.5Mbps. It was behind 20 other European countries of which 17 were in the EU. (<https://www.cable.co.uk/news/new-broadband-league-shows-uks-average-speed-is-less-than-half--700001889/>)

9. To put this into context to download an HD movie of 7.5GB would take 18.34 mins in Singapore (World No.1) , 25mins 30 sec in Sweden, 30mins, 33 secs in the Netherlands and 1 hr 2mins and 1 second in the UK.
10. Of course commercial speed is higher. 10Gbps is commonplace.

### **Wired Score**

11. You have all heard of Eddie Redmayne. I do not propose to speak about him. However, his brother is a director of business development at WiredScore (<https://wiredscore.com/en/>) Wired Score (founded in 2013) provide certification of Internet connectivity. A UK launch was made in November 2015 with endorsement from the then Mayor of London, Boris Johnson. They will only certify commercial buildings. WiredScore Certification provides transparency and access to information to tenants. It enables tenants to benchmark properties. It enables landlords to identify marketable connectivity features with respect to the building they are seeking to let.
12. WiredScore consider that there are three primary concerns which tenants have:
  1. how quickly they can set up.
  2. how resilient the Internet is.
  3. What price have to pay for the speed they are going to receive.
13. These three concerns form the basis of the main criteria used when certifying a building's connectivity.
14. The Shard, for instance, has the highest rating, the Platinum Rating ,and promotes this on their website. It has a tremendous array of features including provision by seven Internet providers and a whole host of measures to ensure that the services are resilient and robust with emergency backup services to protect against service disruption. Offerings are up to 100Gbps.

15. A potential criticism of the Wiredscore service, raised in an interview with Tom Redmayne on the Proptech Pod cast (<https://soundcloud.com/proptechconsult/proptech-podcast-wiredscore-tom-redmayne>) is that bad buildings will always be bad buildings and the only buildings which will wish to be scored will be those that wish to advertise the fact that they are providing superfast connectivity. However, WiredScore suggests that their service also involves providing advice to improve the connectivity of the building; they will not publicise the score.
16. There is no doubt that connectivity is becoming a big issue. See Egi iPod cast 14 March 2018 on connectivity from an interview with Lend Lease at MIPIM (<https://estatesgazette.podbean.com/e/mipim-2018-debate-londons-future-rests-on-connectivity/>)

## AI

“if you are going against AI then you are going against safer cars being able to better diagnose people when they are sick”

**Mark Zuckerberg**

“the development of full AI could spell the end of the human race.”

**Stephen Hawking**

17. A number of AI applications use a “neural network technology”. There are two types of technology, either one which requires the machine to learn by mistakes, a natural form of “education” or a rule-based form of learning. To take an example, the difference between a chair and table. A child understands the difference between a chair and a table by being repeatedly told and shown the difference. Soon the child understands the difference subconsciously without necessarily knowing the rules. A rule-based form of technology simply

requires the machine to assess the data by reference to the rules with which it has been programmed.

18. Neural network technology is the former not the latter. It attempts to mimic the non—linear connections of neurons in the human brain to recognise patterns in images, sounds and other data. It has been responsible for many advancements in the field of machine vision and natural language processing. It is sometimes known as “Deep Learning”.

19. It is a form of reinforcement learning. The AI becomes its own teacher, with no need for human supervision. Deep Mind’s” Alpha Go Zero AI taught itself the game of Go without knowing any of the rules beforehand. In a matter of days, Alpha Go Zero become the world’s best Go Player, beating one of its own AI predecessors 100 games to 0 – the same predecessor that had previously beaten the world’s most formidable human Go Player

20. In all cases one is not referring to a form of intelligence which has a consciousness, unlike Hal in 2001, and Rachel in Blade Runner, who was a replicant but who thought she was human and was given false memories to provide an emotional "cushion."

21. AI, at least today, is really a form of augmented intelligence. It is not “full” to use Stephen Hawking’s words.

22. Anthony Slumbers, a leading commentator, says that there are three areas where AI has enabled computers to go from “Useless to Utility”

See. <https://www.antonyslumbers.com/theblog/2018/2/24/how-to-think-about-ai-in-real-estate>

23. First, computer vision (face and image recognition), second, voice recognition and third, NLP (natural language processing). He states that they have all moved from being 20 to 30% error prone to now being on a par or even surpassing, in certain circumstances, human ability. This means the computers can, see, hear and speak as humans can. Thus computers can:

1. Automate processes
2. understand what is happening in pictures and videos
3. optimise complex systems
4. create content
5. understand people using language
6. make predictions

#### ***Leverton***

24. An interesting piece of AI software is that operated by Leverton <http://info.leverton.ai>

25. What Leverton does is to analyse and extract data and produce it in a language chosen by the client. It analyses unstructured data into a structured format.

26. Leverton concentrate, at present, principally on the real property industry. They analyse real estate documentation such as leases, deeds, contracts etc and extract relative information needed to understand the real estate portfolio e.g. with respect to break clauses, rent review clauses, termination provisions etc. It does away with the man-hours needed and the inherent risk of error, in producing Excel spreadsheets.

27. Leverton is a big player. It has GVA, JLL, Savills to name a few, on its books and has recently signed up Sports Direct with respect to its European property portfolio (February 2018).

28. The Leverton programme is also able to identify missing information. One can well see that it has particular application with respect to repetitive routine tasks which take many hours of manpower. Time spent with respect to due diligence in connection with real estate transactions will be much reduced. An example is given by Head of Europe, Richard Belgrave, who says that the programme can analyse and extract the relevant information from 100 commercial leases within 72 hours at a cost of £8k to £10k

### ***Ask Porter***

29. The impact of technology in the property sector is also bearing fruit in the management of buildings and that of course will impact on service charges. Take, for instance, Ask Porter (<http://askporter.com/>) For those of you who are unfamiliar with it, it is a AI driven property management platform, now funded by PiLabs (Property Innovation Labs – a property tech venture capital company)(<http://pilabs.co.uk>)

30. In essence the platform intelligently connects those involved in a property with the right information or, alternatively, the people required to resolve issues as quickly as possible. It is a form of a WhatsApp group for everyone involved in a particular property with an AI assistant in the background that helps manage issues, answers questions and directs the right people into the conversation as and when required.

31. Thus, if there is a problem with an air conditioning unit within the building Ask Porter will receive the details, invite relevant personnel into the conversation, automating the process giving rise to the repair. The platform is a self-learning facility so that it will understand all of the different ways that someone could say, for example, “my air-conditioning unit is not working” or “my window is broken.”

32. In order to provide the relevant services, Ask Porter has partnered with Adiuvo, the provider of out of hours services were 350,000 properties across the UK.

33. Ask Porter suggest that property management time is reduced by 20 to 30% by use of its platform (although recent article in e.gi Jan 2018 refers to a 50% reduction).

### ***Disruptive Technologies***

34. Voted Norway's Tech Company of the year 2016, the company has developed a 'truly groundbreaking yet stunningly simple end-to-end sensor solution, which has the capacity to significantly reduce cost, increase efficiency and drive innovation in the built environment'.

35. Its sensors are the smallest in the world, just the size of a postage stamp, and boast a 15-year battery life.

36. Sensors can address things such as temperature, touch and proximity, but plans for humidity and water detection being developed. The sensors allow data to be collected, data which can help reduce inefficiency, predict future complications, and optimise performance.

### ***Hammerson***

37. The retail sector is also seeking to innovate. By way of example Hammerson not only developed an app that tailors personalised offers to shoppers, providing access maps and centre information via their mobile phones, but it "FindSimilar" function. This was trialled in Brent Cross in 2017. It utilises an AI image recognition programme and allows users to upload an image and search to find the same or similar items and products in stores throughout the relevant shopping centre.

### ***User experience***

38. There is a growing emphasis on amenities, comfort and hospitality in the workplace to improve the experience. Just as shopping centres promote themselves as destinations to attract customers who would otherwise shop online, offices will do the same to attract tenants.

39. New technologies will automate routine tasks. A digitally driven office building is taking shape. The Smart office will manage the entire user experience in the workplace.

40. British Land's survey (<http://www.worktechacademy.com/smart-offices-future-arriving-workplace-near/>) of employees and decision makers of office space identified the following as feature they would wish to see incorporated into the office:

- Self-adjusting lighting and window shades (53 per cent don't have this but think it would be helpful)
- The ability to personalise heat and light settings for one's immediate space, and have those settings follow you around the building (53 per cent)
- Circadian lighting systems that mimic natural daylight (51 per cent)
- Heat and lighting systems that adjust automatically according to weather and occupancy (50 per cent)

The most appealing features to decision makers were:

- An app for booking desks and meeting rooms (35 per cent)
- Meeting rooms where the screens work seamlessly with your device (34 per cent)

- Desk or room sensors that track usage to monitor efficiency (34 per cent)
- The ability to personalise heat and light settings (34 per cent)
- Heat and lighting that adjusts according to weather and occupancy (34 per cent)

41. As can be seen the Norwegian Company, Disruptive Technologies, is at the forefront of providing these features.

42. Siemens, in a White Paper February 2018, “the future of the Smart office”, (<https://www.siemens.com/global/en/home/products/buildings/contact/premium-office-whitepaper.html>) quote Erol Aziz of KPMG that “the challenge is to turn the office into a destination – somewhere that people want to go”

43. The Siemens White Paper Refer paints a picture of the office of the future:

- (1) It will “know who you are... settings automatically adapt to your preferences as you enter a space in terms of lighting, temperature and working style.”
- (2) Auto translate systems will ensure that nothing is lost in translation with colleagues from several different countries in a remote meeting
- (3) There will be Smart systems for fire safety, access control, video surveillance, and visitor and identity management.
- (4) Visitors will no longer be forced to queue up at the reception desk, sign a scrap of paper, and wear plastic lanyard. The smart building will know who your clients, contractors and suppliers are.
- (5) “Visitors will receive a “boarding pass” in advance of any meeting, giving them access to the building with a barcode on their smart phone, sending personalised messages appointing out corporate artworks in reception, advising on the best route through the building, or communicating salient facts about the company.”

- (6) Sensors will monitor indoor air and water quality, light, temperature and noise levels.
- (7) Fitness devices will be worn by employees sending biometric data to the smart building system adjusting ambient conditions autonomously on data readings which suggest that the occupants may be either too hot or too anxious.
- (8) The calories consumed during work or the number of steps taken will be automatically fed into a database on which each employee is to be reviewed as part of his/her appraisal process to ensure that fitness goals are met.
- (9) Data collected from thousands of data points give facility managers the real-time intelligence to reconfigure and adapt space to optimise use and address changing user needs.
- (10) Data collected will know not only whether you're in the building but who you're with and will know how you are working.

### **Shared Economy**

#### **Co—working space**

#### **“Workin' 9 to 5, what a way to make a livin'”: Dolly Parton**

#### **What Tenants want**

44. Co-working is more than just an innovative office layout. It is about freedom, purpose and autonomy. It aims to make employment as rewarding as self-employment to make operating within a business as exciting and stimulating as running your own business. Control over where you work and when are a fundamental benefits of the career choice.
45. The self-employed are set to overtake the public sector. Even those in regular employment work more flexibly than ever. Traditional offices are in decline. Co-working is a communal model of shared workspaces with flexible daily, weekly or monthly rates. The new breed of workspace combines the benefits of a cafe culture, members club and serviced offices. Those which spring to mind are Camden Collective, Soho Works, Fora

Central Street, Campus London, Vrumi (an Airbnb style platform that lets people rent out the living spaces, home offices are dining rooms), Central Working, the Office Group at the Shard (the Office Group launch in 2003 claimed to have pioneered the concept of shared workspace in Britain), WeWork, Forge &Co, Makeversity and Impact Hub Westminster to name but a few.

46. Collocating with creative start-ups, ie having an embedded co-working space within an existing office, may be thought, furthermore, to improve collaboration and innovation in the business. Google adopts this approach. The co-working space seeks to reflect the autonomy that members of co-working communities enjoy.
47. Tenants want proximity to public transportation, flexible leasing and kitchen facilities. In essence the WeWork business model.

**WeWork (<https://www.wework.com>)**

48. WeWork is in the business of developing supply and generating demand **for its own space**. AirBnB, in contrast, is in the business of aggregating existing supply and monopolising demand **for anyone' spaces**. Once you control demand, suppliers become a commodity. You cannot name a single Airbnb host or and Uber driver because those are interchangeable; all that matters is your relationship with Uber and AirBnB.
49. Founded in New York in 2010, co-founder Adam Neumann has been quoted as saying “at WeWork, we want to create a world where people work to make a life, not just a living”. Those who rent desk space or enclosed offices are not just clients, they are members of a “community” under the WeWork belief. It supplies an Internet connection, cleaning service, reception and more.. According to GVA, WeWork is the largest single occupier in New York City.

**Some interesting facts and figures.**

50. According to a report from Cushman Wakefield, 2018, We Work has taken the most office space in London over the past five years. It is taken 2,578,000 ft.<sup>2</sup> of space since 2012. This places it ahead of Google 1,344,000 ft.<sup>2</sup>, Amazon 1,013,000 ft.<sup>2</sup>, Deutsche bank 858,000 ft.<sup>2</sup> and We Work's competitor of flexible office provision, The Office Group, with 853,000 ft.<sup>2</sup>. In fact it now has the largest volume of office space commitment in London, second only to the Government.
51. WeWork's 2018 report, Co—working, refers to the fact that flexible working space accounted for 17% of all office leasing activity in the UK' s 9 largest cities in 2017. This compares to 6% of leases in 2016.
52. Central London saw a record 2,500,000 ft.<sup>2</sup> of lettings sign flexible workspaces, more than 21% of all commercial office leases in the capital. And the average rent paid by flexible workspace providers across the capital rose to £65 50 ft.<sup>2</sup> in 2017, a 10% increase on the previous year.
53. Cushman Wakeful also refer to the fact that flexible workspace is also being driven by the new lease accounting standards (IFRS 16) which require occupier to capitalise rental liabilities on the balance sheets. Leases or licences under 12 months can be excluded, increasing their appeal.
54. Comparison with IWG (International Workplace Group) which trades by the brand names, Regus, Spaces, Signature, Number 18, Basedpoint and Openoffice.

55.

WeWork/IWG	WeWork	IWG
Founded	2010	1989
Market capitalisation	\$21.2bn (20 Dec 2017)	£2.3bn (16 Dec 2016)
Revenue	\$532m	£2,352bn (ye 2017)
Total Funding	\$9.8bn	
Staff	3,700 approx	8,600 approx
EBITDA	\$14m	£376.2m
Locations	164	3125
Facebook followers	776k	144k
Twitter followers	81k	19.7k

(All information from Craft  
And IWG plc)

<http://www.iwgplc.com>

56. There are differences between WeWork and Regus. It is said (Quora, How is the business model of WeWork different from that of Regus)(  
<https://www.quora.com/How-is-Weworks-business-model-different-from-that-of-Regus>) that those working in Regus offices were B2B or ones “who needed their clients to visit the office and judge the company by its office.” On the other hand, “most people working out of co-working spaces like WeWork do not need a lot to show off their business and just need to work on their start-up without taking the stress of infrastructure.” “Regus is just office space, and there is little or no interest in even knowing who else is renting space. Their office designs are very conservative, and it looks like any other office space in town.”

57. Some 50% of co-working space in London is dedicated to the tech and digital services. Problems arise where the market slows or supply begins to exceed demand. The single greatest financial risk to entities such as IWG (as referred to in its 2017 Y/E accounts) and WeWork is represented by the financial commitment of having a portfolio of leases

where the lease terms with landlords are, on average, significantly longer than the outstanding terms of the contracts with customers creating a potential mismatch if rents fall significantly, which can impact on profitability and cash flow.

58. IWG state that this risk is mitigated by:

1. The fact that its leases are flexible, meaning that they are either terminable at IWG's option within six months and/or located in or assignable to a stand-alone legal entity, which is not fully cross guaranteed. Thus individual centres are sustained by their own profitability and cash flow.
2. Over 40% of leases entered into in 2017 were variable in nature, meaning that payments to landlords vary with performance of the relevant centre. In this way the "risk" profitability and cash flow from fluctuation in market rates is softened by the constant adjustment to rental costs.
3. The sheer number of leases and geographical diversity of the business reduces the overall risk to the business.
4. Each year significant number of leases in the portfolio reach a natural break point.

### **Patchwork**

59. Some co—working space has simply evolved originally by chance rather than by design. Take, for instance, Patchwork (<http://www.patchwork.co/english>), which is a co-working space in Paris aimed at start-ups, architects and interior designers looking for desk and meeting rooms. Mikael Benfredj, its founder, ran a furniture store. He saw it evolve into a co-working space when people started to use the display furniture as makeshift workspaces. Mikael embraced the demand for the change in use and his plans expanded. It offers workspace which is being equipped by top branded furniture designers, unlimited coffee, high definition printing, meeting rooms, high-speed Internet, fall in internal all carrier mobile coverage, social gatherings and workshops.

60. Mikaelj has stated (in What the “Office” will look like in 10 years’ time?, 1 August 2017) that offices will see “more integrated services such as childcare facilities, hairdressers, banks and post offices,... [plus) the monitoring of lighting, chair comfort and screen hours. And I think offices will be more disability friendly too. And there will be less personalisation of your specific spot or desk.”

## **22 Bishopsgate, London (<https://www.google.co.uk>)**

61. Let’s take a look at a building currently under construction in the City of London. With input from office design consultant Despina Katsikakis (who advised Google when it was first developing its office concept), the building, developed by Axa IM Real Assets and Lipton Rogers Developments, is 62 story’s high (278 m), designed to contain workspace for 12,000 people, is said to be a “truly “social” workplace with different places for people to socialise, focus and energise”. It will contain climbing window (as opposed to a wall) as part of its fitness facilities, a fresh food market, innovation hub, gym, well-being retreat and spa, as this club, and a cycle club together with an “art walk” in the building’s triple height reception. There is 1,275,000 ft.<sup>2</sup> office space for a mix of small and large businesses as well as start-ups. The floorplates are approximately 24,000 sq feet which may be subdivided for up to 4 occupiers.

62. The website refers to “flexible floor plates, high ceilings, natural light and “Wi-Fi absolutely everywhere”. It has a WiredScore Platinum certification with WiFi and uninterrupted 5-bar phone signal everywhere. Smart lobby check-in system, intelligent building management and safety systems and 100% power resilience.

63. Completion is aimed for summer 2019.

## **Blockchain**

“Blockchain is a single point of truth but without having to rely on a single party for that truth.”

64. This is set to become a major disruptor. In a nutshell it is an immutable digital asset transfer technology. Blockchain is like an operating system, e.g. Windows, on which applications run. Bitcoin runs on a block chain operating system. I found one of the most accessible introductions to blockchain technology is that given by Brock Pierce: Blockchain Technology, given at the Ink talk, Asia 2016.

<https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=6&cad=rja&uact=8&ved=0ahUKEwic3cr18vrZAhVIKMAKHa-BCtAQuAIIpZAF&url=https%3A%2F%2Fruclip.com%2Fvideo%2F3IMvo0PPxjQ%2Fbrock-pierce-blockchain-technology.html&usg=AOvVaw07BDplzKqxON65LvBIP5aq>

65. Blockchain technology is the ability to create a unique verification record of a digital file e.g. of registers, agreements, leases, deeds, contracts etc. To understand the concept one must think of a form of the verification record being a form of a fingerprint or “fingerprint algorithm”. Any digital file can receive a unique code. This is called a cryptographic hash.

66. The algorithm takes all the ones and zeros that describe the digital document and recalculates them in a repeatable but irreversible way. If say a contract is received by email, you can run the algorithm on it, and then compare the hash generated to the hash that is on the verification list. If they match, the document can be trusted. Any incorrect document will not match the hash. Notwithstanding the low level of security of email communication, the authenticity of the document can never be doubted. A large number of hashes are saved in a group i.e. a block. Each block with verification records is then distributed to the persons who have access to the blockchain. In a private block chain, there are a limited number of people that can approve the hashes that are to be saved in the blockchain, using digital signatures (or other forms of identification such as biometric identification).

67. A blockchain is called a block chain because each block which is generated is linked back to the previous block. Each subsequent block receives a verification hash. It is thus impossible to create a different version of any block without changing all subsequent blocks and all of the information within them.
68. Blockchain allows fast, secure and transparent peer-to-peer transactions. It is a trusted, decentralised network that allows the transfer of digital values, such as currency and data.
69. It essentially provides an immutable chain of title. If I wish to sell my house to you that will be dealt with by blockchain technology recording each stage of the process culminating in the transfer of ownership. Sweden has tested blockchain technology at its land registry see <https://chromaway.com/papers/Blockchain>
70. Dr Catherine Mulligan, of Imperial College, University of London, considers that it will have a fundamental impact on the way society runs and with how it will interact with one another. All commentators except that it is as significant as the Internet.
71. Ultimately trust is no longer needed in an objective third party intermediary, but trust is placed solely on the blockchain. Thus the role of lawyers, banks and other intermediates in real estate transfers may be much reduced.
72. It has numerous potential applications. It should, theoretically, eliminate counterfeiting. One will have a blockchain record of manufacture, supply and distribution which can never be tampered with. So the Chanel handbag in your hand will have essentially a chain of title enabling the recipient to know that it is truly a Chanel handbag and not a copy.

## The Legal Apocalypse?

73. Ross, created by Ross Intelligence (<https://rossintelligence.com>) is an example of a disruptor to the legal profession and thus ultimately to the property market. In May 2016 American law firm Baker & Hostetler “hired” an AI attorney called ROSS. Supported by IBM’s Watson cognitive computer, ROSS engages in natural language queries and research to assist lawyers. ROSS is not like Google, it is not a search engine. Google’s search engine will produce thousands of often irrelevant replies. ROSS delivers precise answers, without lawyers and without keywords. It is able to comb through legal texts in recent court decisions and to identify changes in the law which may have a positive or negative impact on the case. It also has an inbuilt (Deep) learning system becoming more sophisticated the more lawyers use it. It tracks legal changes 24/7. Thus, in essence, it enables lawyers to interact with ROSS as they would with another human lawyer. As has been said in one commentary, the only difference is that it doesn’t take a lunch break. IBM asserts that it is able to review the “entire body of law” before responding with “answers, topical readings, legislation, case law and secondary sources”.
74. Serving clients is the essence of the job. However, charging say 10 hours of chargeable time to collect and analyse case law to produce a comprehensive memo on a discrete question makes little sense when ROSS can do it in a matter of seconds. This form of AI will become a necessary cog in the legal machine. But what of legal education? The analytical skills derived from hours of mental drudgery in undertaking legal research is an essentially stepping stone of any young lawyer. If a machine such as ROSS provides the short-term convenience for both existing partners and consequently clients one can see that it could adversely impact on the ability of young lawyers to obtain practical hands-on education.
75. According to the website its “Practice Areas” include Bankruptcy Law, Intellectual Property Law, and Employment Law.

76. But it does not end with ROSS. There is also EVA, which is able to review skeleton arguments legal opinions and provide a comprehensive and hyperlinked list of cases cited in the argument/opinion which receive negative treatment, as well as highlighting other cases which analyse the same question of law the subject of the skeleton argument/opinion.

77. The company tag is “a world where everyone has access to affordable legal representation”.

### **Legal Implications**

78. So bringing all these threads together what is the impact for the property market, property law and property lawyers. It seems to me that:

- (1) There will be a continuing demand for flexible terms with respect to co-working space.
- (2) Landlords will need to be willing to be more flexible on the terms they offer e.g. as to breaks and termination provisions
- (3) Tenants will become more sophisticated and more knowledgeable with access to structured data
- (4) Landlords will have to ensure that their buildings are providing all the appropriate electronic communications infrastructure and services required by occupiers otherwise it will be unable to compete in the market.
- (5) The implications of the Electronics Communications Code will need to be considered given the desire to increase connectivity of buildings. Will this put operators in an advantageous negotiating position?
- (6) There will undoubtedly be valuation issues with respect to connectivity, particularly if some internationally recognised certification is adopted as is the aspiration of Wirescore.
- (7) Due diligence in real estate transactions is likely to be simplified or at least facilitated by the use of computer programs.

- (8) Service charge provisions may have to be reviewed probably becoming more sophisticated to cater for the array of services which are likely to be provided in a smart building
- (9) The legal profession will have to adapt. Platforms such as that operated by Leverton will eliminate the ability to charge clients for mundane labour-intensive tasks that are readily susceptible to automation
- (10) Legal education will also be impacted upon. Trainees are unlikely to be able to undertake hours of legal research if that task can be undertaken more quickly and less expensively by a computer program
- (11) The law may have to change fundamentally if blockchain is utilised for real estate transactions.

**Wayne Clark**