

EMERGING FUTURES OF REMOTE WORK

– An Institute for the Future Signals Report for The Remote Lab



Institute for the Future is the world's leading futures organization. For over 50 years, businesses, governments, and social impact organizations have depended upon IFTF global forecasts, custom research, and foresight training to navigate complex change and develop world-ready strategies. IFTF methodologies and toolsets yield coherent views of transformative possibilities across all sectors that together support a more sustainable future. Institute for the Future is a registered 501(c)(3) nonprofit organization based in Palo Alto, California. www.iftf.org

THE REMOTE LAB

The Remote Lab is a knowledge and development node for the future of remote work. Our vision is to assist society, organizations, and individuals in the transformation from the norm of the physical workplace to a remote mindset, as regards both societal and organizational development. www.remotelab.io

ABOUT THE SIGNALS REPORT

Over the past 50 years the Internet has slowly transformed nearly every facet of human life. Almost overnight, in response to a global pandemic, the digital world has gone from supplementing our physical real world lives, to becoming the primary source of human interactions for a growing number of people in the world.

We are suddenly finding our lives constrained by the global pandemic, and we are all now dramatically more dependent on the digital networks and platforms to connect us as we are restricted in our ability to gather in person and move throughout our cities and previous patterns of living.

To navigate this new landscape, The Remote Lab engaged Institute for the Future (IFTF) to investigate how organizations are adapting and moving toward “remote first” practices and the impact this will have on: connectivity, worker wellbeing, operations and geographic location.

IFTF scanned for “Signals of Change” relating to areas such as: new initiatives, creative solutions, startups, technical solutions, usability, culture adaptation and leadership as different lenses through which to explore new ways of conducting remote work.

WHAT IS A "SIGNAL OF CHANGE"?

As a research and educational organization, IFTF's mission is to build more foresight capacity in the world by providing tools and resources to help people anticipate the future to make better decisions today. Collecting and scanning for "Signals of Change" is a core IFTF methodology and is one of the foundational tools used to outline plausible alternative future visions.

A Signal of Change is defined as a recent small or local innovation—a new product, service, behavior, initiative, policy, data point, or technology—with the potential to scale in impact and affect other places, people, or markets. Signals are specific events or innovations happening today that you instinctively feel will take us in a new direction.

Signals help capture emerging phenomena sooner than traditional social science methods, and are used as evidence to show that a forecast or scenario is plausible.

Continuously scanning for signals helps us develop the habit of collecting observations as we read news, conduct research, and move through daily life. For research purposes, signals are documented both with a description of the phenomenon (the "What") and interpretation of possible implications (the "So What").

WHAT IS A "DRIVER OF CHANGE"?

To understand what the future might look like, IFTF identifies “Drivers of Change”—or the big forces reshaping today’s landscape into something new. Drivers are large, long-term underlying directions of change that will shape the future and should span across multiple domains to be as diverse and comprehensive as possible. Along with “Signals of Change”, they are components of evidence and building blocks for plausible, provocative forecasts.

SIGNAL CLUSTERS

- Connectivity
- Worker wellbeing
- Operations
- Geographics

CONNECTIVITY

The signals in this cluster represent hardware and software development as well as new emerging VR and AR solutions for remote collaboration

USING VIDEO CONFERENCING FOR EVERYTHING

WHAT: Video conferencing tools were seeing huge rise in number of participants when lockdown orders were being enforced due to COVID-19. Zoom saw an increase from 10 million daily participants in Dec, 2019 to 300 million participants in April, 2020.

SO WHAT: The almost overnight switch forcing people to work from home pushed a lot of companies to quickly adopt new tools to allow for meetings to take place solely using video conferencing software.



AR FACE FILTERS CHANGING OFFICE APPEARANCES

WHAT: Popular face filter app Snapchat has created a software that can run in the background of your video calls and add filters to your face. Many filters are goofy and obvious but they also have some interesting make-up filters that look very natural.

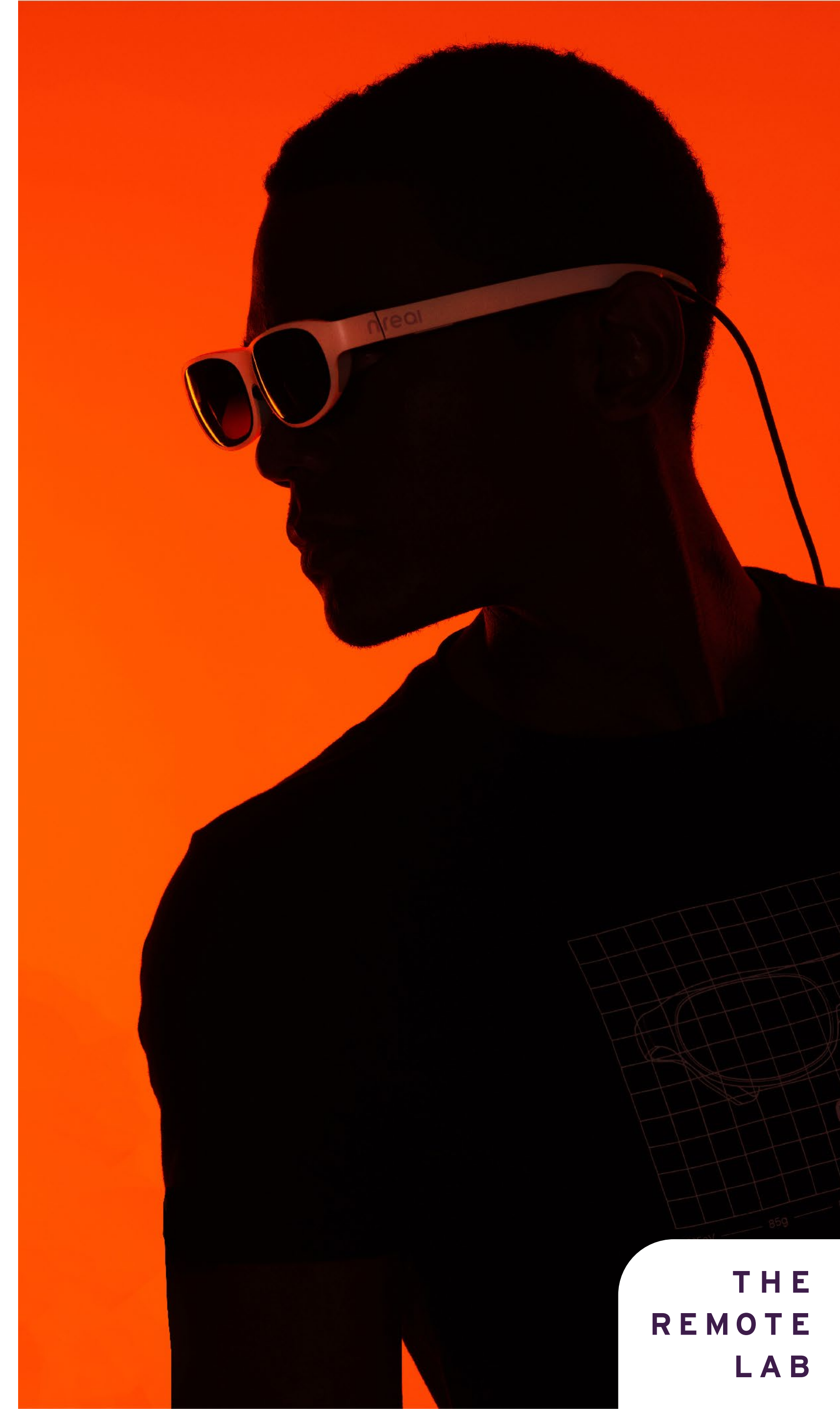
SO WHAT: While many can enjoy some virtual makeup to save them time from applying it in real life, advancements in facial recognition software, deep fakes and machine learning make it possible to realistically look like anyone while video chatting, potentially raising concerns around who you're actually talking to.



AR HEADSETS EXTEND SMARTPHONES

WHAT: Nreal, a Chinese hardware company, is launching a “light” AR headset that looks like a pair of sunglasses to support applications such as Spatial. Nreal connects to your smartphone and acts as a new form factor extension. The company is hopeful that the more lightweight headset will “speed up the adoption of remote work”.

SO WHAT: Nreal is just one of many VR/AR hardware companies that are seeing an increase in demand and funding as COVID-19 grounds the workforce. As money is pouring into the hardware industry, the headsets themselves are becoming cheaper and more commercially available on the market.



VR HEADSETS TARGET BUSINESS PROGRAMS

WHAT: The Oculus ISV Program specifically focuses on helping accelerate the customer adoption of VR business products by working with Independent Software Vendors (ISV) and enterprise developers.

SO WHAT: Many VR and AR hardware developers including Facebook and Microsoft (HoloLens 2) are targeting businesses and enterprise applications specifically with new types of programs and product design.



VIRTUAL OFFICE SPACES BECOME MORE USEFUL

WHAT: VirBela is an immersive virtual world that offers the possibility to create a whole campus to support larger events, conferences, meetings, office space and more. Their application runs mainly on desktop but they also support VR headsets like HTC Vive and Oculus Rift.

SO WHAT: With larger gatherings moving online, companies like VirBela are exploring ways to create a sense of moving through space while still being static. Some major benefits of hosting events and conferences online are things like noise level control and “unlimited” great seating.

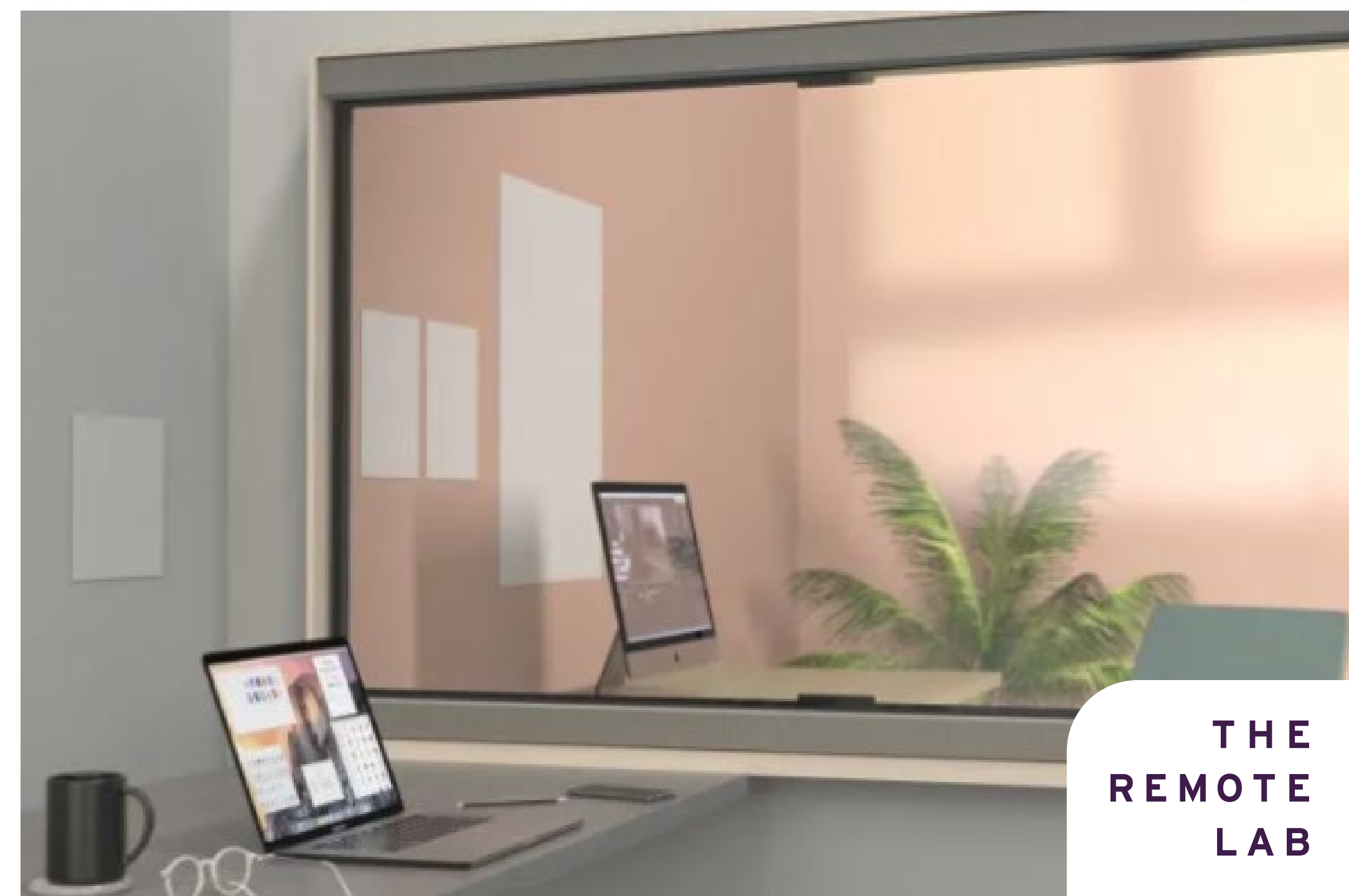


VIRTUAL AND REAL WORK-SPACES ARE BLENDING

WHAT: Design firm Argodesign, based in Austin TX, has created “Square”, a vision for a LCD screen with 4 small cameras that is able to display a realistic 1:1 ration 3D window to give you a sense of looking “into your office” while you’re working from home.

SO WHAT: Companies are raising to create new immersive ways to work remotely and still feel connected to your colleagues.

Argodesign’s display isn’t just for meetings but to give workers a sense that they’re literally sitting next to each other.



CROSS-REALITY WORK SPACES

WHAT: New York based software company, Spatial systems inc, enables meetings and collaborations to take place using AR or VR glasses. The glasses shows holographic 3D images overlayed unto the real world to create an immersive and collaborative blended reality experience.

SO WHAT: Advancements in emerging technologies like holographic rendering, VR/AR headsets, high-speed internet and 5G infrastructure clears the way for software companies like Spatial to scale and create seamless ways to work remotely.



EMBODIED VIRTUAL WORLDS

WHAT: AltspaceVR offer meetups, classes, live shows and more in their elaborate virtual platform. Their software is designed to be used with a VR headset but also support PC desktop mode.

SO WHAT: Embodied computing is the next step of creating fully immersive and virtual experiences accessible anywhere. With 6DoF headsets like Oculus Quest now available commercially for less than US\$400, the cheap hardware is making applications like AlspaceVR scalable.



WORKER WELLBEING

The signals in this cluster represent the health implications of working remotely and how technology plays a role in both harming and helping.

LIFE ON ZOOM REQUIRES NEW MENTAL HEALTH PRACTICES

WHAT: Working remotely means more time on video conferencing tools and the risk of “Zoom fatigue”. Because we move around less, can’t read body language easily and always stare into a screen with talking heads (including a mirror of ourselves) there are a lot of things that distract us from the conversations and leave us tired and disengaged.

SO WHAT: There are multiple ways to help mitigate screen fatigueness. Some apps allow you to blur out your background during video calls to avoid non-relevant visual input that might otherwise be distracting. In the future we’ll develop new literacies in understanding how to use remote work technologies in more optimal ways to minimize distraction and fatigueness.



EYE-CONTACT, MORE IMPORTANT THAN WE MIGHT THINK

WHAT: Dartmouth professor Thalia Wheatley studies the differences between online and face-to-face meetings and have found that communication and interaction doesn't come across as well through technology and that screens are distancing.

SO WHAT: Dr Wheatly's research points to eye contact being a key component for successful communication and with our current technology we don't look at the camera during a video call but rather at the screen, thus people don't actually look each other in the eyes when talking.



ARTIFICIAL EYE CONTACT

WHAT: In the past year Apple has been experimenting with FaceTime Attention Correction, which when enabled helps correct the eyes when video chatting to make it look like you're looking at the camera when you're actually looking at the screen.

SO WHAT: As study's show, eye contact is a key component to building trust and having engaging conversations. With advancements in hardware and software this can now be artificially created.



LONELINESS ON THE RISE

WHAT: In a Cigna report from Jan 2020, 60% of Americans reported feeling lonely and the numbers are highest amongst younger generations. 1 in 5 remote workers also listed loneliness and feeling detached as one of the major challenges when working remote, according to a survey done by Buffer.

SO WHAT: Loneliness amongst remote employees is growing and it is not only bad for an individual's mental health but it also has a huge impact on a person's productivity. In general, lonely people show weaker performance and take twice as many sick days.



PEOPLE STARVING FOR LUNCH DATES

WHAT: Lunchclub.ai helps connect people for 1 on 1 virtual lunches and informal conversations with people you haven't met before. By entering information about your interest areas, work and background its AI based system connects you with matches that fit your interest areas.

SO WHAT: During the pandemic Lunchclub.ai had over 20,000 people that were waitlisted to get on their platform. This indicates a huge importance for people to feel connected and socialize with other human beings, especially during isolation, and can help in our battle against loneliness.



EMPLOYEES WANT TO CONTINUE WORKING REMOTE

WHAT: A survey by Gallup shows that 3 in 5 employees that are currently working remote due to the pandemic would like to continue doing so. People enjoy getting the time back from commuting to and from an office and like the flexibility of being able to do laundry, run errands and pick up kids when it suits them.

SO WHAT: Although there are a lot of concerns about remote work, a majority of people still prefer being flexible and being able to mix up working remote with being able to go into an office when needed.



LONG-TERM WFH EXPANDS COMPANY LIABILITY

WHAT: Many companies are now facing work related injuries taking place at peoples' homes and having to figure out new policies and ways to cover these. Fortum tried to clarify using this scenario: "For example, if an employee drops work documents and injures his/her foot, the case is considered work-related. But, if an employee is injured because he/she trips on the family dog while rushing to answer a work phone call, the case is not considered work-related."

SO WHAT: While there are many cost saving benefits for employers to not having to provide office space there are also a lot of liabilities to support and protect remote workers. Providing furniture, safety and infrastructure for good ergonomic workstations will likely be more costly when not standardized in a central office space



REMOTE WORK OPENS NEW DOORS FOR PEOPLE WITH DISABILITIES

WHAT: People with disabilities have often faced hard uphill battles to find jobs and work they can do. With new working-from-home policies a lot of people with disabilities are now able to seek out job opportunities that previously weren't available to them.

SO WHAT: With the rise of remote work companies are now able to hire people with disabilities allowing for a more diverse and inclusive workforce.



OPERATIONS

The signals in this cluster represent operational challenges and opportunities in data security, performance and the new role of the office space

COMPANIES LEANING INTO “REMOTE-FIRST” AS NORM

WHAT: Coinbase, a cryptocurrency trader, is planning to become a remote-first company post COVID-19 and will shift the way they work to support the majority of roles being remote. The main strategic reasons are to attract talent as well as “de-risk centralizing too much”.

SO WHAT: What companies such as Coinbase noticed was that the move to working remote wasn't as hard as they'd initially thought and that there were a lot of strategic benefits for leaning into the opportunity rather than pushing against it.



coinbase

TWITTER AND FB ALLOWS REMOTE WORK PERMANENTLY

WHAT: Twitter and Facebook have both announced that they will allow employees to continue working remote permanently if they have a role where that's possible. For now they will also keep their office space available and if people want to return when it's safe to do so they're welcome.

SO WHAT: Many companies have realized through the pandemic that it's been possible to keep their businesses going while employees work from home. This will likely mean that they'll eventually downsize or get rid of expensive office space.

HOME CONNECTIVITY LIMITS PRODUCTIVITY

WHAT: A large study done by Aternity compared application performance in different regions across the world and compared the digital experiences that employees had when working remotely. They compared things like how long time it took to open files and run software applications for different industry sectors such as education, retail, finance, tech and healthcare.

SO WHAT: Application performs play an important role in affecting employee productivity. To allow for a remote work environment to be as efficient as being in an office, companies need to invest in new IT solutions.

Emerging technologies such as 5G can play a huge role in assisting these solutions.



WITH IDEAL CONDITIONS WFH INCREASES PRODUCTIVITY

WHAT: A 2015 Stanford study found a “13% increase in productivity and 50% boost in employee retention” when conducting a remote work trial at a Chinese company. To participate in the trial employees had to have their own home office, no kids at home, and had to spend 1 day a week at the office.

SO WHAT: One major reason people have previously been hindered from working remote has been the concern that they aren't working as hard or producing as much when not being supervised at an office. Now data is showing the opposite, that we can in fact work remote and be more productive than working from an office, as long as we have ideal conditions.



INNOVATION SUFFERS WHEN SERENDIPITY IS LIMITED

WHAT: Ola Bergström, professor at Handelshögskolan in Gothenburg, thinks that remote work might kill the serendipitous, spontaneous and creative conversations that happen at offices and thus might hurt innovation in the long run.

SO WHAT: There is no question that remote work brings on both challenges and opportunities. Identifying the losses of not being in a physical office with colleagues will be key to scale remote work effectively and successfully.



PHYSICAL WORKSPACES NEED TO SUPPORT SOCIAL CONNECTIONS

WHAT: Anneli Jansson, CEO at Humlegården, has seen a shift in the role of the office – moving from “workspace” to “meeting place”. She says that the importance of the physical office in the future will be to provide a sense of belonging rather than a place to simply work.

SO WHAT: The office space has taken on a lot of different shapes in the past and we’re once again facing a paradigm shift where the traditional 40h, 9 to 5, work week sitting in a cubicle is being challenged by a new flexible work environment where interaction and conversations is in the center floor plan of any office layout.



OFFICE PERKS TRANSFORMED WHEN PEOPLE WORK REMOTE

WHAT: Twitter, Zynga and Spotify were only a few companies that were quick to pay out \$500-\$1000 for at home equipment to support their employees as they tried to setup at-home offices.

SO WHAT: Many tech companies have relied on perks and fancy office utilities as one way of attracting talent. As remote workers can't utilize many of the promised benefits companies need to figure out how to translate previous perk packages to stay competitive on the market. This will also demand new operational costs and design thinking as money will move from investing in huge office parks into peoples homes.



“EMPLOYEE MONITORING” OR “EMPLOYEE SURVEILLANCE”?

WHAT: High Plains Journal, an agricultural trade paper company HQ'd in Kansas decided to replicate their entire office culture online as lockdowns were enforced. Employees had to create digital avatars and were expected to keep their webcams and microphones on throughout the workday to allow for colleagues to be able to reach them quickly.

SO WHAT: Monitoring software is being enforced by a lot of companies to track web browsing and active work hours to make sure employees keep productivity up as managers can't “see them at the office”. A lot of workers are finding this technology intrusive and stressful as it blurs the lines between work-life-balance.



REMOTE WORK OPENS HUGE CYBERSECURITY ISSUES

WHAT: As Zoom gained exponentially more followers in March and April of 2020 there were a lot of new exposed software issues. Phishing attacks, “Zoom-bombers” and privacy invasions were a few ways people were trolling the video conferencing tool.

SO WHAT: 85% of organizations are anticipating new threats and challenges to their business security because of the risk that comes with remote work. Workers are more exposed outside of the firewalls of an office’s IT systems and a lot of organizations don’t have proper security protocols in place for moving workers remote.





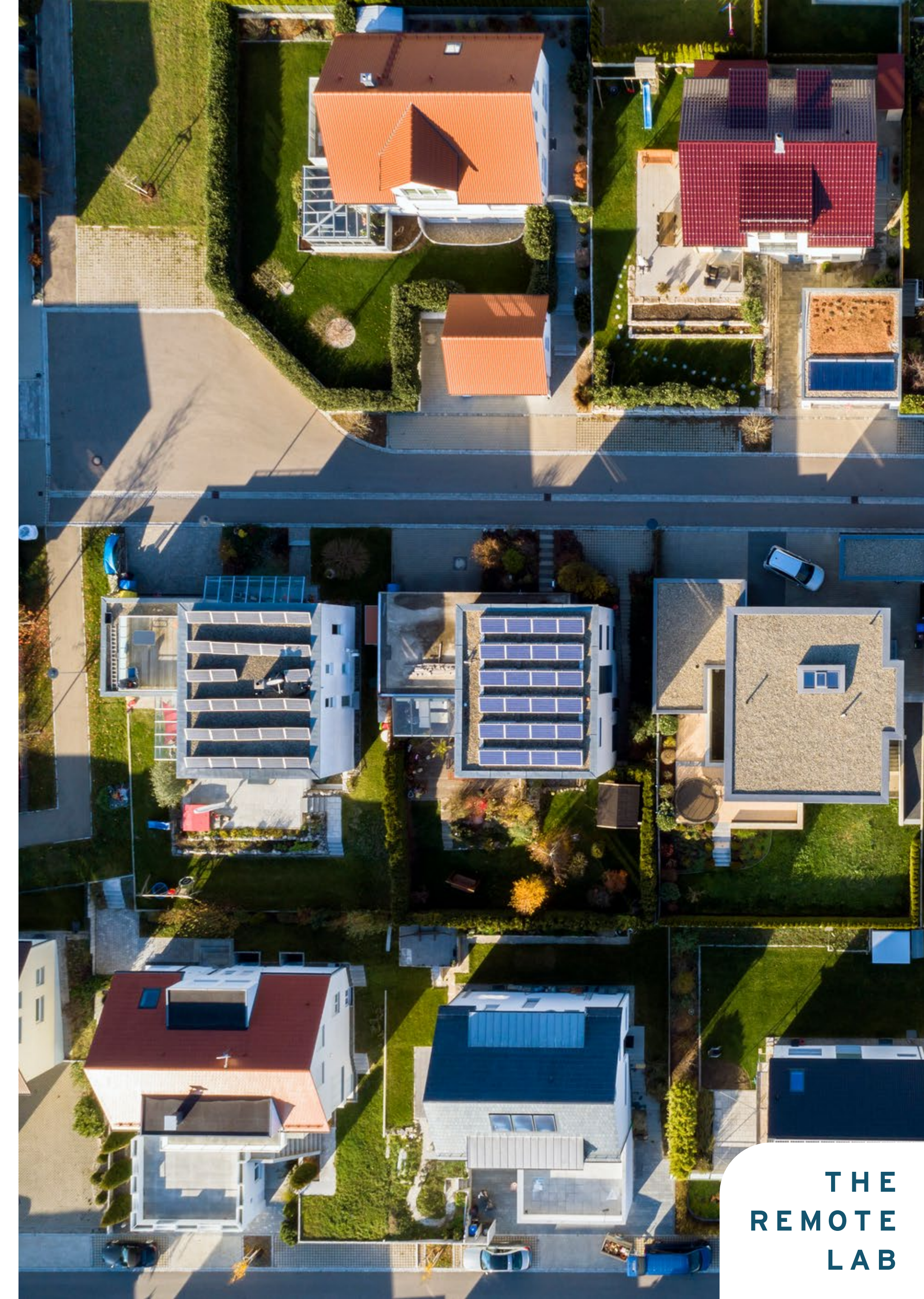
GEOGRAPHICS

The signals in this cluster represent new policies, infrastructural changes and the impact on urban cities.

THE MOVE TO THE SUBURBS

WHAT: A Harris poll survey shows that nearly a third of urban residents are considering moving to less densely populated areas. The numbers are especially high amongst millennials and people living in expensive cities like San Francisco. Realtor.com has seen a 13% jump in searches for suburban zip codes.

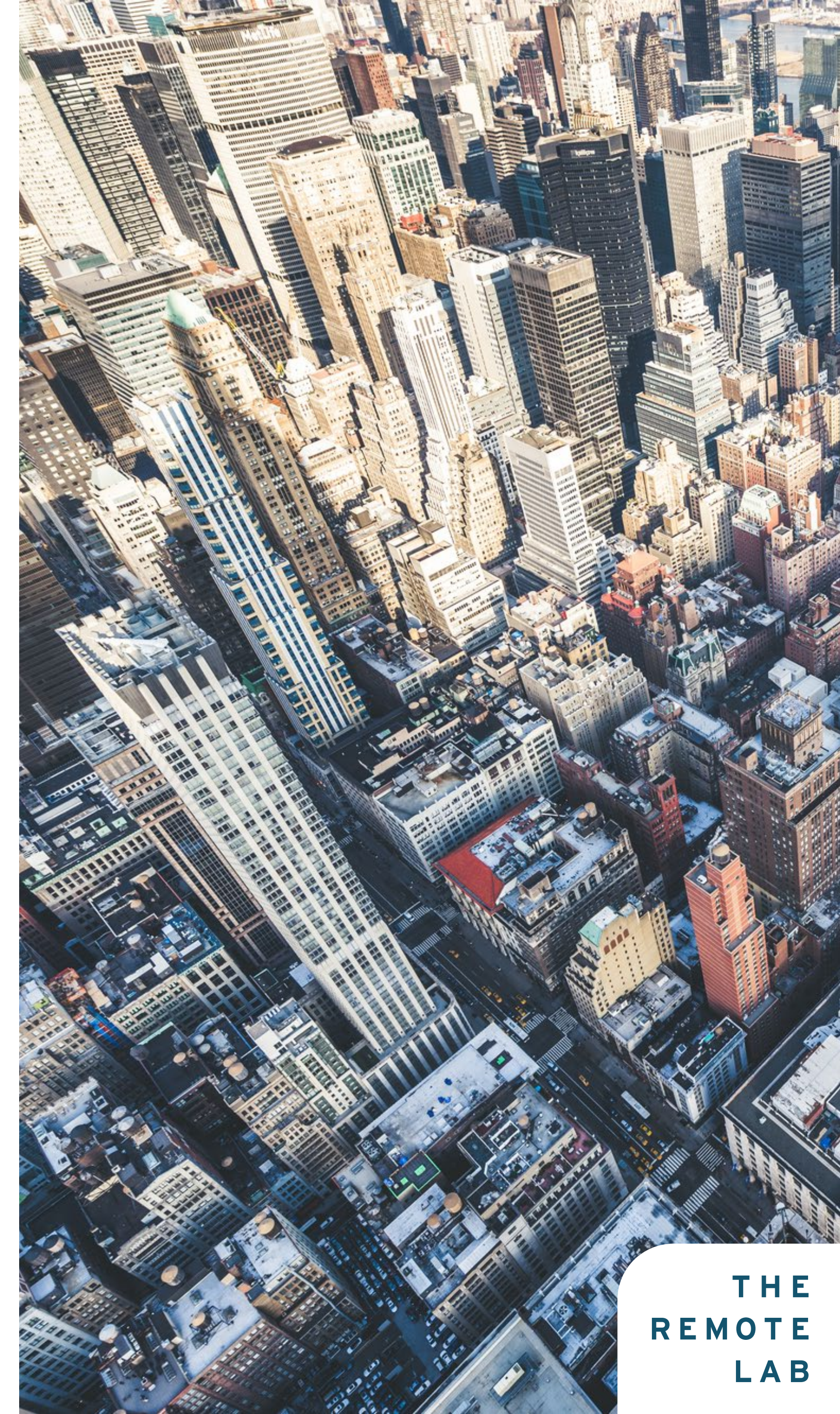
SO WHAT: Younger generations moving away from expensive cities and bringing their jobs with them is not only a reaction to the ongoing pandemic but is a longer underlying direction of change that a lot of cities have already been experiencing.



OFFICE SPACE RENTAL PLUNGES IN EXPENSIVE CITIES

WHAT: Even before the pandemic places like Manhattan were seeing drops in office lease activity and as of April 2020 the numbers were down 62% compared to 2019. Companies are either downsizing or moving to the suburbs.

SO WHAT: As companies move away from expensive cities, the impact on infrastructure and local service jobs are huge. There will be significant and long-lasting effects on restaurants, transportation, retail, real estate and more as the number of customers decreases.



THE FAILURE OF WEWORK

WHAT: WeWork is a real estate company that provides shared workspaces and other services for companies and startups. They were seeing a tremendous growth until 2019 when the company completely collapsed.

SO WHAT: There are multiple theories for why WeWork failed, including poor decision making from the CEO and having a poorly designed business model based on old notions of how work and management is done. In the end they were an over-valued coworking space with lack of imagination.



REMOTE WORKERS MOVING FAR AWAY

WHAT: In July 2020, Barbados began issuing 12 month visas for people to “work-from-home” from the island. The idea behind the visa is to attract people to stay longer and relocate rather than relying on tourism during heightened travel restrictions.

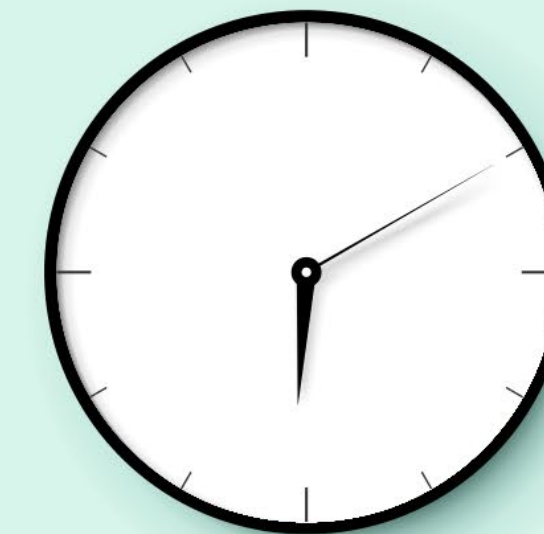
SO WHAT: Barbados is not the only region issuing temporary visas. Georgia and Estonia are two other country that are issuing temporary “Remote Work Visas/Digital Nomad Visas” that allow people to stay for a longer period of time while working for a foreign company or doing freelance work.



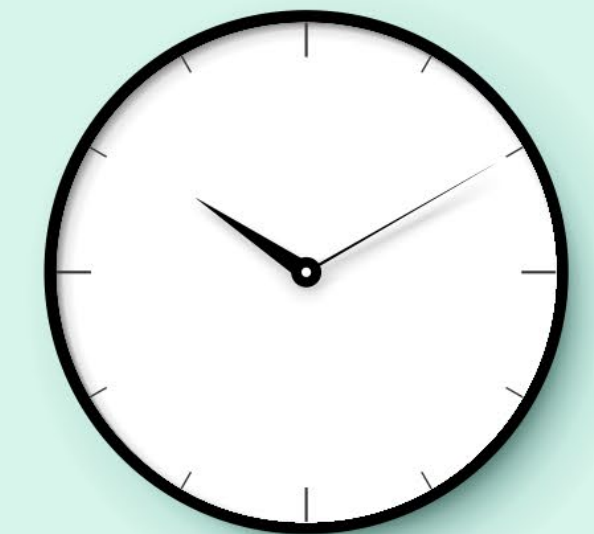
CROSS-TIME WORKFORCE

WHAT: With employees scattered across the world, questions like “when does the work day start?” and “when does it end?” becomes more arbitrary. Employees and employers will need to figure out ways to work efficiently and still allow for a work-life navigation.

SO WHAT: Besides having to find a balance between work and life in different time zones there are many benefits as well. One person can work on tasks and hand off at the end of their workday to be picked up by someone else who just started their day.



NEW YORK



LONDON



BEIJING



TOKYO

REMOTE WORK REDUCES CARBON FOOTPRINT

WHAT: A study by Global Workforce Analytics show that remote work can help reduce greenhouse gas emissions by 54 million tons per year.

SO WHAT: Although we've seen a lot of positive climate impact as people have been sheltering in place and traveling less, the long-term consequences of COVID-19 will likely impact the climate negatively as seen in past economic crisis, wars and pandemics. However, we now have an opportunity to reflect, and rethink how we live and work and use the current pandemic as a disruption for reimagining positive change.

