

Take a peek at some of today's most important signals of change.

WHAT SHOULD I EXPECT?

An overview of macro-trends that have the potential to shape the future of work. By exploring the ways our working styles may change, we may equally be able to explore ways in which our physical workplace may respond to these shifts.

WORKBOOK HIGHLIGHTS

- 11 MACRO-TRENDS
- 38 SUB-TRENDS

This is the

Compiled by RACHELLE BUGEAUD

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Hybridized space.

SUB-TRENDS

- TREND A.1: MIXED-USE SPACE
- TREND A.2: AMENITIZATION
- TREND A.3: MICRO-LIVING
- TREND A.4: COMPANY TOWNS

This trend is about the ways space is being revised to offer additional functionalities, and a more resourceful use of public and private space. This is in response to the added pressures on urban space, and trends in micro-living.

Several sub-trends inform this macro-trend. Noteworthy examples are Trend A.1: The Rise of the Urban Chimeras which speaks of hybrid-use and shared spaces, and Trend A.2: Amenitization, which deals with the transformation of the office space as a veritable work-life city. As we are seeing smaller living quarters, the way we use space is being redefined through multifunctional interiors and communities.





MIXED-USE SPACE Rise of the urban chimeras.



MATURITY

EMERGING (WESTERN ECONOMY)

ESTABLISHED (EASTERN ECONOMY)

FUTURE IMPACT

MEDIUM-HIGH

IMPACT TIME

5 - 10 YEARS

CERTAINTY

MEDIUM

COUNTERBALANCES Luxury and elite accommodations, Flagship stores

STRENGTHENS

Sharing economy

- No wasted or dead space Multi-purpose furniture that makes the _
- _

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IMPLICATIONS

SIGNALS

- 1. Tenoha is a concept store, a café, an event space, and a coworking studio all mixed into one. It further hybridizes culture, being a Japanese coworking chain, it recently opened its second location in Milan (Todd, 2018).
- 2. Shaire is a Japanese coworking studio that shares a space with a hair salon. (Schwab, 2018a)
- 3. TwoSpace is a service that transforms restaurants into a network of coworking spaces. Similar services include Flexday.("TwoSpace", n.d.)
- 4. LMN Architects in Seattle are designing a new tower that is built to withstand the next 50-100 years of use. It's four levels of above ground parking are designed to be repurposed into living environments when no longer needed (Overstreet, 2018).

This trend describes more resilient architectural forms that could better serve our work, life, and recreational needs amidst growing pressures of urbanization. Fueled by the need for more efficient uses of space, the hybridization of businesses and architecture is spurring more dynamic uses of the built environment.

Partly influenced by the sharing economy, the increased mixed-use spaces that are appearing in our cities is indicative of our desire for the novel, our desire for community and our realization that shared spaces could benefit all parties involved. This trend is well established in cities with growing and/or very large populations that have limited urban space (i.e. Tokyo). In fact, an entire book called Made in Tokyo showcases this trend of resourceful hybridized architectural use, with cemeteries being built above a shooting range, apartments over stables, and sporting fields a top buildings (Kuroda & Kaijima, 2001).

- Spaces requiring multiple identities
- most efficient use of small spaces.
- Compact alternatives to the traditional bulky furniture of today.





AMENITIZATION

City workplaces.



MATURITY

ESTABLISHED

FUTURE IMPACT MEDIUM-HIGH

IMAPCT TIME

IMMEDIATE,

CERTAINTY MEDIUM

5 - 10 YEARS

This trend encapsulates developments in the wellness economy, and the sharing economy. It is the trend of city-like workplaces, inspired by those present in Silicon valley, the workplaces of tomorrow are looking to be these hubs of activities and amenities that attract workers back from remote working. In certain cases, co-living spaces are integrated into the work campuses, offering a true "office-city".

Characterized by office or coworking space supplemented by a wide range of amenities such as sporting facilities, entertainment complexes, and shopping districts, the highly amenitized workplace as a city concept is emerging to redefine the traditional business complex. The idea is that instead of having to travel the world to work, now the entire world is available at work.

STRENGTHENS

Wellness economy, hybridization of services IMPLICATIONS

and spaces.

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COUNTERBALANCES Remote working

SIGNALS

- 1. Station F in Paris is a tech startup that is nearly as big as a university Station F in Paris is a tech startup that is nearly as big as a university campus. It has a long list of amenities as well as co-living spaces ("Station F," n.d.).
- a cinema, an art gallery, a maker's lab, bars, restaurants, and a playground for boxing and yoga ("Booking.com office on Oosterdokseiland," 2016).

Work / life balance could be jeopardized Creation of workplace neighbourhoods, districts

2. TwentyTwo is a new office tower being built in London. Set to open in 2019, it is part of a 62-story building complete with coworking spaces, communal food hall, flexible floor plates to customize to each's own, a gym, a wellness centre, and an art gallery ("TwentyTwo," n.d.). 3. Booking.com's new Amsterdam offices will be part of a larger complex that includes





MICRO-LIVING & MULTI-PURPOSE FURNITURE Smaller, better, faster space.



MATURITY

FUTURE IMPACT

IMAPCT TIME < 5 years

CERTAINTY HIGH

GROWING

HIGH

With pressures on urban space, architects, developers and interior planners are getting more resourceful with their designs. Fitting more people in smaller spaces without compromising on quality of life.

Micro-living suites are popping up all over the world, offering small footprints for those who only require a small space to call home. Similar to student housing albeit with small kitchens built into the rooms, micro suites range in size from about 250 square feet to 500 square feet. In order to be useful they often include such features as murphy beds, hidden storage, and lofts.

STRENGTHENS Co-living, efficiency IMPLICATIONS

COUNTERBALANCES Grandiose living

SIGNALS

- 1. Resource Furniture is a company that offers space saving built-ins and furniture, including Home Office, a piece that transforms from a cabinet face to a functioning home office ("Resource Furniture," n.d.A).
- 2. A 200 square foot micro-suite in Parkdale, Toronto is marketed as a "micro bachelor suite" and is on the market for \$1600 a month (DH Toronto Staff, 2018).
- 3. The Crawford Block in Edmonton is a new development to a heritage building. The addition adds 40 micro-suites ("Crawford Block," n.d.).

- Need for more resourceful interiors and furniture products





MICRO-LIVING & MULTI-PURPOSE FURNITURE Google Market, next to Amazon Quarters.



MATURITY GROWING

FUTURE IMPACT MEDIUM

IMAPCT TIME < 5 years

CERTAINTY MEDIUM

Government and cities are welcoming big corporations as developers within urban space. Large corporations are building ever larger work campuses for their employees, and in other cases large companies like Amazon are growing their real estate footprint (and subsequent power) in urban centers.

With many of these companies being linked to technology and data collection, questions arise over the amount of data that will be collected on residents of these neighbourhoods.

STRENGTHENS Big data, company cultures

COUNTERBALANCES Desire for privacy, workIMPLICATIONS _

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life balance, workplace flexibility

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SIGNALS

- 3. Amazon's footprint in Seattle is staggering. The business owns 19% of all office space in Seattle (8.1 million square feet) (Rosenberg & González, 2017).

Sponsored neighbourhoods Preferential control of businesses If you get let go, are you forced to move? Could wipe out a company's entire workforce with a targeted bio-attack

1. Toronto's Quayside project by Sidewalk Labs, a subsidiary of Google, is investing a lot of resources into the development of a smart city from a large plot of land ("Sidewalk Toronto," n.d.). 2. Facebook plans to build Willow Village, essentially a company town to house its 1500 employees in Menlo Park, California, although it will have space for 35,000 employees (Bollmer, n.d.).



VALUES

Upgrading mind, body, skills.

SUB-TRENDS

- TREND B.1: KNOWLEDGE ECONOMY
- TREND B.2: TRANSHUMANISM
- TREND B.3: WELLNESS ECONOMY

Here, we see a macro-trend towards the constant optimization of body, mind, and skills. Online learning platforms are offering free, high quality and accessible education to citizens of the world, with other platforms such as Skillshare and CodeAcademy teaching creative and coding skills needed to be competitive in the job market. Participants of the gig economy are aware that their skills, experience and abilities are what will ultimately land them a contract, and as such, are actively pursuing informal education paths.

Yet personal optimization is not limited to the mind. Sub-trends in transhumanism and genetic engineering are steadily upgrading our human bodies to become more high-performing than before.





MATURITY

FUTURE IMPACT MEDIUM

IMAPCT TIME IMMEDIATE,

5 - 10 YEARS

CERTAINTY MEDIUM - HIGH

GROWING



and wiser.

KNOWLEDGE ECONOMY

Individuals are searching for ways to self-optimize and upgrade their skills. This becomes especially dominant as individuals are participating in the gig economy and having to sell their skillset to potential employers. The Foundation for Young Australians has projected that today's average Australian lives will be characterized by an average of 17 jobs in 5 different career fields (The Foundation for Young Australians, 2017).

Champions of lifelong learning, we see an increase in open learning platforms offering free, quality online education and skills upgrading.

STRENGTHENS

Transhumanism, opensource, alternative education models

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IMPLICATIONS

COUNTERBALANCES

Traditional education

SIGNALS

- 1. HelloFresh is a meal kit service that introduces individuals to new styles of cooking, new recipes, and new techniques ("HelloFresh," n.d.).
- 2. Platforms like Skillshare are offering students unlimited access (for a fee) to courses in a range of discipline, most of them dealing with creative skills ("Skillshare," n.d.).
- General Assembly is a tech school that aims to get students up to date 3. with the latest in UX, UI, and coding ("General Assembly," n.d.).
- 4. Coursera is an online platform that allows universities and colleges to make available quality online courses for the world to take ("Coursera," n.d.).

Forever older

This trend is about the development of knowledge platforms. Its core themes revolve around empowerment, self-actualization, creativity, enabling open tools, and enabling self-development. It is otherwise known as the knowledge economy.

> A complete overhaul of the traditional educational system Rise of virtual classrooms, virtual schools More hobby pursuing and side businesses C.V.s are less valued, skill portfolios take the lead





TRANSHUMANISM There's a bioupgrade for that.



MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME IMMEDIATE, 10 - 15 YEARS

CERTAINTY MEDIUM - HIGH

STRENGTHENS Wearables. bioengineering,

personalization culture

COUNTERBALANCES

Desire for natural products

SIGNALS

- 1. Crispr is a gene editing tool. Now you can order an at-home gene editing kit for less than \$200.
- 2. Robo-rats are lab rats that have a special implant that allows them to be controlled remotely (Graham-Rowe, 2002).
- 3. Alpha Brain by Onnit is a dietary supplement that is "clinically studied to help healthy individuals support memory, focus, and processing speed" ("Alpha BRAIN®," n.d.).

IMPLICATIONS

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4. 23andMe offers the general public the ability to receive their full genetic code ("23andMe," n.d.).

This trend is about transhumanism and our desire to surpass our human abilities through technological and biological upgrades. Through advances such as the Crispr gene-editing tool and pharmaceutical, mind-enhancing alternatives (nootropics or smart drugs), the options for harnessing the highest-performing version of yourself are on track for becoming more mainstreamed in the not so distant future.

Biohacking can come in all forms. From artificial intelligence chip implants that heighten our natural intelligence, to high-tech bio-safe computer chips we can insert under our skin to act as a secure wallet. The use of digital tech in our bodies has the potential to transform our bodies into tools for interfacing with digital elements.

> Implants to monitor productivity Drugs to help focus - Artificial intelligence implants

(DIY Bacterial Gene Engineering CRISPR Kit) ("DIY Bacterial Gene Engineering CRISPR Kit," n.d.).





WELLNESS ECONOMY

But is it healthy?



MATURITY

HIGH

ESTABLISHED

FUTURE IMPACT

IMAPCT TIME IMMEDIATE

CERTAINTY

HIGH

Our interest in our health and wellbeing is spurring the growth of the wellness economy, an economy characterized by fitness movements, a preoccupation with healthy eating, personal care, and mind-body balance.

Wellness tourism is an offshoot of the wellness economy, seeing tourists heading to locations for its reported health benefits. Examples include individuals who head to locations such as Sicily for its reputation for healthy eating.

Product manufacturers and interior designers are using more natural materials in their designs in an effort to create healthier environments.

Monitoring devices help individuals live healthier lives as well. Examples include the Apple Watch that counts your steps and provides advice for living a more active life and Interstuhl's device that tracks sitting positions and suggests exercises.

IMPLICATIONS

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STRENGTHENS

Desire for natural products, recycled materials

More wellness spaces More wellness certifications on products and spaces Use of more natural materials in products

COUNTERBALANCES Cheaper products

SIGNALS

- 1. Engineers from the University of Tokyo have developed a breathable and ultra-thin membrane like electronic skin that can be used to monitor health vitals and collect biometric data ("Material District," 2018).
- 2. Serenbe a new 1000 acre subdivision in Georgia's suburbs is being branded as a wellness community. The way the community is designed is to encourage active lifestyles (Quinn, 2018).
- 3. Interstuhl partnered with Garmin to offer the S.40. It tracks sitting position and suggests exercises ("Interstuhl," n.d.).
- 4. Molecule is a high-tech air filtering device for home or office use. It purifies the air providing a cleaner environment for inhabitants and workers alike ("Molekule," n.d.).



Café of curiosities.

SUB-TRENDS

- TREND C.1: EXPERIENCE ECONOMY
- TREND C.2: TRANSFORMATION ECONOMY, SELF-FULFILLMENT
- TREND C.3: SUBSCRIPTION ECONOMY

This macro-trend highlights our growing desire for authenticity and the pursuit of self interests. It has strong links to the experience economy whereby consumers are choosing to consume experiences rather than purchase products. Taking it one step further, the transformation economy proposes that consumers are searching for transformative experiences as a service offering. We see this trend manifest itself through more niche traveling companies, off-the-grid living, and a constant interest in backpacking and RVing.





EXPERIENCE & TRAVEL ECONOMY

The road less traveled.



MATURITY ESTABLISHED

FUTURE IMPACT MEDIUM

IMAPCT TIME IMMEDIATE, 5 YEARS

CERTAINTY

MEDIUM - HIGH

STRENGTHENS Generation rent, not wanting (or not being able) to settle down, alternative education, multiple career paths, coworking spaces in foreign countr transportation networks

COUNTERBALANCES

Trend in cocooning and comfort of the home, rise home-shopping and home-working.

SIGNALS

- 2. The Draper is Land Ark RV's newest model, offering modern design for those willing to make their home a traveling home (Williams, 2018).
- 3. Dark tourism is a type of tourism preoccupied with the morbid, the strange, and the unusual (Hohenhaus, 2018).
- 4. For \$50,000 a night you can stay at the Muraka, an underwater villa (Locker, 2018).

Imagine being able to travel the world, and work at the same time? That is the thought leading many to seek out adventure and novelty of experiences over the monotony of traditional work-life. Programs such as Remote Year make this thought a reality, and other apps and services are capitalizing on our desire to try the new, and risk the unknown.

From staying in an underwater hotel, to staying in a luxury treehouse. The trend in off-the-beaten path accommodations is marking a desire for bespoke and Instagram-worthy lodgings.

) ries,	 IMPLICATIONS We will consume space, not own it. Virtual tourism and virtual travel will increase. Work from abroad becomes more standardized.
se in	

1. Remote Year is an invite-only program that allows young individuals to partake in a year abroad, working around the globe from a number of coworking spaces ("Remote Year," n.d.).



SELF-FULFILLMENT I'm not just a tiny human. I've got a purpose!

MATURITY GROWING

FUTURE IMPACT MEDIUM

IMAPCT TIME IMMEDIATE

CERTAINTY HIGH

This trend explores our desire for authenticity, purpose and meaningful living. It is a manifestation of the transformation economy, whereby we seek more than the experience economy can provide us. We seek experiences with meaning, experiences that will transform us. We seek self-optimization and seek to leave our mark on the world.

We are seeing more stories about individuals choosing to abandon their corporate life in order to pursue their true passions. Women are no longer letting child-rearing come in the way of pursuing their businesses, with new terms such as 'mamapreneurism' coming to light.

Author Yuval Noah Harari forecasts that with the help of regenerative medicine and nanotechnology, in the near future individuals will have much longer careers, and may be forced to constantly reinvent themselves - even up to and past the age of 90 (Harari, 2016). As our life expectancy rises, seventy may indeed become the new forty, with our age of retirement becoming ever higher as well.

STRENGTHENS

Prosumerism, selfeducation, travel

- IMPLICATIONS

COUNTERBALANCES Planned obsolescence and consumerism

SIGNALS

- 1. Kickstarter the crowd sourcing platform with the mission to "help bring creative projects to life" ("Kickstarter," n.d.).
- 2. Fad diets and juicing trends are interpreted by some industry leaders as our desire to feel included in part of a community, and as feeling as though we are maximizing our minds and bodies abilities and health (Hua, 2016).
- 4. Outsite is similar to AirBnB but offers accommodations for coliving and coworking around the world ("Outsite," n.d.).

Rise in entrepreneurialism Happier workers? More craftsmanship, hobbies

3. AirBnB offers their Experiences to encourage individuals to better discover their own home towns, or their home away from home through hosted experiences ("Airbnb Experiences," n.d.).

SUBSCRIPTION ECONOMY

MATURITY GROWING

> **FUTURE IMPACT** LOW

IMAPCT TIME < 5 years

CERTAINTY HIGH

According to a McKinsey report published in 2018, the subscription e-commerce market grew from \$57 million in 2011 to \$2.6 billion in 2016 (Chen, Fenyo, Yang, & Zhang, 2018). Characterized by membership based services and business models based on subscribers, the subscription economy is rapidly growing to deliver simplified bundled services.

Examples of the subscription economy include meal kit companies that bundle ingredients and recipes for you in a delivery, Netflix and other video streaming websites that bundle the access to movies and television programs for a flat fee. Even Spotify, the music streaming service is part of the subscription economy, providing subscribers with access to millions of songs for a flat fee.

Other subscription box services aim to surprise and delight subscribers with handpicked and/or themed items. With ever more services appearing on the market, subscription services aim to retain a loyal clientele by bundling perks and providing access to otherwise inaccessible content. In essence, once subscribed they make it difficult for individuals to want to cancel their membership.

STRENGTHENS

Desire for simplification, consumerism, big data personalization

COUNTERBALANCES Single purchased items

SIGNALS

1. Myro is a subscription deodorant service where customers choose from a library of available scents, choose their 3D printed deodorant container, and schedule regular shipments of refills ("Myro Deodorant," n.d.).

IMPLICATIONS

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- 2. Mostess box is a subscription box that gets delivered quarterly and features higher end curated finds for your home, recipes, and styling tips ("Mostess Box," n.d.).
- 3. Hunt a Killer is an exclusive subscription box (only 250 new members per week are allowed), where individuals receive a monthly package containing investigative tools, clues, and puzzle pieces. Individuals participate online to solve the case ("Hunt a Killer," n.d.).

Discover what you didn't know you needed!

New products get discovered through subscription services Individuals end up with products they don't really want but we're included in the subscription bundle Workplace product subscription boxes

My room really knows me.

The rise of responsive, sentient, and empathic environments is proving a powerful driver for the future of working environments. When combined with wearable technology and smart furniture, rooms would be able to recognize each individual and customize their décor, their ergonomic features (i.e. table and chair height), and their level of lighting, temperature or smell to provide the ideal environment for their user.

SUB-TRENDS

- TREND D.1: SENTIENT AND RESPONSIVE ROOMS
- TREND D.2: WEARABLES & CONNECTIVITY
- TREND D.3: QUANTIFIED WORKPLACE
- TREND D.4: SMART FURNITURE
- TREND D.5: ENERGY

Your room really cares about you.

MATURITY EMERGING

FUTURE IMPACT HIGH

IMAPCT TIME 10 - 15 years

CERTAINTY MEDIUM - HIGH Imagine a room with built in sensors that could detect your health vitals and recognize your movement so that you could use gestures to control your environment or even your digital space. The time where you could use your body to interact with your work wherever you are not too far away.

With advances in artificial intelligence, architectural spaces could even begin to respond to our needs by using our emotional and biological data (biosensing) to then release scents or play music, to alter your mood. This forms an emerging branch of research called ambient intelligence that is already looking promising for healthcare applications (Cook, Augusto, & Jakkula, 2009).

STRENGTHENS

SUB-TITLE

Wearables, hyperconnectivity, monitoring and surveillance, Internet of Things, big data, smart furniture, smart architecture

COUNTERBALANCES Desire for privacy

SIGNALS

- 1. The Lantern by Nord Projects is a sort of lamp that can turn any surface into an interactive smart interface (Haar, 2018).
- 2. Hayo, is a gesture control gadget that can be used to control a room ("Hayo," n.d.).
- Smart walls, developed by Carnegie Mellon University and Disney Research 3. have discovered that they can transform plain walls into smart, interactive, and sensing walls by applying a nickel-based paint ("Material District," 2018).
- 4. Daikin Industries has found that lowering the temperature around an employee when they become sleepy is the most effective way to wake them up, as such they suggest controllable air conditioning units to do just that (Schwab, 2018b).
- 5. The Edge is branded as "the smartest building in the world". By using a series of sensors the building can keep track of every move, directing you to an open workspace, tweaking the lighting and temperature to your preference (Randall, 2015).

IMPLICATIONS

- Increase in wellness monitoring
- Disparity between smart room
- owners and non-owners
- Wellness consultants as interior designers

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME 5 - 11 YEARS

CERTAINTY MEDIUM - HIGH

STRENGTHENS

SUB-TITLE

It's half

past freckle.

Wearables, wellness economy, hyperconnectivity, monitoring and surveillance, big data

IMPLICATIONS

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COUNTERBALANCES

Desire for privacy

SIGNALS

- 3. Researchers have developed a comfortable, breathable, and flexible smart fabric that could help bring smart textiles to the mainstream (Jones, 2018).

Wearables are essentially sensors that we wear on our person. They can track our movements, our biometric data, and can then suggest alternatives to help us lead healthier lives. With half of humankind expected to be overweight by 2030 (Harari, 2016), the rise of wearables may increase due to the need for careful monitoring of biometric data, and as a way to encourage individuals to live a healthier lifestyle.

As an actor within the Internet of Things, wearables can be used to communicate with other tech devices. By 2020, Internet of Things enabled devices are expected to surpass 26 billion units (Forbes Insights, 2018). Soon wearables may be able to communicate our biometric data to our rooms, to our bosses, to our insurance companies. Scientists are even developing wearables for plants, so, who knows, maybe in the future we will be able to communicate with our plants more directly.

> Increase in wellness monitoring Increase in big data Hackable implants

1. At Epicentre, a Swedish high-tech hub, about 150 workers had microchips implanted into their hands. Acting as a type of swipe card, the microchips work with RFID technology and allow employees to effortlessly purchase items, unlock doors, and operate machines (Brooks, 2017). 2. DuoSkin is a type of metallic looking "tattoo" or sticker that is applied to the skin. It can then be used to control mobile devices, display information, or store information ("MIT Media Lab," 2015).

QUANTIFIED WORKPLACE We've got the data to back that up.

MATURITY

EMERGING

HIGH

FUTURE IMPACT

IMAPCT TIME 10 YEARS

CERTAINTY HIGH

With sensors collecting data on space usage, our wearable devices collecting data on our bodies, software to supervise our productivity, and cameras to read our facial expressions, the quantified workplace is one where big data is used to inform better workplace strategies.

Workplace analytics is another term used to describe the collection of data from workers in order to gain insights into team productivity and efficiency. Important themes related to privacy of data are brought to light with this trend.

STRENGTHENS

Wearables, big data hyperconnectivity, monitoring and surveillance

- IMPLICATIONS
- Increase in big data

COUNTERBALANCES

Desire for privacy

SIGNALS

- 1. Teem is a space scheduling and workplace analytics platform that allows company teams to book meeting rooms and provides managers insights into how to optimize their workforce ("Teem," n.d.).
- 2. Microsoft's Workplace Analytics tool can provide insights into behavioural patterns within your workforce, allowing managers to respond with targeted strategies to improve productivity, engagement, and effectiveness ("Microsoft," n.d.A).
- 3. Humanyze is a company that places sensors onto employee badges in order to better understand the social dynamics of a workforce ("Humanyze," n.d.).
- 4. Humanscale is a company that integrates sensors into their OfficeIQ range of workplace furnishings that can then transmit data of usage to a digital monitoring station ("Humanscale," n.d.).

Increase in wellness monitoring

SMART FURNITURE Self-adjusting sofa-bed.

Imagine smart furniture that can automatically react to our needs. Some companies around the world are working on just that dream. With sensors and digital apps to control them, typically "dumb" objects such as mattresses, sofas, and chairs are becoming more responsive to our needs.

By customizing the level of comfort to each individual, the furnishings of the future will be adaptive and customizable to each body type.

IMAPCT TIME 10 YEARS

FUTURE IMPACT MEDIUM

MATURITY

EMERGING

CERTAINTY MEDIUM - HIGH

STRENGTHENS Biometric data, big data

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COUNTERBALANCES Desire for privacy

IMPLICATIONS

SIGNALS

- angles, and can also play music through its integrated speakers ("Natuzzi Italia," n.d.).
- to crying with white noise and by gently rocking (Happiest Baby, n.d.).
- 4. Steelcase's Think Ergonomic Office Chair can respond to its users weight in order to adjust accordingly ("Steelcase," n.d.).

Furniture will need an energy source, increasing our energy demands - Our furniture could become hacked

1. The Surround Sofa from Natuzzi is a sofa that users can adjust seat, headrest and footrest 2. The ReST bed is a smart mattress that, when paired with an app, allows an individual to control five different zones of the mattress to fully customize their level of support in each (ReST[®], n.d.). 3. The Snoo Smart Sleeper is a smart crib that helps babies fall asleep by responding

ENERGY Oh, literally everything's a battery nowadays.

MATURITY EMERGING

FUTURE IMPACT HIGH

IMAPCT TIME < 5 years

CERTAINTY HIGH

Scientists and entrepreneurs are working on harnessing different kinds of clean energy from a variety of sources. Roadways, sidewalks, windows, clothing are all being harnessed as small energy sources that, when harvested at scale, can prove to be a significant source of renewable and clean energy.

In addition, advances are being made in the way energy can be communicated from a source to a device, a step that is sure to make the charging cables we're so familiar with a thing of the past.

Lastly, even the way we carry around energy is changing, with the rise of mobile power banks and battery packs integrated into backpacks.

STRENGTHENS

Quantified workplace, development of lightweight batteries

COUNTERBALANCES Tech detox

- IMPLICATIONS _
- _

SIGNALS

- 1. Using radio frequency to charge digital devices is a technology that has been proven and is now poised to make waves, pun intended ("Humavox," n.d.).
- 2. Onyx produces photovoltaic glass for use in architectural projects (Onyx Solar, n.d.).
- 3.
- 4. your devices but it also serves as a monitoring station for your gadgets (Refsnes, n.d.).
- 5. FurniQi side table is made of wood yet can charge your digital device if it is placed on its surface (Fonesalesman, n.d.).

Charging cabinets in homes, where devices can merely be placed inside to charge Charging devices through the air, using radio frequency The design of future products, environments will need to be considered as whether they're energy positive or negative

Pavegen is a company that produces and installs energy harvesting sidewalks (Caughill, 2017). AMPL sells what they brand as "the world's smartest backpack". Not only does it charge

Trust and surveillance.

SUB-TRENDS

- TREND E.1: SURVEILLANCE
- TREND E.2: CYBERCRIME
- TREND E.3: REPUTATION ECONOMY
- TREND E.4: ANTI-TRACKING

With the rise of wearable technologies, smart home devices, and sensor-filled rooms, the amount of data harvested per individual will be enormous. This data could be paired with algorithms to understand working patterns and health factors. As another extreme, workers could be monitored around the clock to ensure that they are indeed performing the work they are tasked with.

With individuals ever more aware of the concepts of fake news and data manipulation, people are more wary of digital mediums as a means of communication. Cybercrime also poses a threat to our ability to trust technology in our lives.

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME IMMEDIATE, < 5 years

CERTAINTY HIGH

With the rise of megacorporations, the illusion of consumer choice is more prominent than ever before. Similarly, this feeling of being a powerless pawn in a larger game is also manifested by way of company surveillance of employees. Surveillance acts as a replacement for employer-employee trust, and as the number of remote workers is projected to rise, the employer's desire to ensure that their money is being well-earned leads to the rise of tracking software.

Linked with the quantified-self movement, companies are seeking to study their employees' data and behaviours in order to find patterns to inform strategies for improving their productivity. Companies such as The Outside View, a UK-based tech company, are obligating their employees to take part in a program that uses a plethora of apps to monitor their entire lives, from how much they sleep, to what they eat, how much they walk, how happy they are, and how much time they're spending sitting at their desk (Datoo, 2014). Other softwares epitomize the distrust between employer and employee by monitoring workers' behaviours to detect cybercrime and malicious intents.

STRENGTHENS

SURVEILLANCE

Wearables, empathic and responsive environments, quantified workplace

COUNTERBALANCES

Caring companies, desire for privacy

SIGNALS

- 1. Amazon's Alexa has been branded as an Orwellian big brother type device capable of eavesdropping on individuals (Abel, 2018).
- 2. Veriato is a software that monitors employees to detect insider threats of cyber attacks and data breaches (Veriato, n.d.).
- 3. John Hancock, and insurance provider recently announced that it will require all new life insurance policies to be part of the Vitality program that allows individuals to earn points by pairing their biometric data to their file through the use of smart watches and other wearables (Cruickshank, 2018).
- Microelectromechanical systems (MEMS) called motes or more colloquially 'smart 4. dust' are tiny devices capable of collecting data undetected (Marr, 2018).

Watching me, watching you.

INDUCATIONS

	LICATIONS
-	Quantified workplace
-	Forced use of wearable technology
-	Fear of 'office gossip'
-	Black market algorithms to hack work logs
-	Increase in remote and non-intrusive
	health-related diagnostic capabilities

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME IMMEDIATE, < 5 years

CERTAINTY HIGH

Today, the main source of wealth is knowledge, with wars being fought for knowledge. This leads to wars becoming more digital in nature as most knowledge is stored in some way or another in a digital form. The resulting cyber warfare can expose trade secrets, and threaten the livelihood of companies. On the other hand it can also be used to reveal corruption and misallocation of funds. Identity theft, piracy, phishing scams, and transaction fraud are other examples of cybercrime.

Cybercrime also extends to hacking of electoral systems and has the power to destabilize world powers by giving even the smallest country as well as actors acting independently of a state, the ability to fight and threaten superpowers (Harari, 2016). The placement of logic bombs (malicious program that are secretly implanted into a computer and remain dormant until activated by a set of parameters) by cybercriminals can cripple our ability to use, and our willingness to continue to use technology as a main tool in the workplace.

STRENGTHENS

CYBERCRIME

The darkest

(inter) web.

Desire for privacy, distrust, blockchain

COUNTERBALANCES Trust in technology

IMPLICATIONS

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SIGNALS

- 1. Every one of us receives spam emails. Although these seem benign, they are tell-tale sign of data vulnerability, with your email address having most likely been maliciously pulled from some submitted online form.
- 2. In 2017 Accenture noted that cybercrime increased by 27 percent in a single year, with the cost climbing 24 percent (for an average annual cost of \$11.7 million for companies to deal with cyberattacks)(Schwartz, 2018).
- 3. Canada just implemented new security breach notification requirements on November 1st, 2018. Organizations will be forced to report all security breaches that have the potential to create a real risk of harm to an individual (McKenzie, 2018).

return to untraceable workflows

Hackers will be able to target anything connected to the internet. Even things that we do not consider to be harmful can be deadly if it falls into the control of a nefarious digital virus or malevolent actor. Pacemakers and hearing aids could become hacked, posing a significant risk to the population that have implanted technology.

REPUTATION ECONOMY

Sorry, your reputation can't afford that.

MATURITY EMERGING

FUTURE IMPACT HIGH

IMAPCT TIME < 5 years

CERTAINTY HIGH

With social media giving us a platform to share photoshopped images depicting our curated lifestyles, our reputations seem to preceed us (Hosie, 2017). Now countries like China are creating reputation systems that rewards citizens for actions such as on-time bill payments, and punishes "bad" citizens by denying them travel rights or access to a matchmaking platform.

As service platforms require us to rate our Uber drivers, rate our restaurants, rate our friends, and rate ourselves, the importance of our reputation and ratings have come to evolve past only caring about our credit scores.

It is now common to clean up social media accounts when applying for work positions as employers are known to screen candidate's social media accounts during the hiring process, with a survey by CareerBuilder discovering that over 50 percent of employers said they had rejected applicants due to the content on their accounts (CareerBuilder, 2018).

STRENGTHENS

Big data, exit off social media accounts

COUNTERBALANCES Desire for privacy

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IMPLICATIONS

SIGNALS

- 2. Bunz is a Toronto based trading platform that offers individuals the ability to rate each other as a way of vetting the security of the trade ("Bunz," n.d.).
- as a customer you are also receiving a rating from your driver (Price, 2015).
- 4. Apps like Drunk Mode and DrunkLocker block off an individual's social media access for the duration of their night out, to prevent sloppy late night posts and messages to contacts and accounts (McGauley, 2015).

One's digital presence is not necessarily representative or one's true self Fake accounts linked to an individual could have detrimental effects on their lives Result in a super curated online life

1. China's social credit system aims to build the trustworthiness of its citizens. Citizen's every actions are recorded in five key categories such as credit history, fulfillment capacity, personal characteristics, behaviour, and preferences. The plan is to be launched by 2020 (Botsman, 2017). 3. Many customers are aware of rating their Uber driver, yet not many are aware that

ANTI-TRACKING I told you, don't track my data.

MATURITY

FUTURE IMPACT

IMAPCT TIME IMMEDIATE, < 5 years

CERTAINTY HIGH

GROWING

HIGH

Strengthened by trends like the reputation economy, a counter movement requesting privacy of data is challenging norms of data use.

Governmental agencies are passing stricter data protection regulations in the wake of such news as the Facebook-Cambridge Analytica data scandal. Individuals are becoming more aware that their data can be manipulated and served back to them in order for organizations to subtly influence their moods, behaviours, and political thoughts.

STRENGTHENS Secure VPNs

- IMPLICATIONS -

Big data, personalized services and experiences -

COUNTERBALANCES

SIGNALS

- 1. The European Union passed the General Data Protection Regulation in 2016. It is one of the strictest set of regulations that protects users' data (TUDA, 2018).
- 2. Cambridge Analytica is a data company that harvested the data of over 50 million personalized political advertisements, thus swaying public opinion (Greenfield, 2018).
- 3. AdBlock is a popular anti-tracking browser extension that prevents websites from playing ads (Adblock Plus, n.d.).

More services to protect online data traffic Rise of anonymized web use

Facebook users (without permission!) to then be able to target specific demographics with

We really care about it all.

SUB-TRENDS

- TREND F.1: ETHICAL COMPANIES
- TREND F.2: SERVICE / SHARING ECONOMY
- TREND F.3: WORK-LIFE BALANCE

This macro-trend is about the rise in the number of companies that have a philanthropic arm, or are recentering their offerings to be more holistic in terms of user-experience, social, and environmental impact. There is a greater awareness of ethical concerns amongst brands and organizations, reflected in more purposeful and strategic brand building. Companies are acting as unofficial sponsors of particular lifestyles and mindsets that are linked to social responsibility, and environmental justice. In a way, this trend is almost representative of a cultural awakening in response to the global climate crisis.

ETHICAL COMPANIES Let's take care of this.

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME IMMEDIATE, < 5 years

CERTAINTY HIGH

Organizations are valuing their employees more now than ever before. Perhaps because of increased career jumps within the workforce, companies are doing their all to try and create a cultural brand to attract and retain employees.

In response to the desire for authenticity, organizations and individuals are involved in more ethical decision making at the corporate and business level. Recognition of the circular economy as a sound business model is leading to more service-based consumer goods industries.

Companies are getting involved in more sustainable harvesting practices, more responsible sourcing and manufacturing of their products. There is an interest in the use of recycled and upcycled materials, and consumers are overall demanding more transparency from their employers and companies in general.

STRENGTHENS

Circular economy, wellness economy, urban agriculture, service economy

IMPLICATIONS _ _

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- COUNTERBALANCES

Consumerism, desire for low-cost products

SIGNALS

- 1. DoorDash, the meal delivery company, is now using an algorithm to deliver extra food from its network of serviced restaurants to food banks (Peters, 2018).
- 2. Ethisphere celebrates ethical companies by providing an honoree list of the world's most ethical companies (Ethisphere, n.d.).
- 3. In the United Kingdom, the Living Wage Foundation and campaign is signing up companies as "living wage employers". The companies then to commit to paying their employees a fair living wage (Coulson & Bonner, 2015).
- 4. Costco is known for having a great reputation amongst its employees, having built a strong community of coworkers across its multiple locations. Employee benefits go beyond monetary offerings and vacation pay (Cain, 2018).

Rise in eco-certifications Greener, healthier workplaces Shortened work weeks

SERVICE / SHARING ECONOMY

Yes, we can lease that!

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME < 5 years

CERTAINTY HIGH

The appeal of the sharing economy rests in its ability to reduce material business and can be responsibly recycled or rejuvenated when needed.

STRENGTHENS Circular economy

COUNTERBALANCES Desire / need to own products

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SIGNALS

1. Harth is a furniture, home décor, and interior accessories leasing service (Harth, n..d).

IMPLICATIONS

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- 2. Similarly Feather offers users the option to subscribe to a furniture-service to decorate their homes, renting furniture from 6 months up to a year. After this time users have the option to buy it outright, swap it, or continue leasing (Feather, n.d.).
- 3. WeWork now has the WeMRKT, a small in-office retail store offering some of their members' wares (Wang, 2018).
- 4. Bodega is a 'smart box' that is seeking to replace employee trips to the corner store with a healthier alternative. With automated commerce built-in and fully stocked with groceries, individuals can simply grab what they want and automatically be charged for their purchase (Lynley, 2017).
- 5. Leasing carpet tiles has now become a viable business model as companies like Desso can attest (Desso, n.d.).
- 6. Amsterdam Schipol's airport leases light services from Philips (Philips, 2015).

consumption. For example, 1 billion private cars may be replaced by 50 million shared cars (Harari, 2016, p.6136). Through the service economy, companies are able to offer more sustainable alternatives to the traditional consumer goods market. Now, companies are able to lease office furniture, and can even lease carpet tiles. This ensures that the products remain the property of the

> We will not own products, but lease them Big warehouses needed to store unleashed items

WORK-LIFE BALANCE

Less work, more play.

MATURITY

GROWING

HIGH

FUTURE IMPACT

IMAPCT TIME < 5 years

CERTAINTY HIGH

With today's working style being so much more flexible and undefined, organizations and governments around the world are putting in place policies and regulations to provide more time away from work for employees.

One of the countries leading the charge is Sweden, which provides very generous parental leave, and has been running trial runs of a 6-hour workweek. Other scandinavian countries are known for their great work-life balance including Denmark and Norway. Work-life indexes take into account numerous factors including average number of hours worked a year, statutory leave, time dedicated to leisure and personal activities, and overall happiness.

Other countries like France and Finland offer 30 days of paid vacation days per year.

STRENGTHENS Work-life balance

IMPLICATIONS _

COUNTERBALANCES Ubiquitous work

SIGNALS

- 1. Sweden has run trials for a 6 hour workday. Participants reported feeling more productive and happier during the trial period (Savage, 2017).
- 2. In New Zealand, an organization has adopted a 4 day workweek after a successful trial. Employees still get paid as if they were working a 5 day week (Roy, 2018).
- 3. Once again in Sweden, the country has the most generous parental leave policies in all of Europe. It allows 480 days of subsidized leave per child and allows those days to be split between parents (Crisp, 2017).
- 4. Half of Canadians prefer a 30 hour workweek to a 40 hour workweek (Angus Reid Institute, 2018).

We may be working less - We may have more hobbies to occupy our time

Made on demand.

SUB-TRENDS

- TREND G.1: MANUFACTURING TECHNIQUES
- TREND G.2: OPEN-SOURCED INFORMATION
- TREND G.3: RE-USED, NATURAL MATERIALS
- TREND G.4: MULTI-PURPOSE FURNITURE
- TREND G.5: RAPID ARCHITECTURE

This macro-trend deals with the rise of affordable mass-customization through new technologies and open-sourced algorithms. We are seeing traditional consumer goods appear in more varied sizes. One such example is the iPhone which comes in different screen sizes not only to cater to personal preferences, but also to cater to different hand sizes.

With technologies such as 3D printing becoming ever more mainstream, the rise of custom-built, personalized furnishings is now looking to be just around the corner. In addition, the speed with which we can modify our urban environment is reaching new records, aided by robotics, prefabrication, and adaptive reuse of infrastructure.

MANUFACTURING TECHNIQUES Made right on demand.

MATURITY G R O W I N G

FUTURE IMPACT HIGH

IMAPCT TIME 5 years

CERTAINTY HIGH This trend reflects the rise in affordable rapid production and mass customization technologies, allowing individuals to receive custommade and personalized products, services and/or experiences. Examples of such services include the production of customized meals based on your genome, and clothing tailor-made to your measurements.

With services allowing individuals to map their genome, a plethora of genebased products and services have emerged. For example, there exists services that offer wine pairings based off your personal genome (the science behind this service has not been proven and is most likely a marketing ploy).

Digital fabrication and digital designs can allow the fabrication of furniture and objects at a variety of scales. It is imaginable that a user could custom order a reading chair for example, that would be perfectly proportioned to their own body shape. Our current approach to furniture as being "one size fits all" might evolve to include small, medium, and large furniture lines.

STRENGTHENS

Prosumerism, fulfillment of self

COUNTERBALANCES

Mass production

roles

IMPLICATIONS

S-M-L furniture, furniture and products custom sized to your ergonomic needs
3D printing is democratizing shapes and forms: previously complex craftsmanship can simply be printed now.
3D printing and algorithms may challenge designer's roles. Traditionally, the designer was viewed as an expert form-giver, nowadays, the designer is viewed as a guide to participatory co-creative processes.

SIGNALS

- 1. FabLabs are a network of maker spaces offering tools and machinery for making. Usually the tools are more digital in nature, with 3D printers, soldering stations and specialized computer software (FabLabs, n.d.).
- 2. Interior Define is a company that makes custom, high-quality furniture accessible for everyone. Customs can choose finishes for all of their orders (Interior Define, n..d).
- 3. MTailor allows individuals to use their phone to capture their true measurements. Custom-sized clothing is then produced, disrupting the traditional tailor-made business model (MTailor, n.d.).
- 4. The University of Copenhagen has launched a new research project that looks at customized 3D printed meals for its patients (Julia, 2017).

OPEN-SOURCE Copyleft, not copyright.

MATURITY

GROWING

FUTURE IMPACT MEDIUM

IMAPCT TIME 5 YEARS

CERTAINTY MEDIUM

The trend in open source information render designs more accessible to the world population. Open source is a movement typically associated with software and digital creations. It is characterized by organizations and individuals making the source code of their creations freely accessible and modifiable to others.

This idea of making information available to others is being extended to artworks and education as well. With the idea being not to copyright works, but instead to put them in the public domain for all to use.

STRENGTHENS Knowledge economy IMPLICATIONS

COUNTERBALANCES

Proprietary technology, copyright

SIGNALS

- Mozilla distributes Firefox, their free, open-source internet browser (Mozilla, n..d). 1. 2. Unsplash photos makes high quality and high resolution
- photographs accessible to all (Unsplash, n.d.).
- 4. Source Forge is an open-source software platform that makes accessible
- code to 33 million users worldwide (SourceForge, n.d.).

- Blockchain could be used to secure the ownership of 3D models so that they cannot be illegally downloaded

3. Noun Project makes quality symbols and icons accessible to all for free (Noun Project, n.d.).

MATERIALS Round and round it goes.

MATURITY

GROWING

HIGH

FUTURE IMPACT

IMAPCT TIME 5 - 10 YEARS

CERTAINTY HIGH

The circular economy is an alternative production model that seeks to minimize wasted output by closing energy and material loops. Essentially through recycling and other techniques the output of production processes can and should become the building blocks for future productions by the same, or alternate industries. Similar to a cradle-to-cradle approach, both of these economic models seek to reduce the material and energy wastage in the production industry. New technologies like 3D printing can use recycled plastics to print new goods.

STRENGTHENS

Sustainability, ethical companies, recycling

COUNTERBALANCES

products

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IMPLICATIONS

Desire for low-priced

SIGNALS

- 1. The XXX Bench by New Raw is made of recycled plastic and saves 125 kg of CO2 emissions and 100 litres of oil (Rinaldi, 2017).
- 2. Pentatonic is a circular consumer brand. It produces furniture from recycled materials. As an example is partnered with Starbucks to create tables made from the chain's own waste (Pentatonic, n.d.).
- 3. Designer Kim Markel has created a range of products and furniture from cosmetics company Glossier's waste (Santiago, 2018).
- 4. Storaenso produces renewable materials. One of its products is called DuraSense and it is a wood-based biocomposite meant to rival plastic (Storaenso, n.d.).

Circular economy regulation might come into effect, forcing all new production chains to be revamped according to its standards - Non compliant companies may be slapped with a fine

MULTI-PURPOSE FURNITURE Bed to table to shelving unit.

MATURITY GROWING

FUTURE IMPACT LOW

IMAPCT TIME 5 YEARS

CERTAINTY HIGH

Multi-purpose furniture not only makes space more efficient, but in some cases it can also serve to double your available space. Space saving furniture and systems use clever designs to allow a user to quickly modify the furnishings appearance and use.

With trends in micro-living, space saving furniture becomes more relevant than ever. In addition, multi-purpose furniture could be used in businesses and environments that serve multiple functions, for example, a restaurant that transforms into a coworking place during the day. Self-assembling materials are another facet of this trend.

STRENGTHENS Micro-living

IMPLICATIONS

COUNTERBALANCES Traditional furniture typologies

SIGNALS

- 1. Michael Hilgers is a German designer that has created several multi-purpose furnishings to be used as home offices (Michael Hilgers Studio, n.d.).
- 2. FLKS by Kapteinbolt is a rudimentary home office that can be unfolded to become completely flat when not in use (Etherington, 2010).
- 3. Ori is a smart furniture module that can be adapted into a range of configurations. It is a project of MIT Labs (Ori Living, n.d.).
- 4. Resource Furniture is a company that specializes in space saving furniture systems for small living footprints (Resource Furniture, n.d.B).

- Furniture may become more expensive as it is marketed as a "tool-of-all-trades"

RAPID ARCHITECTURE We built this city on rock and drones.

MATURITY EMERGING

FUTURE IMPACT HIGH

IMAPCT TIME 10 YEARS

CERTAINTY HIGH

With the help of technologies such as large-scale 3D printing, drones, and autonomous constructions robots, buildings are going up faster now than ever before. What this means for the future of our urban centers is that inefficient buildings can be retrofitted and renovated more quickly, new buildings can be designed and erected in a shorter time frame as well. Due to reduced construction periods, resulting builds can be more cost effective, and prefabrication techniques can deliver higher quality products (as they are built in factories) and reduced material waste.

Rapid production techniques are also not only being used for large scale architecture. Products are benefiting from 3D printing and advances in self-assembling materials.

STRENGTHENS

Circular economy, automation of jobs

COUNTERBALANCES

Craftsmanship, trade unions

SIGNALS

- 1. MIT Labs has developed The Digital Construction Platform (DCP) that can print an entire building, however it is currently restricted to dome shapes (Murison, 2017).
- to prefabricated modular construction methods (Associated Press, 2015).
- be produced using 3D printing technologies (Dubai 3D Printing Strategy, n.d.).
- 4. Honomobo is a Canadian company that produces modern prefabricated container homes. They can be built and assembled in 10-12 weeks (Honomobo, n.d.).
- 5. MedModular creates modular patient hospital rooms to be quickly inserted into a hospital frame to provide faster build times (Coxworth, 2018).
- 6. MIT's Self Assembly lab investigates and develops self-assembling and programmable materials (Self-Assembly Lab, n.d.).
- 7. ICON is a company that can print a 650 sq.ft house from cement for \$10,000 in 12-24 hours (Warren, T.,, 2018).

IMPLICATIONS Entire city districts could be built faster _ Infill housing could be built faster _

2. A Chinese contractor has managed to build a 57-storey building in only 19 days, thanks 3. Dubai has mandated that by 2025, 25 percent of all new construction projects must

Phygital world.

SUB-TRENDS

- TREND H.1: VIRTUAL COMMUNITIES
- TREND H.2: TECHNOLOGY ADVANCES AR / VR

Physical and digital space are complementary and integral realities of the workplace. With technologies such as holoportation and augmented reality blurring the boundaries of the real and the digital world, the future of the workplace looks to be a promising blend of supportive technologies to more easily (and naturally) allow us to work remotely and internationally.

VIRTUAL COMMUNITIES

Meet me at the virtual office.

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME <5 years

CERTAINTY HIGH

With digital technology blurring the lines between realities, our workplace of the future may indeed blend several technologies in order to make physical distance seem irrelevant to successful collaborations.

Through technologies such as holoportation, a glimpse into the future of collaborative work can seen. Although still in its infancy, the technology shows promise for connecting individuals from across the world through a mix of augmented reality and computer intelligence.

STRENGTHENS

AR, VR technology, hyperconnectivity, Internet of Things

- IMPLICATIONS -_
- -

COUNTERBALANCES

Tech detox, tech distrust

SIGNALS

- 1. A teledining table concept has been designed, allowing two individuals separated by space to share a meal at a dinner table (Hoare, 2018).
- 2. Microsoft has developed a holoportation technology capable of virtually transporting individuals to other locations (Microsoft, n.d.B).
- 3. DoubleMe is developing a technology called HoloPortal that can convert 2-dimensional videos into 3-dimensional models in real-time (DoubleMe, n.d.).

We will truly be able to work remotely from anywhere Commuting may become irrelevant Working in teams remotely will be augmented as an experience

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME 5 YEARS

CERTAINTY HIGH

Virtual reality (VR) is being developed as an educational and entertainment tool. Virtual reality is consumed through devices like the Google DayDream and the Occulus Rift VR headset. When users wear a VR headset, they are immersed in a digital world. On the other hand, augmented reality (AR) overlays digital elements onto the real world. Pokemon Go used AR to overlay catchable creatures in your environment. Currently, AR technology is typically accessed through a handheld mobile device.

Both augmented reality (AR) and virtual reality (VR) technologies can add to existing workplaces and also provide an alternative working platform. They could be crucial to the fulfillment of the virtual, interactive, and collaborative office space of the future.

STRENGTHENS

Phygital space, digital workplaces

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IMPLICATIONS

COUNTERBALANCES Tech distrust, tech detox

SIGNALS

- 1. Google Glass is being used by factory workers as a useful aid. Google Glass is entering that by 2025, nearly 14.4 million U.S. workers will wear smart glasses (Levy, 2017).
- 3. Virtual reality lessons are being used in classrooms, allowing children to understand the day's lesson in an alternative manner (ClassVR, n.d.).

Training programs for doctors Rise of the virtual office (as AR space)

the blue-collar workforce as Glass EE, with a recent Forrester Research report forecasting 2. Virtual reality is being used to train construction workers on dangerous scenarios (Silliker, 2018).

ROBOTIZATION

Little helper.

SUB-TRENDS

- TREND I.1: AUTOMATION
- TREND I.2: ARTIFICIAL INTELLIGENCE
- TREND I.3: SOCIAL ROBOTS
- TREND I.4: ROBOT RIGHTS

Automation technologies, artificial and emotional intelligence, computerization, smart algorithms... the future is certainly directed for a digital and robotic rethink. The job market is at risk of being severely disrupted by such technologies, yet there are also many advantages to be gained. Social robots can provide us company and autonomous vehicles and robots can free us of unnecessary tasks, allowing us to focus our time and efforts towards more meaningful endeavours.

AUTOMATION

24/7 digi-worker.

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME <5 years

CERTAINTY HIGH

It is no surprise that the job market is planning to be majorly disrupted by automation and computerisation. In 2013, two researchers published The Future of Employment, a survey outlining the risks posed to jobs by computerisation technologies (computer algorithms). They found that roughly 47 percent of the 702 occupations they surveyed were at risk of being heavily disrupted (Frey & Osborne, 2013). The two types of skills found by the researchers to be relatively undisturbed by automation and computerisation were creative and social skills (Frey & Osborne, 2013).

With robots and machines being able to work around the clock and not requiring any holiday pay, the temptation to automate menial tasks is high. Especially in industries where the work is repetitive and unengaging, or requires the sudden recruitment of a workforce (for example, in the agricultural harvesting of fruits), robots are being developed to replace human counterparts.

STRENGTHENS

Robot rights, artificial intelligence

COUNTERBALANCES

Tech detox, human craftsmanship

IMPLICATIONS _

SIGNALS

- 1. HETO Agrotechnics produces a potting robot to pick-up and place pots of plants in different areas (different nurseries for example) (HETO Agrotechnics, n.d.).
- 2. Clever Robots for Crops was a large-scale project sponsored by the European Union to investigate ways robotics could be used in agricultural production. It ran from 2010 to 2014 (Crops Robots, 2010).
- 3. Perhaps one of the better known robotics companies, Boston Dynamics has high-tech robots able to mimic bipedal and quadrupedal movements. Some of their robots are being branded for office use (Boston Dynamics, n.d.).
- 4. Moley is a robotic cook for home use, capable of learning from real human cooks to better mimic required movements (Moley, n.d.).

Threatens to take over the jobs of service clerks, customer service representatives. - Robots for companionship as well.

ARTIFICIAL INTELLIGENCE & ALGORITHMS

Smart matter.

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME 5 YEARS

CERTAINTY HIGH

With the digitization of intelligence happening with artificial intelligence and smart algorithms, the ability of artificial beings acting autonomously is increasing.

What robotics is currently doing to the blue collar industry, artificial intelligence is threatening to do to the white collar industry. Lawyers, doctors, and other highly skilled careers are at risk of being disrupted or even replaced by artificial intelligence computers / robots.

However, artificial intelligence can also be viewed as an aid to these fields. Instead of a being seeing as a career replacer, artificial intelligence can provide more personalized care and attention for individuals, essentially acting as companions and helpers to trained individuals. This is especially relevant in the hospitality industry where it can help assess diagnoses and provide reasoned strategies for treatment.

IMPLICATIONS

STRENGTHENS

Big data, mixed humanrobot employment

COUNTERBALANCES Tech detox, privacy rights

Artificial intelligence personal assistants The problem our society now faces is creating jobs that will not _ be replaced by algorithms, that is to say, jobs where humans will always be better performers than the smartest algorithm. Algorithmic trading can be "spoofed" by fake news

SIGNALS

- 2. Cortona is Microsoft's intelligent virtual personal assistant. Similar to other agents like Siri and Alexa, Cortona is capable of managing schedules, initiating searches, and controlling smart devices (Microsoft, n.d.C.).
- learning. One of their products is a system that can recognize if a driver is distracted and have an autonomous driver take over if that's the case (Eyesight Tech, n.d.).
- 4. Bright Machines is a startup that offers manufacturing automation through intelligent networked systems ("Bright Machines," n.d.).

1. Traders are suing major U.S. stock exchanges, accusing them of costing ordinary traders billions of dollars by having them compete against high-frequency algorithmic traders (Stempel, 2014). 3. Eyesight is a company that specializes in computer vision technologies and deep

SOCIAL ROBOTS Best friends forever.

MATURITY

GROWING

HIGH

FUTURE IMPACT

IMAPCT TIME 5 YEARS

CERTAINTY HIGH

With advances in emotional intelligence, robots are not only looking to be our helper, they're looking to be our friends. With friendly speech and cute movements, robot designers are proving that mechanical beings do not have to be threatening, but can be friendly and approachable.

Robots for social companionship are becoming more commonplace in areas like Japan, where the elderly are using them to keep them company in otherwise isolating times.

IMPLICATIONS

STRENGTHENS Robot rights

COUNTERBALANCES Fear of tech, distrust of technology

- As technology continues to advances, we may build stronger emotional bonds with our robot companions. Some may end up falling in love and wishing to marry their companions. Robot companions could collect data on our emotional _ wellbeing. That data could be vulnerable to be hacked by malicious individuals and/or organizations.

SIGNALS

- 2. MIA is a robot designed to keep dogs and cats company while you're away (Kolony Robotics inc., 2018).
- 3. Sota is an artificial intelligence that provides ramen recommendations (GeekWire, 2017). It is also being used to keep the elderly company (RT Staff, 2015).

1. Palmi is a countertop Japanese robot that can keep seniors company (DMM Robots, n.d.).

ROBOT RIGHTS I, robot have rights too.

MATURITY EMERGING

FUTURE IMPACT HIGH

IMAPCT TIME 15 YEARS

CERTAINTY LOW - MEDIUM Poised to be one of the largest ethical debates of the century, the question of whether robots should have rights is one that philosophers are already toying with.

In Saudi Arabia, Sophia the robot has already been granted citizenship. She uses her personal Twitter account to market and promote a range of causes.

With complex cases of robot ethics being discussed (i.e. self-driving cars having to choose whether to protect the driver or the pedestrian), laws and rights are needed to decide whether the robot, the designer, the programmer, or the manufacturer is to blame if something is to go awry.

STRENGTHENS Trust in technology

IMPLICATIONS -

COUNTERBALANCES Fear of technology, human rights?

SIGNALS

- robots, that each contend with the way humanity has treated them (Priday, 2018).
- 3. Bill Gates proposes a "robot tax" to offset the social costs of automating jobs. This tax would then be distributed as a universal basic income to citizens (Delaney, 2017).
- 4. The first robot wedding took place in Japan in 2015 (Willgress, 2015).

We may not be working at all in the future - We may be receiving universal basic income from robots instead

1. In 2017, Sophia became the first robot in the world to be granted citizenship (Reynolds, 2018). 2. Detroit: Become Human is a videogame that takes a look at three characters, all of them

EQUITY

Equal opportunity.

SUB-TRENDS

- TREND J.1: HOLACRACY
- TREND J.2: RECOGNIZING DISABILITIES AS SKILLS

The concept of equality are being replaced with the concept of equity. The difference between the two is that whereas equality seeks to make everyone equals, often through one size fits all approaches, equity seeks to level the playing field for equal opportunity for everyone, with solutions being customized for each individual.

In organizations around the world, a recognition for the abilities and talents of each individual are being harnessed through such initiatives as holacratic governance models and an appreciation for alternate skills (disability inclusion).

Sorry, the manager isn't in today, or tomorrow, or ever.

MATURITY EMERGING

FUTURE IMPACT MEDIUM

IMAPCT TIME 10 years

CERTAINTY MEDIUM New governance structures are emerging in organizations around the world. Holacracy is a system of governance that looks to distribute power more evenly amongst actors. The decision-making process is therefore more egalitarian as well. Holacracy is mostly being used in non-profit organizations in countries like Australia, Switzerland, and the United States of America. Some of the strengths of this system is being marketed as helping teams better innovate.

A holacracy is not to be confused with a flat hierarchy, instead it is a completely different way of allocating decision making abilities within an organization.

A holacratic system is characterized by roles instead of job descriptions. Additionally, instead of a hierarchical forking organizational chart, holacratic organizations are represented as series of nested and overlapping circles. Another way these new governance structures are different is through a holacratic constitution that allows everyone to make rules, with the priority for "getting things done" (Martin, 2016).

STRENGTHENS Inclusivity

COUNTERBALANCES Algorithmic decision making IMPLICATIONS
 Job seekers will apply to positions with a portfolio of skills rather than a CV of previous job positions
 Pay may be linked to effort applied to projects

SIGNALS

- 1. At Gore, the company operates without fixed rules or a set organizational hierarchy. There are no official bosses, although there are divisions and business units (Caulkin, 2008).
- 2. Zappos has been operating as a holacracy since 2013. For Zappos their main incentive in adopting holacracy was to try and scale agility within their teams (Martin, 2016).

ed rules or a set organizational hierarchy. There ivisions and business units (Caulkin, 2008). since 2013. For Zappos their main incentive agility within their teams (Martin, 2016).

DISABILITY ASSET My strength is your weakness.

MATURITY GROWING

FUTURE IMPACT MEDIUM

IMAPCT TIME <5 years

CERTAINTY MEDIUM

This trend speaks about a shift in what Western society views as disabilities. Mental conditions such as autism and dyslexia are being recognized as skills that individuals can and should be proud of. When thought of the ability these conditions provide in thinking of problems in new ways, in learning how to delegate effectively, and in documentation of processes (through in-depth note taking), these conditions can provide highly sought-after skills for employers.

Employers are well aware of requirements for inclusion and diversity in the workplace, yet those with disabilities often have a harder time finding employment. Based on the latest data set from Statistics Canada (from 2011), Canadians with disabilities are 49 percent employed versus 79 percent for Canadians without disabilities. The majority of the disabilities do not prevent an individual from working.

Big companies like Starbucks, Ernst & Young, and AT&T are all being recognized for their inclusion of those with disabilities in the workforce, with some stating that they recognize that customers respect diversity efforts in their services (Blahovec, 2016).

IMPLICATIONS

STRENGTHENS

Inclusivity, diversity in the workforce

_ COUNTERBALANCES

Stigmatization of disabilities

SIGNALS

- 1. Richard Branson is a spokesperson for recognizing dyslexia as a business asset. He is well known for crediting his success to his dyslexia (Feloni, 2015).
- 3. Made by Dyslexia is a global charity whose aim is to help the world understand and support dyslexia ("Made by Dyslexia," n.d.).
- Their skills are used in accounting and analytics projects (Horowitz, 2018).

The diversity of the workforce will increase Human centered design will be more crucial in the design of services

2. The Stadthaushotel in Hamburg is run by individuals with disabilities. It is dubbed an 'integration

hotel' and is seeing great success, both for their employees and the visitors (Made for Minds, 2018).

4. Ernst & Young has a "neurodiversity" program that hires those on the autism spectrum.

Mindful balance.

SUB-TRENDS

- TREND K.1: TECH DETOX
- TREND K.2: NAPPING
- TREND K.3: MEDITATION

As technology becomes more pervasive, a counter movement looking to unplug and reconnect with the 'real world' is growing. From digital detox retreats to napping clubs, this flavour of the wellness economy is gaining momentum. A renewed interest in mental balance and wellbeing is pushing the adoption of meditation and reflection exercises into the mainstream. Finally, the conversation around work-life balance is being redefined to include the tech-life balance.

TECH DETOX Disconnect to reconnect.

MATURITY GROWING

FUTURE IMPACT HIGH

IMAPCT TIME 5 YEARS

CERTAINTY HIGH

Companies are offering services to wean us off our reliance on technology in public and private settings. This trend speaks of our desire to be connected and live in the real world, not through the lens of a screen or device. By being present at an event without a phone to distract you, it communicates values of respect and interest to those presenting, performing, and allows for more genuine socialization at events.

Similarly, digital detox retreats are gaining momentum as wellness retreats meant to reconnect participants with their environment and with their social community. Not only should we be worried about our work-life balance, but we should be paying equal attention to our tech-life balance.

STRENGTHENS

Desire for privacy, distrust of technology, desire be connected to the real world

COUNTERBALANCES

Desire for connectivity

SIGNALS

- 1. Yondr is a company that offers pouches for phones that automatically lock once a phone
- 2. Time to Log Off is an organization that collects data on our addictions to technology in addition to hosting detox retreats and workshops (Time to Log Off, n.d.).
- 4. In the U.K. policy makers are debating whether mobile phones and tablets technology devices should be banned from classrooms (Ross, 2015).

to	 IMPLICATIONS Anti-tech device areas become more common in public areas 	

is placed inside. Individuals hold on to their phones, and should they wish to use it, must exit the designated no-phone area to head to an unlocking portal (Knopper, 2018). 3. Auradaze is a restaurant that bans individuals from using their phones indoors as an effort to get customers to talk to each other over meals, instead of being on their phones (Khan, 2016).

NAPPING Slumber party.

MATURITY GROWING

FUTURE IMPACT MEDIUM

IMAPCT TIME 5 YEARS

CERTAINTY MEDIUM

Amidst all of the demands work places on individuals, a day-napping movement is emerging in large cities. These services offer busy, exhausted employees, tourists, and other clientele a chance to take a nap in a pod for a price. Another clientele that can benefit from these sleeping pods are those who find themselves jet lagged from business travel.

Napping pods and napping clubs may become more integrated in the working environment, the travel environment (airports, trains), and in the urban environment (on the street).

STRENGTHENS Tech detox, work-life balance

IMPLICATIONS

COUNTERBALANCES Stigma of sleeping at work

SIGNALS

- 1. NapYork is a startup that offers low-noise coworking environments and napping pods for those needing to nap during the work day (Warren, K., 2018).
- 2. Hoame is a modern meditation business in Toronto that provides "space to live life lighter" (Hoame, n.d.).
- 3. Casper, the online ecommerce mattress company, has the Dreamery, a nap bar in New York City. For \$25 customers can nap in a private pod (Schwab, 2018c).
- 4. MetroNaps is a company that creates sleeping pod/chairs for use in office space (MetroNaps, n.d.).

- Individuals may have two beds - one for sleeping overnight and the other as part of their coworking space for taking naps.

MEDITATION

Breathe in, breathe out.

MATURITY ESTABLISHED

FUTURE IMPACT MEDIUM

IMAPCT TIME <5 years

CERTAINTY MEDIUM

With the constant hustle of modern day life, many are seeking mindfulness programs and services to recenter their energy and realign their focus. Whether the tools be digital or physical, the idea of taking some time out of your day to focus and take care of your mental space is gaining in popularity.

We are seeing companies provide their employees with memberships to meditative apps, and coworking spaces bundling their services with those of yoga studios and spiritual talks.

STRENGTHENS Tech detox, work-life IMPLICATIONS

COUNTERBALANCES

balance, mindfulness

SIGNALS

- 1. Relax VR offers meditative sound and landscapes in virtual reality (Relax VR, n.d.).
- meditation sessions, spiritual teachers, and Ayurvedic food (Jacobs, 2018).
- meditation sessions, and other services aimed to get you into your perfect mindset (Primary, n.d.).
- 4. Headspace is a guided meditation app with more than 31 million downloads. There are about 250 companies that offer Headspace to their employees (Smith, 2018).

- Mindfulness practices integrated in our consumer behaviour

^{2.} The Assemblage is a coworking space and community in NYC that offers yoga,

^{3.} Primary is not only a workspace but a mindfulness community. They offer workspace, a yoga studio,

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