



Top 10 Real **INSIGHTS**

2018 Vancouver Real Estate Strategy & Leasing Conference

ISSUE 17

Powered by


AltusGroup

1

**INSIGHTS FROM
INDUSTRY LEADERS
DURING THE CONTENT
FORMATION OF
MONTRÉAL REAL
ESTATE STRATEGY
& LEASING
CONFERENCE**

**VANCOUVER AT A
CRITICAL JUNCTURE**

Elections will herald in a new era of change for the city.

2

**INDUSTRIAL VACANCY
AT ROCK BOTTOM**

Industrial Rate the lowest in North America but rents not the highest.

3

**RETAIL THRIVING IN
VANCOUVER**

Ecommerce sales are growing but still below 10% of total retail spending.

7

**DEMAND FOR
CANNABIS COULD
GET HIGH IN BC**

Examples out of the US indicate that demand and prices for CRE increased after the legalization of cannabis.

6

**TENANT
RIGHTS
INCREASE**

New Provincial rules in BC enhance the rights of residential tenants.

5

**CONSTRUCTION
COSTS HIGHEST IN
VANCOUVER**

Labour shortages and tariffs are having a big impact on the construction costs.

4

**TIGHTEST
OFFICE MARKET
IN YEARS**

JLL reports that downtown direct asking net rents have increased by 13.46% in the last year.

8

**BLOCKCHAIN
PENETRATING
MARKETS: WHEN
WILL IT COME TO
VANCOUVER?**

Blockchain & Cryptocurrencies are starting to change the way business is getting done.

9

**PROLIFERATION
OF PROPTech:
ANOTHER TREND
TO MONITOR**

Proptech is changing the way we rent, buy & manage property

10

**RETHINKING
PARKING
EVENTUALLY**

In the long term, autonomous vehicles and decreasing car ownership has the potential to free up thousands of square feet of space in Vancouver.

For further details on these top trends please visit the Real Estate Forums Portal at realestateforums.com

1. VANCOUVER AT A CRITICAL JUNCTURE

Elections will herald in a new era of change for the city

Vancouver is on the precipice of huge change with the October 20 municipal elections. At the time of writing 11 of GVA's 21 mayors have confirmed that they will not be seeking re-election. This is the largest number of mayoral vacancies in 30 years.

Development decisions have been put on hold until the elections are over. This includes making a decision on the 45 acre North Shore Innovation District. The proposal is for a mix of 1,000 units of rental and market housing, stores and businesses. The contention around this development is the additional traffic it would bring to an already congested part of the GVA.

Affordable housing will be the central issue of the campaign. The District of North Vancouver will add a referendum question to its ballot about authorizing the district to "spend \$150MM on not less than 1,000 units of non-market housing to be constructed not later than January 2029".

US mid-term elections could see the democrats take back the House of Representatives. The terms of the new NAFTA agreement, which Trump will not sign until after the elections, could be impacted.

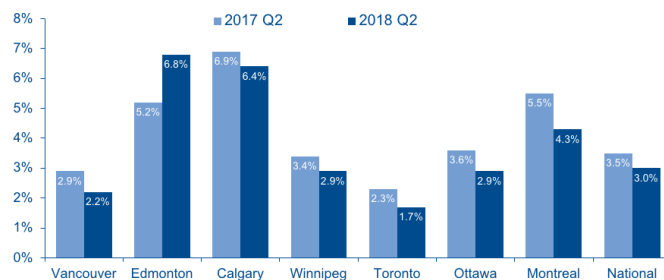
The NDP government's upcoming review to "revitalize" the Agricultural Land Reserve (ALR) is one of the most consequential policy issues facing communities across the Lower Mainland according to Robin Silvester, President & CEO of the Vancouver Fraser Port Authority. The ALR is made up of extensive land that is primarily used for farming that is managed by the Agricultural Land Commission (ALC). The ALC can add land to the reserve or authorize converting ALR land for non-farming purposes. In 2014, the ALC was partitioned into two zones, one in the North, the Kootenays and parts of the Interior that opened up protected areas for non-farming uses and the other zone remained as restricted land in Lower Mainland, Fraser Valley, Okanagan Valley and Vancouver Island land where land is deemed most valuable for development. The review could potentially lead to an expansion of the ALR and rezoning of the current land under protection.

He urges for a regional and holistic approach to land-use planning that balances the demands for agricultural, industrial and residential property. He warns that without sufficient industrial-zoned land, Vancouver cannot support the growth of the industries that fuel the economy. "If we allow our industrial land supply to be depleted and land values continue to skyrocket, businesses will be forced to relocate — taking their business, jobs, and tax dollars with them," he says.

In June, the Port of Vancouver received a \$167 MM investment from Ottawa to improve supply chain infrastructure. The Port of Vancouver is Canada's largest and most diversified port. Last year, it saw record volume, with 142.1 MM tons of cargo worth about \$200 BB go through it, an increase of 5% from the year before.

2. INDUSTRIAL VACANCY AT ROCK BOTTOM

Industrial Vacancy Rates Remain Tight in Vancouver



Source: Altus Group/Johnson Report

AltusAnalytics

Altus Group Limited | altusgroup.com/data/solutions

Industrial Rate the lowest in North America but rents not the highest.

Industrial vacancy is at an all time low of 2.0%, one of the lowest rate in North America according to Altus Group.

In the 12 month period finishing at the end of Q1 2018, Vancouver's industrial rents rose 29.1% - faster than any other city surveyed in the 2018 Global Industrial & Logistics Price Rents.

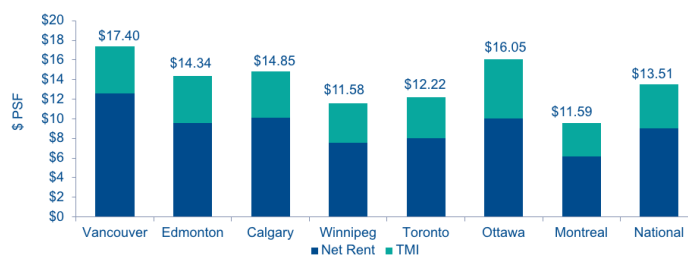
According to the CBRE report, Vancouver's prime logistics rents reached \$9.93 PSF. Prime logistics rents are the highest achievable rates for top-quality warehouse and distribution space.

Despite the huge jump in rents, Vancouver still only ranks the 25th most expensive city of the 71 surveyed.

- The top 5 cities with the highest rents are: Hong Kong (\$ 40.42), London (\$29.14), Greater Tokyo (\$26.03), Shanghai (\$13.71) and Stockholm (\$13.42)
- The highest rents in North America belong to Oakland (\$12.99), LA/ Orange County (\$11.58) and New Jersey (\$ 10.77)
- Vancouver is tied with Seattle at \$9.86 PSF.

(All numbers are in Canadian Dollars).

Industrial Rental Rates Continue to Creep Up



Source: Altus Group/Johnson Report

AltusAnalytics

Altus Group Limited | altusgroup.com/data/solutions

CBRE has predicted that the region could run out of its industrial land supply entirely by the early 2020s. The scarcity of land is pushing the cost of industrial land to over \$1 MM per acre. Industry experts warn that the health of the economy is in jeopardy if there is no room for businesses to locate and expand.

In response to the cost of land, developers are building multi level strata projects.

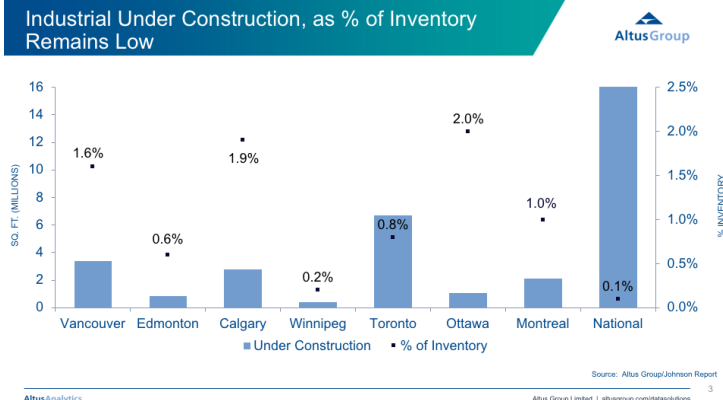
Conwest is currently building the mixed-use Ironworks project. The project is located on a 2.3 acre site at 200 Victoria Drive. When it is completed in 2019, the project will be composed of two buildings with ground-floor light industrial and warehouse space – complete with 26-foot-high ceilings and loading docks – and showrooms, with office space above. The buildings are divided into units that range from 3,000 SF to 14,000 SF. Sales of the units are being restricted to owner-occupiers of local businesses. Prices ranged from \$330 to \$600 PSF.

Conwest is developing similar projects in Mount Pleasant and in Port Coquitlam.

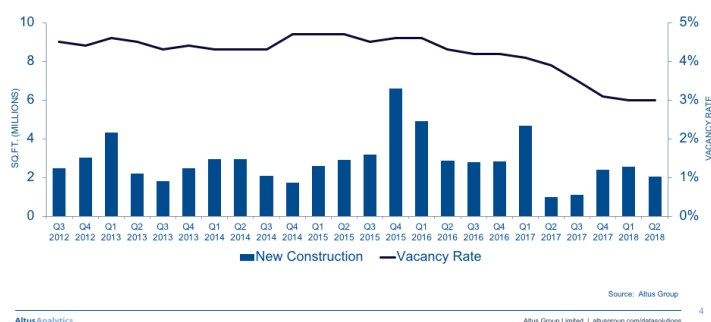
Chard Developments has converted a warehouse in Mount Pleasant into a four storey commercial strata development of 48,000 SF. At grade units are intended for light industrial users.

With multi storey distribution facilities being developed in other tight industrial markets such as Shanghai, Seattle and New York, it may not be long before this model makes its debut in Vancouver.

Industrial Under Construction, as % of Inventory Remains Low



National Industrial Demand Driven by Growth in E-Commerce



3. RETAIL THRIVING IN VANCOUVER

Ecommerce sales are growing but still below 10% of total retail spending

A declining unemployment rate, and a healthy GDP growth has propelled 2018's retail sales growth in Vancouver to 4.3%.

Vancouver's retail vacancy rate is 1.7% and it is 2.5% in the downtown area, both among the lowest in the country. Average retail rents now average \$30.10 PSF, up nearly 10% from 2017, Marcus & Millichap reports.

An indicator of British Columbia's booming economy and strong retail sales growth is that several Metro Vancouver shopping centres are currently either expanding and/or redeveloping. Despite the rise in eCommerce, shopping malls across the region such as Park Royal, Oakridge Centre, Brentwood Town Centre, Lougheed Town Centre and others, are redeveloping to refresh their looks, add square footage, or build condominium towers on mall parking lots. – Cushman & Wakefield Q2 2018 Vancouver retail report

Phase two of the McArthurGlen Outlet at Vancouver airport is under construction. The 240,000 SF centre will add another 84,000 SF and deliver up to 35 new shops. A spring 2019 opening is anticipated.

The Amazing Brentwood 'mega mall' is also anticipated to open in Spring 2019. The developer SHAPE has partnered with the real estate arm of LVMH to deliver 250 shops and restaurants. A 64,000 SF Cineplex will be one of the anchor tenants and will consist of VIP theatres and a Rec Room.

Cadillac Fairview is finding creative new uses for old Sears space.

- CF Pacific Centre in Vancouver converted the former Sears building into office space for Sony Image Works, Microsoft and Miller Thomson.
- A TD Corporate Office will occupy the former Sears space in the CF Champlain shopping centre in Dieppe, New Brunswick. The new office took up the entire 109,000 SF Sears left vacant and will open January 2019.
- BMO's Urban Campus will open in CF Toronto Eaton Centre's former Sears space.

Brands such as Sherwin-Williams, Bikini Village, IQOS, Mastermind Toys and Sporting Life are all expanding nationally.

Best Buy has reduced the size of its stores from 45,000 SF to 36,000 SF. It is also changing their format. Last December it launched its new concept "Experience Store" at 460 Saint Catherine West. Cutting edge tech from leading brands is displayed using live demos and high-impact vendor displays. This location is one of 30 stores the company has renovated recently. Shares in Best Buy are up 40% this year where many thought this chain was headed for bankruptcy.

H&M plans to invest in analytics and technology to help its supply chain become more flexible and faster. It will use big data and AI to help them analyze receipts, returns and loyalty card data to help them stock their stores to match local demand. H&M stock price is down and it plans to open fewer stores in 2018.

While there have been pockets of empty storefronts on Robson Street, Denman Street and south Main Street, other areas are booming including West Fourth Avenue, South Granville and Commercial Drive reports Craig Patterson, editor of Retail Insider.

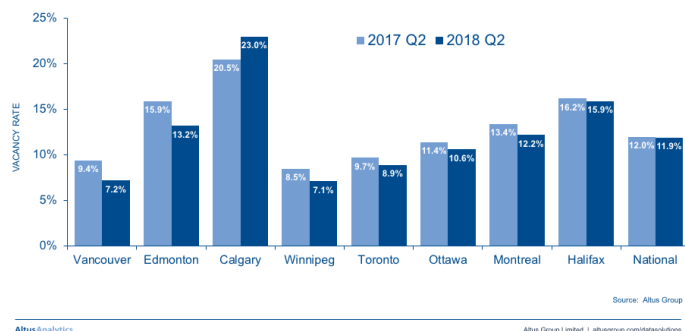
Out of the \$352 BB in retail sales generated across the country in 2016, approximately 7% were made online. This proportion is expected to grow to 10% by 2020, according to a 2018 report by Canada Post.

4. TIGHTEST OFFICE MARKET IN YEARS

JLL reports that downtown direct asking net rents have increased by 13.46% in the last year.

The downtown market continues its hot streak with a year to date absorption of 640,000 SF, which has already surpassed 2017's total of 300,000 SF, according to Altus Group. The increased absorption has resulted in vacancy rates dropping rapidly, total vacancy has dropped from 6.2% in Q4 2017 to 4.5% in Q2 2018. Vacancy rates are predicted to drop further from increased demand for space in the downtown core.

Office Vacancy Rate in Balance - With One Exception



Tech and coworking companies are two of the biggest consumers of space in the Vancouver market.

According to a recent study published by Cresa, there is 790,000 SF of co-working space in 59 locations in Vancouver.

The flexible space/coworking sector has emerged as the primary growth driver within the office market reports JLL. Expansion from this sector claimed 29.4% of the total US office absorption between Q1 2016 and Q4 2017 (18.1 M SF).

Flexible office inventory in the US currently stands at over 51 M SF. Flexible workspace and shared amenity spaces are projected to encompass approximately 30% of the office market by 2030.

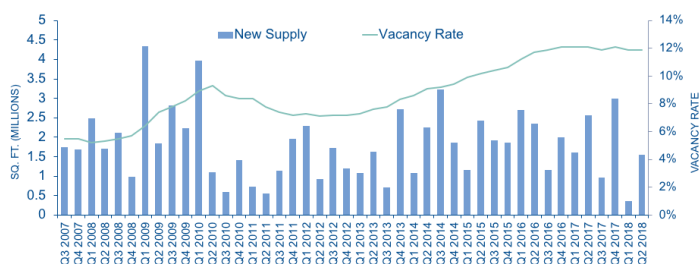
WeWork will open its fifth location in February 2019. Westbank has announced WeWork will occupy 43,000 SF in the HootSuite Tech Campus in Mount Pleasant.

The old Canada Post building at 349 West Georgia Street will be redeveloped into Amazon Canada's new Vancouver headquarters. The new headquarters will occupy 416,000 SF in the tower that QuadReal is developing. This will be Amazon's third downtown Vancouver office and will be in addition to the 156,000 SF location at TELUS Garden and a nine-storey office currently under construction at 402 Dunsmuir Street. The company expects to employ 5,000 employees across the three offices.

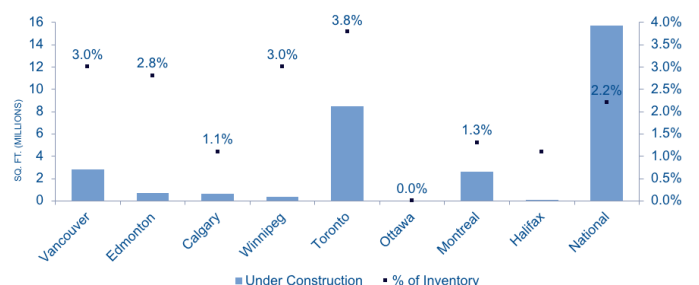
More than 4.3 MM SF of downtown office space is expected to be delivered to the market by the end of 2022, representing a 19% increase to the current downtown office inventory, according to Avison Young.

Investors Group sold two suburban office buildings in Q2. The 123,885 SF Guilford Corporate Centre in Surrey sold for \$51 MM and the 98,802 SF Imperial Square building in Burnaby sold for \$24 MM.

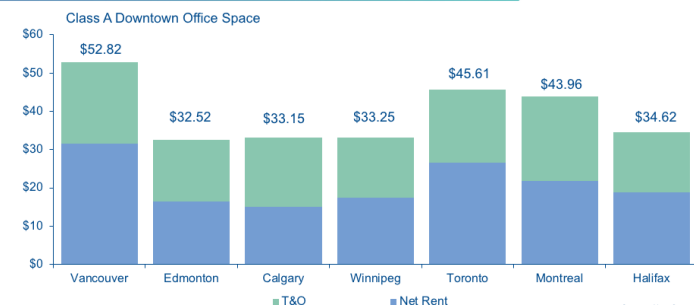
National New Office Supply in Check



New Office Construction, as % of Inventory



Winnipeg Occupancy Costs Remains Competitive



5. CONSTRUCTION COSTS HIGHEST IN VANCOUVER

Labour shortages and tariffs are having a big impact on the construction costs.

A high-quality 2,000 SF detached house would cost up to \$460,000 in hard construction costs to build in Vancouver. In Toronto, this house would cost \$420,000, and in Montreal, Calgary or Halifax, the cost would run around \$300,000, according to the Altus Group's Canadian Construction Cost Guide 2018.

According to Altus, the commercial costs are also highest in Vancouver. The hard construction cost for a Class A 5 to 30 storey office building in Vancouver ranges from \$270 to \$340 PSF. This compares with \$220 to \$290 PSF in Calgary and Edmonton. The price for such an office building in Toronto ranges from \$210 to \$315 PSF.

Last September, the federal government put in place a new tariff on drywall that has caused it to increase by 17%.

Between 2016 and 2018 the cost of concrete increased by \$55 PSF.

The tariffs imposed by Trump and the countermeasures they have triggered around the world are pushing up material costs for the Canadian construction industry, said Sal Guatieri, senior economist at BMO Capital Markets.

Canada is a net importer of rebar, the steel used to reinforce concrete in condo towers, which is subject to the counter-tariffs, said David Schoonjans, senior director of cost consulting and project management at Altus Group. He estimates that rebar makes up around 4% of the cost of a condo tower, meaning a 25% import duty would add up to 1% in construction costs.

A labour shortage in BC's construction industry is leading to a projected 5.1% increase in wages this year. 75% of companies of companies are reporting that they can't find enough qualified workers. Last August, BC announced \$1.79 MM for 562 additional trades seats to meet market demand.

New energy efficiency guidelines are likely to put upward pressure on costs as well. The province has taken steps to make buildings net-zero energy ready by 2032. The BC Energy Step Code is a voluntary provincial standard enacted in April 2017 that provides an incremental approach to achieving more energy-efficient buildings.

6. TENANT RIGHTS INCREASE

New Provincial rules in BC enhance the rights of residential tenants.

Changes to the Residential Tenancy Act bring more rights to BC renters and more compensation if they are evicted from their homes when they're being renovated or demolition. These include:

- Four months notice, up from two, if a landlord evicts them to demolish, renovate, or convert the unit to a non-rental, non-housing or caretaker unit
- Thirty days notice, up from 15, to apply for dispute resolution in those cases
- A years' worth of rental compensation, if an eviction is enacted in bad faith in those circumstances
- A first right-of-refusal in multi-unit buildings, at the market rate, when evictions happen because of renovation or repair.

Effective December 11, 2017, limits were imposed on landlords' ability to terminate a fixed term rental agreement when the term expired.

The new provisions in the RTA now prohibit landlords from terminating fixed term tenancy agreements when they expire except when: 1) a tenancy agreement is a sublease agreement or 2) the landlord or a close family member of the landlord intends, in good faith at the time of entering into the tenancy agreement, to occupy the rental unit at the end of the term or 3) the tenant has abandoned the premises or 4) the tenancy is frustrated or 5) the Director of the RTB decides or 6) the landlord and tenant agree to terminate the lease.

Unless parties agree to another fixed term lease, the tenancy will automatically continue as a month-to-month tenancy under the same terms as the original agreement or until either party serves notice on the other or both parties agree to end the tenancy. These new rules are retroactive applying to both new and existing tenancy agreements.

The BC government has also made changes to rental increases between fixed term tenancy agreements with the same tenant. Effective December 11, 2017, a landlord must now give a tenant 3 months' notice of a rental increase. Landlords are not to impose a rental increase for at least 12 months from when the rent was first payable or from when the rent was last increased

It also eliminated a clause that permitted landlords to raise rates above the allowable rental increase limit to match rents within a geographic area.

The newly created Rental Task Force is able to make further recommendations on renovations as they see fit.

7. DEMAND FOR CANNABIS COULD GET HIGH IN BC

Examples out of the US indicate that demand and prices for CRE increased after the legalization of cannabis.

Earlier this year, the senate approved the recreational cannabis legalization bill prompting BC to give municipalities veto power over approving retail licenses. Residents in municipalities with bans will still be able to purchase cannabis through a government-run website. So far, a number of GVA municipalities have taken advantage of this like Maple Ridge, Delta, Richmond and West Vancouver.

The retail side of things remains a bit hazy. "It's unclear whether the Pacific-coast province will shut down unlicensed dispensaries this fall and there has been "little movement" on approval of actual retail stores" said Jason Zanberg, PI Financial analyst.

The provincial liquor monopoly will be the sole wholesale distributor of non-medicinal cannabis and has made supply deals with 31 producers, including Canopy and Aurora.

Licensed private retailers will be able to access the wholesale selection via an online sales ports. The government agency also plans to operate its own retail outlets under the BC Cannabis Stores brand.

The province hopes to have one retail store operating in Kamloops when cannabis is legalized and is looking for additional locations across the province.

The province has given landlords and strata councils the ability to restrict or prohibit non-medical cannabis smoking and vaping as well as home cultivation of cannabis. However, existing tenants cannot be compelled to agree to either prohibition.

Colliers says that cannabis growers, warehouses and distributors are actively searching for space in advance of legalization this fall. The firm says landlords remain leery as they determine how their policies towards the emerging sector.

However, RioCan said it's anticipating a "gold rush" from Canada's legalization of recreational marijuana in October, bringing premium rents and boosting demand for retail real estate across the country's biggest markets.

Research published by CBRE in 2017 found that Denver warehouse leases signed for use by the marijuana industry from 2014 to 2016 exceeded market rents by two-to-three times.

The average effective lease rate for grow facilities was \$14.19 PSF, two to three times higher than the average warehouse lease rates in the four top cultivation submarkets in Denver. Property lease and sale rates are substantially higher due to the massive electrical, plumbing, HVAC, drainage and security upgrades made to an industrial property converted to a major indoor cultivation operation.

The marijuana industry also now uses one in 11 buildings in central Denver, according to the Denver Post, and uses 3.7 MM SF of space in the Denver area.

"No industry has driven the vacancy rate down more than medical cannabis," says Justin Lamontagne, CCIM, partner and broker at NAI The Dunham Group in Portland, Maine. "The leasing costs for suitable industrial spaces are nearly double those for conventional uses, averaging \$9 PSF NNN now."

Voters in Maine approved recreational use of marijuana in November 2016 after a successful transition with medicinal cannabis. Since that time, industrial properties are in high demand, with the vacancy rate dropping from 9% to 3%.

While most companies can rent warehouse space for about \$5 PSF in Portland, Oregon according to Bloomberg, cannabis companies routinely get charged in the \$12 to \$18 range. Part of the reason is a tight supply of suitable space. Local laws on where cannabis companies can operate limit the options for rental.

In Canada, the federal government estimated that Canadians would spend \$4.2 BB in 2018 alone. This is equivalent to about 0.2% of the GDP on pot. These predictions won't be met if the provinces can't figure out how to sell it to the consumer.

8. BLOCKCHAIN PENETRATING MARKETS: WHEN WILL IT COME TO VANCOUVER?

Blockchain & Cryptocurrencies are starting to change the way business is getting done.

Blockchain is the digital and decentralized ledger system that records all transactions. The data stored in the chain cannot be changed or removed, which means that it is secure and immutable. The transactions are stored and encrypted on thousands of computers around the world and is therefore not subject to a central authority. The digital ledger is visible to all participants and it shows every element of the transaction. A crypto miner's job is to validate each transaction by solving a complex puzzle using algorithms. For doing this they are paid in cryptocurrencies.

According to Christopher Clausen, Associate Director, Asia Pacific Research, JLL: "Of all the new property-related technologies under development, blockchain is perhaps the most revolutionary. It has the potential to radically change the securitization of commercial real estate, improving liquidity as well as access to investment markets for both institutional and retail investors."

Several municipalities in the US have already launched pilot projects to examine the benefits of blockchain for land registry and the transfer of documents. The city of South Burlington in Vermont has partnered with startup Propy, Inc. to convert their current system for real estate transfer document recording to a blockchain-based system.

The UK government plans to move the country's land registry to blockchain by 2022.

In Canada, the government is launching a trial program to explore the use of blockchain to make government funding more transparent.

Canada currently sits third in the world in number of blockchain startups located here. In Vancouver, the start-up IMBY, is looking to tokenize real estate property and then make it available for consumers to buy and sell within an exchange platform.

Another start up is BitRent. It is the first blockchain real estate platform that connects property developers with investors all over the world and attracts investments at early stages of construction. It is possible to invest small amounts and protect them by recording them in the decentralized registry. BitRent also allows real estate transactions via smart contracts and has their own coin, an RNTB token.

Calgary was one of the first cities in Canada, to allow renters to use cryptocurrencies to pay for a commercial lease. Tenants in the Real Equity Centre will have the option of paying their rent in bitcoin (BTC), ether (ETH) or litecoin (LTC), instead of the Canadian dollar. Systems are in place to protect both the tenant and the landlord from wild fluctuations in the value of these cryptocurrencies.

Anthony Di Iorio, the Canadian co-founder of the cryptocurrency Ethereum just bought a three-storey penthouse at the St. Regis Residences in Toronto for \$28 MM paying for it in part with cryptocurrency.

There has been an increase in Chinese investors buying real estate with cryptocurrencies, Natalia Karayaneva, CEO of Propy, a crypto-powered real estate marketplace, told CoinDesk in a recent article. She added: "We're seeing that more and more people are willing to buy properties with cryptocurrencies because it's getting easier to get their money out of the country using bitcoin, rather than establishing a bank account based in Hong Kong and getting their money out of the country using business channels."

9. PROLIFERATION OF PROPTech: ANOTHER TREND TO MONITOR

Proptech is changing the way we rent, buy & manage property

Proptech refers to the class of start ups that are creating innovative products or new business models to improve the way real estate is bought, sold, leased, designed, constructed and managed.

JLL estimates that US \$7.8 BB has been raised globally for proptech start ups between 2013 and 2017.

Brookfield has created a fund that will invest \$200 MM to \$300 MM into disruptive real estate technology.

Brookfield Ventures first deal was a \$15 MM investment in BuildingConnected. The company is a networking and preconstruction management site for owners, general contractors and subcontractors.

JLL Spark announced a US\$100 million global venture fund for proptech investment.

At the beginning of this year, Colliers launched a real estate accelerator with Techstars. The program intends to identify and mentor startups around the globe that are developing industry-disrupting technologies in the property and real estate industry.

Earlier this month, RXR Realty partnered with CBRE Group Inc and Cushman & Wakefield to back MetaProp Ventures II LP, a \$40 million venture capital fund that will invest in early-stage real estate technology firms alongside more traditional real estate companies. New technologies that the fund is reported to be investing in include augmented reality, 3D printing, co-working and the blockchain.

One of the verticals of PropTech is Smart Buildings. Propelled by The Internet of Things IoT (in which a network of physical devices, appliances and software connect and exchange data to support automation) this class of PropTech assists with asset management in a variety of ways:

Building Maintenance – Sensors measure and report of equipment usage, changes or failure. Sensors in supply rooms can let facilities managers know when inventory needs to be stocked

Energy Management - Energy represents 19% of the total expenditures for the typical building in the US. Smart sensors decrease building operation costs by automatically adjusting lighting, ventilation and temperatures based on the number of occupants and building usage patterns. According to Energy Star, even a 10% decrease in energy use can lead to a 1.5% increase in net operating income.

Space Utilization - Smart sensors can detect building occupants' locations, count, and movements with extreme precision. Based on the data, CRE companies can reconfigure building layout or plan for changing demand. They can also help tenants make data-based decisions to adjust office layout, add or subtract meeting rooms, or implement hotdesking strategies.

Examples of some of the most innovative companies in this industry:

Oakland startup Comfy, allows employees to control temperature, lighting, book meeting rooms and desks and submit work requests via an app. It has led to a 20% decrease in HVAC energy use and a 30% potential increase in space utilization. Comfy is used in 25 MM SF of space including in the Oxford owned Cisco Innovation Centre in Toronto. Comfy has just been acquired by Siemens.

NestReady, is a Canadian company has raised \$5.7MM from investors that include the National Bank of Canada. It is a platform that leverages property data with location trends to allow homebuyers to explore homes and neighborhoods, with access to on-demand real estate and financing support when they need it.

Enertiv uses data to enhance building operations in commercial real estate portfolios, with a focus on office and multifamily buildings. They use a highly granular data set to design tools for making building easier to operate, healthier to occupy and increases their profitability.

Shepherd Network, which uses predictive analytics and machine learning to monitor connected building systems and alert users to potential losses. The SaaS platform offers anomaly detection and a predictive maintenance service that can be connected to any assets & infrastructure.

Powered by big data, Bowery is redefining the commercial appraisal space. Bowery powers its appraisers with a cloud based commercial appraisal writing software and mobile application, allowing them to write full appraisal reports in record time.

Ravti tracks, manages, and procures HVAC for large property owners. It has the world's largest organized HVAC database.

SEEABLE aims to make 3D & Building Information Models (BIM) asset information visible and accessible to a wider audience, creating easy, non technical access to key information. The 2D and 3D applications are delivered across multiple platforms.

10. RETHINKING PARKING EVENTUALLY

In the long term, autonomous vehicles and decreasing car ownership has the potential to free up thousands of square feet of space in Vancouver.

The rise of technology, autonomous vehicles and ride sharing programs mean that the demand for parking will eventually decrease. This has the potential to free up a serious amount of space. Currently, in the US, parking takes up about 65,000 square kilometers.

AVs still require parking but the space needed can be decreased drastically and the distance between parking lots to the final destination can be increased. Civil engineering graduate students from the University of Toronto have designed a "solid grid" like parking lot where AVs communicate with each other and move out of the way when another AV is parking. This can greatly reduce the space required for parking, and depending on the grid configuration, these parking lots can accommodate 62%-87% more cars.

In Boulder, Colorado, ParkPlus is working on deploying a fully automated parking garage in the PearlWest mixed-use development. The company's automated parking system uses lasers to scan cars and a robotic valet to park the vehicles. Vehicles are transported by a robotic dolly that lifts and transfers them to storage racks. Using this system, up to 4 times as many cars can be parked in the same amount of space as a traditional garage - since there is no need for extra space in between cars. The automated system is expected to deliver vehicles within 3-5 minutes of a retrieval request.

Real estate developers are building new parking garages to be easily converted into office spaces. For a recent project in Cincinnati, the architecture and design firm Gensler designed a corporate headquarters with three floors of above ground parking that can later be converted into office.

With on-demand transportation like Uber, Lyft and other up and coming ride sharing programs becoming more prevalent, entrances to buildings are being redesigned. Big developments like malls, entertainment centers and airports have already had to carve out new drop-off circles for people to meet their on-demand vehicles—often replacing the parking spaces that are no longer needed. This transforms the relationship of the building to the street, says Andy Cohen, Co-CEO of Gensler. "Everyone is going to get dropped off in front in the future."

Rick Caruso, the owner of the Grove and other upscale shopping centers, is working with Google's Intersection to prepare for the arrival of self-driving cars. Intersection is developing technology that integrates beams, sensors, license-plate recognition and phone apps that can potentially improve the shopping experience by making arriving and departing from the shopping centre as frictionless as possible.

Reebok and Gensler have been studying how to repurpose gasoline stations in the future when driverless vehicles will visit remote charging stations instead. One idea they have come up with is fitness centers that include playgrounds, workout areas and fresh food stores.

Already, parking lots and garages are being transformed into multi-use cultural spaces. In London, the Peckham Multi-Storey Car Park has been converted into an art gallery, rooftop bar and event space. Lisbon's Park Bar is located on the roof of an active parking garage. Shakespeare in the Parking Lot in New York hosts Shakespeare's plays in the space.



Altus Group

Bringing transparency and insight
into every aspect of the real estate
lifecycle so you can make better,
informed decisions.

Altus Group is a leading provider of commercial real estate advisory services, software and data solutions.

altusgroup.com