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Computer Vision
What it is & why it's valuable

Remote work:
From MacGyver to Optimiser

anywhere

Operations
Why decentralising business is the **new strategic priority**

City of Whittlesea
optimises efficiency and **building value** with IOT

Insight.

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Letter From the Editor

Where Do We Go From Here?

For a region of travellers, the past year has been less than adventurous in terms of travel; and yet it has been action-packed as we've all responded and reacted to a global pandemic. In the last 365 days, the greatest exploits may have been confined to homes, communities and countries - and we've all got to know each other a little better given the explosion in digital meetings and global rapid skilling in collaboration platforms, such as Microsoft Teams.

Those days feel like an eternity ago. So, too, does our traditional model of operation. While we may have felt physically confined during this past year, business has been anything but static. We've experienced impressive evolution to the "anywhere" enterprise (page 6). And while the shotgun moves to remote work and restrictive business operations certainly caused injury to the bottom line, the digital-first experiment seems to be paying off. From optimising ad hoc work-from-home solutions (page 52) to modernising operations to enable IT transformation (page 48), organisations are prioritising these initiatives to experience the ROI and competitive advantage of decentralised operations.

Perhaps coming into each other's homes every day has been an adventure in empathy and authenticity? We'll someday (hopefully soon) emerge from COVID-19 to a different world, with new ways of doing things and changed perspectives. We hope this new world will include easier access, stronger collaboration, greater teamwork, and more kindness and understanding. As you know, they are super-powers!

So, where do we go from here? The answer is anywhere — the possibilities are virtually limitless.

Welcome to our first issue of our APAC Tech Journal. Please let us know what you think.

Athena

Athena Thompson
Director Marketing and Strategic Partnerships ,
Insight APAC

Why

Anywhere

Operations

Is a Strategic Trend for 2021

Almost one year after the mass shift to remote work, many of us are wondering, "Where do we go from here?" Rather than focusing on a return-to-work plan, forward-thinking Chief Operating Officers (COOs) are now collaborating with other business units to create a sustainable "anywhere operations" model — and for good reason.

Events of 2020 tested business resilience, digital readiness and virtual collaboration — all cornerstone components of an anywhere operations model.

It's been roughly a year since the rapid shift to what we all believed would be a *temporary* period of working from home. But now that we've had ample time to adjust, adopt new tools and settle into new routines and ways of working, it's clear that traditional ways of operating are a thing of the past.

Gartner coined the new era of work as the "everywhere enterprise" which "describes an organisation that uses technology, team structures, processes, skills, and tools to empower a dispersed workforce, harness a distributed infrastructure and serve a ubiquitous customer base."

Studies have also revealed positive sentiment about remote work is growing — from the individual contributor to the C-suite. A Forrester report found that a little more than half (53%) of workers working from home because of the pandemic would like to continue with some remote work flexibility even after a full return to the workplace. In fact, Forrester predicts, "The number of remote workers at the end of 2021 will be 3x pre-pandemic levels".

So, what does this mean for CEOs, operations officers and other business leaders who are trying to plan for a post-COVID-19 workforce?

You could follow the lead of industry giants like Twitter, Shopify and even Nationwide, who are all embracing a remote-first work policy. Others — and what we expect to be the majority of organisations — are preparing for a hybrid environment, allowing flexibility for both on-site and anywhere-work. Forrester anticipates about 60% of large companies will choose a hybrid workforce strategy.

Whether an organisation is predominantly remote or on-site, anywhere operations is a top technology trend and strategic priority for 2021.

60%

Forrester anticipates **about 60% of large companies** will choose a hybrid workforce strategy.

What is "anywhere operations"?

Anywhere operations creates a decentralised enterprise, enabling better business resiliency and access to a broader talent pool. This means companies can operate at the same scale and effectiveness across a myriad of roles and responsibilities, regardless of geographical location. But make no mistake, anywhere operations isn't the same as work from home. Businesses have to be able to operate from literally anywhere, at any time and in any modality.

A successful anywhere operations strategy should be people-centric and location-independent. As a remote worker, I should be able to hop into an RV and drive around the country and be just as connected and effective in my role as if I were back in the office (permitting I can maintain a high-speed internet connection).

> A successful anywhere operations strategy should be people-centric and location-independent.

Like many other trends in IT, the move to anywhere operations was already growing in adoption and then accelerated by the COVID-19 pandemic. Even as little as 10 years ago, conversations were focused around building a mobility initiative. We had mobile phones and tablets we were starting to work from. This was true for office workers and customer-facing roles, such as retail. Workers needed mobile devices to ingest or take orders. The evolution of mobile-first to support anywhere operations is just as much about customers and the customer experience as it is about employees.

Even organisations ingrained in having resources be 100% on-site to do work will be impacted by anywhere operations. That's because ideas and behaviors have changed. Our new methods of remote collaboration aren't going away. Other clients, vendors and customers you engage with will need digital access to you, whether it's a virtual meeting or via an application, some form of anywhere operations is now a necessity.

Employers understand people want the power of choice to work where, when and even how they want to work. And companies are being driven to bring that experience or that behavior through the employee base. Pardon the pun, but anywhere operations is here, and it's here to stay.

Pardon the pun, but anywhere operations is here, and it's here to stay.

## Top benefits of anywhere operations — and the technology to make it possible

2020 really brought the topic of business continuity to the forefront. The reality is, there are a lot of external forces that can disrupt business to point of close or Disaster Recovery (DR).

Executing with anywhere operations can be a huge leap forward on the journey of business continuity planning and DR, primarily because you've already taken care of a lot of the foundational challenges companies run into, such as enough capacity for people to work from different locations.

In the past, DR was warm or cold or hot. We used words like that to describe assets that were sitting somewhere else to be exercised. You'd have to send auditors out to inspect a data center and dedicate a weekend to spin everything up and see if it's working properly — I've been there, done that.

With anywhere operations, we eliminate that wasted effort because we keep everything operating everywhere, accessible to anyone in any way.

Anywhere operations consists of what I call cloud modalities. These are applications that are running in the cloud now and doing things not from just a traditional enterprise technique, but also have the ability to do that at scale. Operations aren't dependent on one server, one firewall, etc. Instead, it has the right diverse configuration. I always use that word, "diverse" versus "redundant" — there's very important nuance between the two.
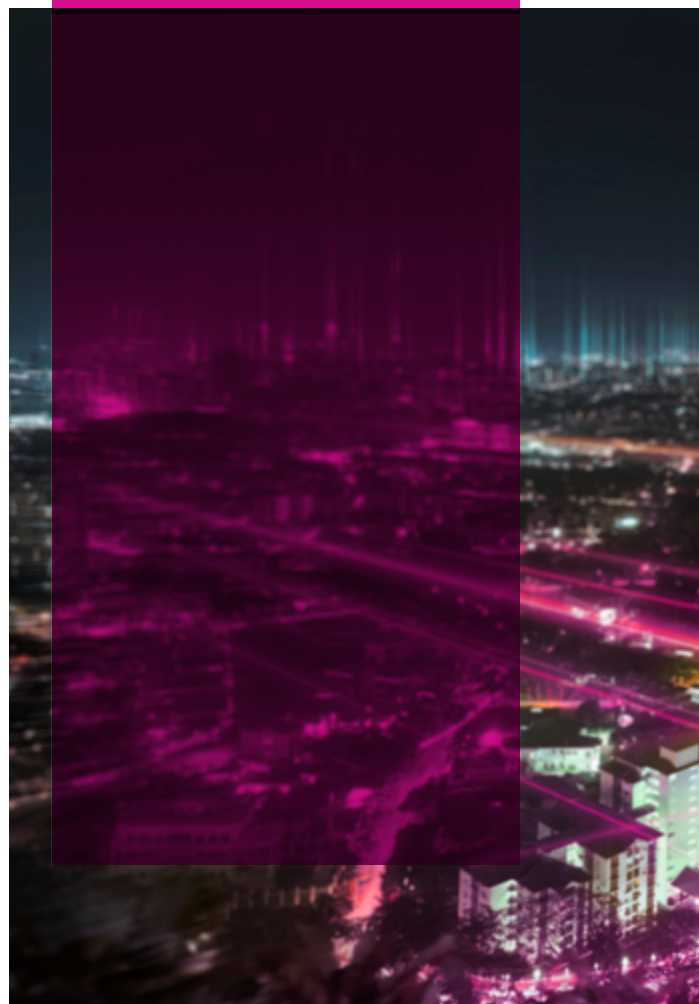
Anywhere operations also means having the ability to run business remotely — a benefit Ignite Brewing Company appreciates. Ignite Brewing Company worked with Insight to implement a Connected Platform solution using sensors, Artificial Intelligence (AI) and thermal cameras. From the convenience of a mobile device, any designated administrator for the brewery can view reporting data and address issues such as elevated refrigeration temperatures in real time.

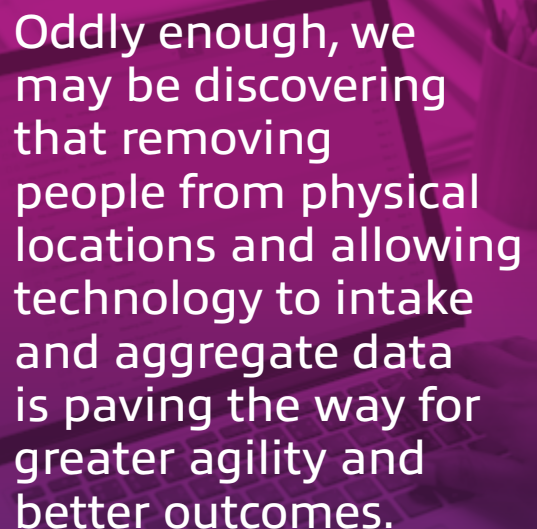Co-owner Michael Chisnell says, "If I can't run the business from my cellphone, I'm not doing something right." I love this because it speaks to another key benefit of anywhere operations — you don't have to be on-site to resolve problems. Oddly enough, we may be discovering that removing people from physical locations and allowing technology to intake and aggregate data is paving the way for greater agility and better outcomes.

Automation is another trending technology that is supporting anywhere-work. By automating workflows, transactions or approvals, companies can accelerate processes while freeing human capital. The transactions are done securely, pulling data through applications (operating from the cloud) so the physical environment is irrelevant.

And of course, a primary benefit for anywhere-work is the anywhere-talent. Companies benefit from an expanded talent pool while workers now have the luxury of moving out of areas with a high cost of living without having to leave their employer. This speaks to the greater benefit of job loyalty and employee choice. Anywhere-work gives employees the power of choice to work wherever and however works best for them — and now you're unlocking human capital potential. I think this will have tremendous impact on

earnings for companies and push them to outperform because now you have the power to attract and retain the right talent to meet the needs and demands of the company.

Oddly enough, we may be discovering that removing people from physical locations and allowing technology to intake and aggregate data is paving the way for greater agility and better outcomes.

What a decentralised enterprise means for IT

I have great compassion for all my peers in the IT security space. It's a lot of hard work, and that was true even before we went remote when the majority of devices, people and data were centralised and within an IT security safety net. With anywhere operations, IT will need to manage cloud infrastructure, application architecture, remote endpoint management, remote IT support and new security aspects.

For example, beyond protecting data, IT must also adopt zero-touch provisioning and support secure asset management to get devices to and from employees while ensuring secure access. These issues might be manageable when you've got maybe less than 20% of your workforce mobile, but it's a different ballgame when you have entire departments working remotely.

Remote IT support is another hurdle many organisations will need to address. Without access to deskside IT support, companies will need to set up self-service tools as well as a virtual IT helpdesk.

To be honest, the work is so complex, I don't think there's a single company that can do it all alone. In a hybrid and anywhere operations environment, the processes for properly

securing and distributing assets at scale, as well as performing lifecycle and disposal of those assets on the tail end of life, all look very different. My best advice to IT directors is to lean on an external IT partner like Insight. Find a true partner who can help craft your IT strategy and manage what your own IT can't or doesn't want to do.

Business leaders must come together before going "anywhere."

Leaders from various business units must come together and collaborate on a cohesive, sustainable strategy. The majority of businesses are through the initial struggle of rapidly enabling remote work operations. From that exercise, organisations now have — for the most part — some of the foundational requirements for anywhere operations: collaboration software, cloud, remote access and other critical remote working solutions.

However, the urgency behind going remote didn't leave much time to create a technology roadmap or solution comparisons. You may have "MacGyvered" together ad hoc solutions and tools. At the time, the consequences of such choices were something organisations could live with. But now with anywhere operations as a strategic priority, it's time to reevaluate and deploy a sustainable model. This could be changes in technology, processes, policy and much more.

As hard as it probably was to make the initial shift to remote operations, creating sustainable operations is also a lot of work. Organisations need to understand it's not just technology at play — there are cultural aspects and policy changes to consider too. Don't underestimate the power of Organisational Change Management (OCM) to accelerate and enhance the anywhere-work experience. Anywhere operations must support a people-first, technology-second work environment. And it has to be framed that way across every aspect of the company to find success.

Acquiring the right devices and assets is the obvious essential, but equally important is organisational change management. Many times, folks like myself, we think about the technology. We spend a lot of time thinking about the ones and zeros, the applications, the networks and the bandwidth, and the latency and the performance. But it's also about behavior, and that behavioral aspect can't be left out of the equation. If you're working with a technology partner on a sustainable anywhere operations strategy, make sure OCM is part of that plan.

I'm very bullish that anywhere operations has a positive accretive impact on a company's bottom line. It's a very exciting future for companies that can make the choice for anywhere operations.

Don't underestimate the power of Organisational Change Management (OCM) to accelerate and enhance the anywhere-work experience.

Go anywhere, supported by end-to-end capabilities and services from Insight.

About the author

Stephen Moss
VP of Mid-Market Sales & Delivery, Insight

Driving IT Transformation With

Modern IT Operations

I t's time to rethink how IT systems are delivered — with the line of business, developers and transformation taking center stage.

While most organisations today agree that IT transformation plays a critical role in ongoing business success and growth, the path to modernisation doesn't always look the same for every enterprise.

At Insight, we believe that modern IT operations — an operating model that supports both on-premises, hybrid and cloud consumption models — lay the groundwork for organisations to successfully innovate, create fresh user experiences, generate new revenue streams and solve new problems.

> "By promoting collaboration between infrastructure and development teams and enacting defined, repeatable and efficient processes for provisioning, deployment and testing, organisations can align DevOps with modern IT operations in a way that prioritises both innovation and governance."

Modern IT operations can take many forms. A recent **MIT survey** found that organisations take different approaches to modern architecture with roughly half deploying APIs, containers or serverless architectures. Despite these differences, there are a few key hallmarks to a **successful modern IT operations** strategy:

- Shifting to hybrid platforms to embrace the cloud, multicloud and DevOps strategies

- Adopting automation, toolsets, monitoring and efficient workflows to optimise the delivery of IT services

- Bridging gaps between internal groups so IT operations can deliver what developers need

- Providing developers with a familiar working experience regardless of the platform on which compute is performed

When organisations make a point of prioritising these specific goals, they experience increased efficiencies, faster time to value, optimised resources and better business agility.

Laying the groundwork for IT transformation

Creating a successful modern IT operations strategy involves a wide range of tactics and focus areas to transform the entire environment, including:

- Automation
- Service design
- DevOps integration
- Cultural transformation

Since automation is foundational, we'll spend the rest of this article exploring its impact on transformation. However, please look out for additional articles in which we discuss the role of service design, DevOps integration and cultural transformation in detail.

Automation and the role of DevOps

At the end of the day, automation should be done not to make IT's job easier, but to make the end user's job easier. As a result, in most organisations, this means making the developer's job easier too, ultimately streamlining operations for the IT department.

Developers have largely flocked to the public cloud because it allows them to be hyper productive and provides tools to support easy innovation. Unfortunately, the public cloud's popularity with developers is part of the reason why the platforms can charge so much for services.

For organisations that want to create a public cloud-like experience for developers in an on-premises context, automation is a key part of the process.

Automation

Although automation isn't a new concept in the IT world, it's receiving renewed attention these days as IT decision-makers leverage the power of automation to save time and money while improving consistency. Replacing manual, human-driven workflows with automated tasks allows businesses to improve complicated, lengthy and error-prone processes — from the cloud, multicloud or on premises.

Additionally, not only does automation free up IT staff and resources to focus on more strategic or high-value initiatives, but it also plays a central role in modernising IT processes, deploying Artificial Intelligence (AI) and robotics, and, perhaps most importantly, establishing robust DevOps.

In addition to automation, achieving this goal requires enterprises to adopt new technologies and platforms that create the familiarity of the public cloud on premises for developers. This means adopting services, such as storage, database, secret management, authentication and others. It also means deploying containerised platforms and orchestration tools, artifact repositories, test and integration facilities, and instrumentation to make sure that DevOps has the visibility it needs.

First and foremost, these changes need to be done with security as the overarching goal. Once security is prioritised, organisations are ready to achieve both the governance and the velocity that's required in today's business landscape.

Before we discuss the importance of balancing governance and innovation, it's worth noting that just because a process in your IT operations can be automated doesn't necessarily mean that it should be. Automation can be resource intensive and, as such, should be used strategically and according to best practices.

Balancing governance and innovation: Speed vs. control

For most businesses, staying competitive means being innovative and agile, as well as streamlining IT operations to keep up with development. Unfortunately, organisations often sacrifice governance and control for speed and innovation.

By promoting collaboration between infrastructure and development teams — and enacting defined, repeatable and efficient processes for provisioning, deployment and testing — organisations can align DevOps with modern IT operations in a way that prioritises both innovation and governance.

Finally, considering the purpose and value of new technologies offers businesses an opportunity to sharpen their modern IT operations strategy.

For some organisations, this might mean embracing a container strategy. For others, exploring solutions like unikernels, Kubernetes or virtualised infrastructure can support modernisation goals.

As always, careful consideration of workloads and their parameters should undergird any decision about deploying new technologies.

At the end of the day, adopting modern IT operations enables businesses to achieve a proper balance between governance and innovation — driving digital transformation without causing breaches, cost overruns or other problems down the line.

For more information on how Insight Cloud + Data Center Transformation can help your organisation modernise your IT infrastructure in a way that supports digital transformation and developer needs, **reach out to our experts.** We can help you start laying the foundation for long-term, successful IT modernisation.

About the author

Juan Orlandini
Chief Architect for Cloud + Data Center Transformation, Insight

Is Your **Cybersecurity Strategy Relevant** in the Work-From-Home Era?

Cybersecurity should always be front-of-mind for businesses big and small across every industry, yet the global remote work transition may have shifted focus and priorities. While new challenges require your IT team's resources, it's important to continue following security best practices. Explore how your business can stay secure in today's environment.

For many years, working from home had largely been optional until the COVID-19 pandemic. What was once an aide to increasing flexibility and productivity is now a necessity to ensuring business continuity and employee health.

This rapid remote work adoption has delivered many new realities to organisations. Businesses first had to focus on equipping employees with devices so they could get back to work.

With the security perimeter extending to hundreds of insecure remote locations, it's more important than ever to implement or reinforce good endpoint hygiene practices.

This meant **rethinking the IT** lifecycle by transitioning to cloud-based provisioning or virtual desktop infrastructure — or deploying new systems and expanding access methods for displaced employees.

The result had a major impact on the security perimeter — shifting it from the four walls within on-premises locations to various endpoints and changing the mechanisms by which data is controlled and security measures are implemented.

Today's new security reality

Your data is no longer safely within the four walls of your physical office space. For some, this isn't a new concept, but many organisations are doing this at a scale they've never reached before.

Throughout my decades-long career in security, I've come across organisations that call their security posture good enough after deploying anti-virus software and a firewall, while others deploy complex and costly defense strategies. As situations change, it's important to review and ensure that security controls are appropriately aligned with current needs.

32%

experienced an increase in cybersecurity attacks.

The threat landscape

The ISACA, an international IT governance association, surveys its global members to reveal security trends each year. The 2020 annual report showed that 32% of its respondents experienced an increase in cybersecurity attacks. The top three threat actors include cybercriminals, hackers and malicious insiders, with the top three attack types consisting of social engineering, advanced persistent threat and ransomware.

Providing the right instruction

Although critical, deploying security solutions isn't the only way to protect your business from cyberattacks. Phishing — fraudulent attempts that try to gain information or access to your environment through email and social engineering — is a common tactic that too often works. Phishing is an effective tool because it can easily circumnavigate your existing security measures.

A successful phishing scheme will lock your system with ransomware, or the cybercriminal will walk away with personal and financial data. The result could go beyond monetary damages and harm your reputation among customers and employees. Prevention is best approached by training your staff on how to identify and avoid phishing attacks. You'll want to provide security training to staff on a regular basis so that the best practices are fresh in their minds, but not so often that they drown out the information. Providing training every six to 12 months is seen as an effective cadence.

With the security perimeter extending to hundreds of insecure remote locations, it's more important than ever to implement or reinforce good endpoint hygiene practices.

That means leveraging endpoint and user-focused solutions, such as:

- Multi-factor authentication to positively attest user identification

- Disc and data encryption to secure company information at rest

- Remote wipe tools for devices that are lost or stolen

- Virtual private networks to safeguard communications

- Limited remote access gateways that enforce least privilege user access

- Email gateway security tools to prevent phishing scams

- Enhanced endpoint detection and response capabilities to rapidly identify and prevent threats to an endpoint

- Modern monitoring and correlation tools for anomaly detection

Integrating these solutions into an environment might not be possible due to budget or resource limitations, so work with a security partner who can help ensure the successful adoption of the right mix of solutions.

Get help from an expert.

There are many solutions your business can adopt to safeguard its IT systems and data — as well as different price points and capability mixes to consider. This makes it important to work with a partner to find the best-fit solution.

As a security consultant, I work closely with clients to understand their business objectives and how IT supports those goals, so I can direct them to the best solution available. When the client effectively secures their environment while reducing complexity and management burdens, I'm successful in doing my job.

It's critical to stay up to date on the latest IT trends, especially as they relate to cybersecurity best practices.

Cybercrime represents an evolving security threat, whether the data perimeter encompasses remote or on-premises locations. You need to work with a partner who can help you manage, monitor and defend against the threats that exist today and well into the future It's increasingly looking like having a mix of work-from-home and on-site staff will be a norm well into the future, thanks to the many productivity and cost benefits business leaders are seeing. Therefore, it's critical to stay up to date on the latest IT trends, especially as they relate to cybersecurity best practices.

One of the best steps you can take is to identify a trusted security partner who can help you navigate today and tomorrow's security challenges. As we've learned through these times, staying vigilant and prepared is one of the best ways to ensure safety.

At Insight, we have a full-service security team that can help clients navigate the many solutions and services options available. We provide policy direction, vulnerability and penetration testing, audits, incident response, managed services and more to accomplish that aim.

Extend your IT team's security capabilities. Together, we'll help you find the right solutions to defend against cyberthreats.

About the author

Michael Perreault
Senior Security Solutions Architect for Cloud + Data Center Transformation, Insight

From
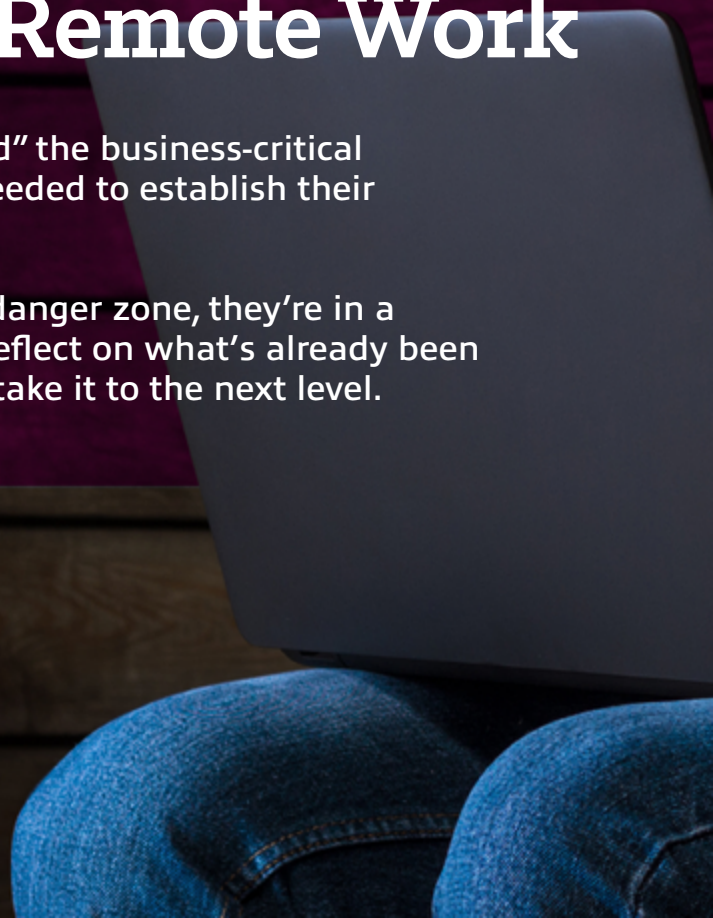# MacGyver to
Optimiser

How to Secure and Enhance Your Ad Hoc Remote Work

Many companies "MacGyvered" the business-critical systems and applications needed to establish their remote workforces in 2020.

Now, having made it through the danger zone, they're in a unique position to take a breath, reflect on what's already been implemented and explore how to take it to the next level.

In early 2020, the pandemic forced IT leaders around the world to take on the role of MacGyver — crafting solutions to the remote work dilemma with little more than a Swiss Army knife and duct tape. Okay, maybe they weren't limited to a Swiss Army knife and duct tape, but most IT leaders had to quickly pool resources and adopt new technologies to enable remote work practically overnight.

Now, having achieved remote work enablement, many IT leaders are taking the opportunity to revisit how they did it. Whether it's security, remote management, collaboration or cost optimisation, there are plenty of opportunities to optimise the MacGyvered solutions we all rolled out in 2020.

In this article, we'll share our thoughts and advice on how to make the most of your recent IT investments, while also shoring up any gaps in security or the end-user experience.

Reflect, refine and reengage.

Your optimisation journey should ideally start with reflection. Ask yourself the following questions:

1. What new technologies or processes did we roll out in the rush to enable remote work?

2. Were they the best fit for the business or just the most convenient at the time?

3. Did we correctly deploy and implement the new technology?

4. Are end users using the new technology correctly and to the fullest?

5. Should we be concerned about potential security gaps?

After reflecting on how you got to where you are, your next step is to identify how you can refine what you've already built and reengage your end users. While the pandemic may have forced your organisation to move to the cloud faster than expected, you now have an incredible opportunity to realise the full potential of the cloud.

Start by closing out any technology trials.

When forced to MacGyver a remote work solution, most organisations implemented whatever was convenient or economical at the time. For example, many of our clients jumped on the free trials offered by some of our collaboration partners (Microsoft Teams, Cisco Webex and Zoom).

Now that most of these trials have expired, IT leaders are having to make their next move. While some are converting their trials into

The trials served as a short-term solution to the problem of remote communication, buying companies more time to figure out their long-term plans.

paid subscriptions, others are moving to their preferred collaboration platform. If you're nearing the end of a trial, make sure you've considered your options and solidified your go-forward plan.

Decide what's next for cloud collaboration.

Even if you've already landed your preferred cloud collaboration solution, that doesn't mean you can set it and forget it. A return to the office could be on the horizon, which means you may need to decide what collaboration will look like for a hybrid workforce.

We've already seen this with some of our clients who rolled out Microsoft Teams for remote collaboration, though they previously used Cisco in the office. Now they have to

decide whether to adapt Microsoft Teams for use within the office, make the switch back to Cisco or perhaps combine the two.

Evaluate end-user adoption.

A critical component of any new technology rollout is always change management and end-user education. However, IT leaders had to skip this step to prioritise business continuity. At the end of the day, companies did get their users working, but most don't know how to use all the features available to them.

For instance, with Microsoft Teams we've found that most people are only using the platform for meetings and chat — they've barely scratched the surface of everything they could be doing with Teams. Organisations pay for advanced functionality, but since no one knows how to use it, the investment is wasted.

Even before the pandemic, so few organisations were getting the full value from their IT investments that we created a solution around Managed Adoption. This offering helps our clients understand all the capabilities of a given platform, as well as the benefits users could achieve by fully adopting the product. We'd urge you to check it out if you're struggling with end-user adoption.

Identify potential security gaps.

The "MacGyver syndrome" can be particularly dangerous when it comes to any cloud solutions tied to identities and data access.

Any weakness in permissions or password management could easily lead to a serious security breach.

Unfortunately, IT leaders were so focused on business continuity that security often took a back seat in the transition to remote work. In a recent **Netwrix report**, an alarming 85% of Chief Information Security Officers (CISOs) admitted they sacrificed cybersecurity to enable employees to work remotely; 63% also reported an increase in the frequency of cyberattacks since the pandemic began.

Security stats

60% of CISOs found new security gaps as a result of the transition to remote work.

58% reported employees ignoring cybersecurity policies and guidelines.

54% said they lack the visibility needed to ensure proper data protection.

48% reported phishing attacks within the first three months of the pandemic.

At this point, it's critical to identify any security vulnerabilities your team may have missed while rushing to cloud-enable the business. In an **interview with TechRepublic** Michael Raggo, cloud security expert at CloudKnox, had this to say: "One of the systemic issues we've seen in organisations that have been breached recently are a vast amount of over-permissioned identities accessing cloud infrastructure and gaining access to business-critical resources and confidential data."

Take this opportunity to not only look for weaknesses in your network security or Virtual Private Network (VPN) architecture, but also your user permissions. Over-permissioning your users is no different than leaving a skeleton key on the table for anyone to access anything. As Raggo advises, these times necessitate "adhering to the principle of least privilege, leveraging a continuous, automated and data-driven approach using activity-based authorisation."

Prepare for a new threat and compliance landscape.

The world is becoming more connected and data is easier to access. This is great for your end users, but can also lead to more security vulnerabilities. That's why it's vital to think differently about security. At Insight, we're focused on starting security at the door — and the door is the identity. While endpoint protection will always be important, it's even more important to secure user identities through things like Multi-factor Authentication (MFA) and Single Sign-On (SSO). This, combined with intentional user permissioning and data classification will create a strong security posture for your organisation.

In the same TechRepublic article we referenced earlier, Jason Rader, national director of network and cloud security at Insight, explores what it means to protect at the door: "Identifying your users, ensuring they're who they say they are and controlling the resources they're permitted to access have always been important. With this year's rise in remote workers, it's time to revisit ways to gain more control and analysis out of this effort."

Security isn't just about your systems either, it also extends to your people and your culture. You have to create a culture where your users know how to access data securely and how to avoid phishing schemes. In one **Forbes article**, Insight CEO, Ken Lamneck advocates for security education, saying: "Security awareness programs, such as sending periodic fake phishing emails to educate employees about different phishing techniques, can be
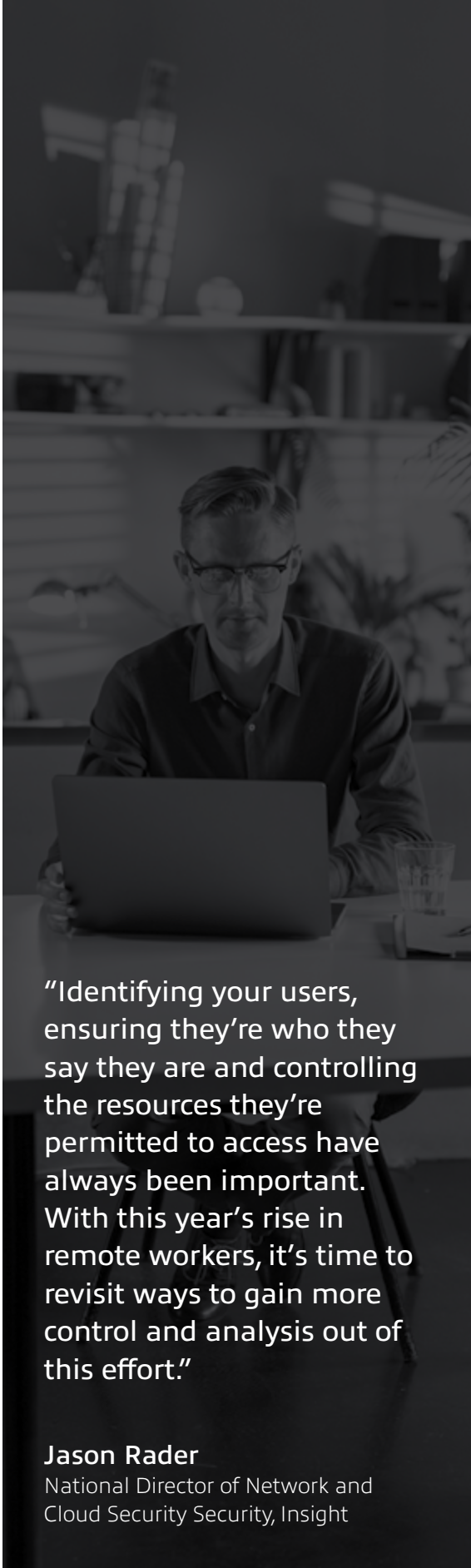
"Identifying your users, ensuring they're who they say they are and controlling the resources they're permitted to access have always been important. With this year's rise in remote workers, it's time to revisit ways to gain more control and analysis out of this effort."

Jason Rader
National Director of Network and Cloud Security Security, Insight

an important line of defense against bad actors targeting your remote workforce."

Finally, you'll also need to address new compliance regulations, including the California Consumer Privacy Act (CCPA), Cybersecurity Maturity Model Certification (CMMC) and the General Data Protection Regulation (GDPR). Consider now whether you have enough visibility into your security stack to remain compliant with these and other upcoming regulations.

Security is always going to be at the danger zone — it has to remain a top priority moving forward.

But, having said that, there's opportunity now for IT leaders to reflect on how they really want the business to run. Will you continue to let all employees work from home? Will you create a hybrid environment? Or do you expect your workforce to return to the office fulltime?

Almost every organisation experienced some form of the MacGyver syndrome in 2020. **Discover how we helped one client conquer their "MacGyver moment" in this case study**.

About the authors

Dena Colombo
Senior Manager, Collaboration & Connectivity Domain for Connected Workforce, Insight

Joe Flynn
Director of Technical Architecture for Connected Workforce, Insight

Azure Sentinel Foundations

Gain control and visibility of your entire IT security environment

The proliferation of platforms, data, users and mobility is creating new challenges for security teams. Visibility and manageability are hard to attain, let alone staying on top of endless alerts and tool updates.

Azure Sentinel lets you combine and analyse security data from all your users, endpoints and infrastructure to make threat protection smarter and faster.

HOW WE HELP

Insight's Azure Sentinel Foundations offers expert-led workshops that combine training and assessment of your security envrionment.

Centered around best practices for cloud and security, this engagement familiarise your team with new technology and provide you with a working environment you can begin using right away.

BENEFITS

- Collect security data across your enterprise
- Detect threat with vast threat intelligence
- Respond rapidly and automate protection

COLLECT
Security data across your enterprise

Azure Sentinel
Cloud-native SIEM+SOAR

DETECT
Threats with vast threat intelligence

INVESTIGATE
Critical incidents guided by AI

RESPOND
Rapidly and automate protection
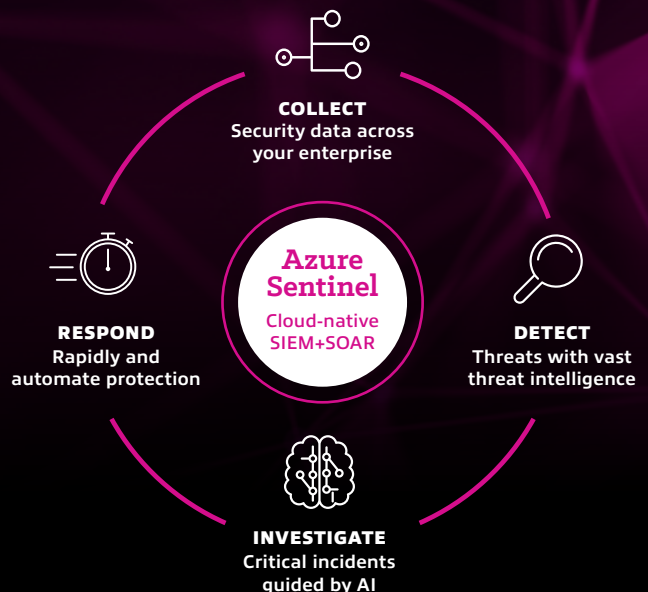
Learn more about Insight's Azure Sentinel Foundations

Insight

Modernising Infrastructure to **Bridge** the **Digital Divide**

Today's workplaces and educational institutions depend on technology to provide economic and learning opportunities. Yet, many communities and homes lack reliable internet access, creating a digital divide that prevents individuals and businesses from adapting to economic and social change.

The early months of the COVID-19 pandemic brought the widespread impact of the digital divide on business and economic opportunity into sharp focus. As organisations and school systems rushed to set up remote work and distance learning, communities and households without Wi-Fi and internet access were in danger of being left behind.

For example, even prior to the pandemic, a western U.S. city knew that it wanted to improve secure connectivity and deploy next-generation technology. However, after $3.5 million in funding from the CARES Act was given to the city, the conversation quickly shifted to making broadband access available to residents as a means of bridging the digital divide.

As Collin Boyce, **CIO and CTO of the city**, explains, "The idea was, how can we do something to benefit the citizens and ultimately benefit the city as well where it can fit into a broader communication strategy?"

Secure connectivity to ensure education and economic opportunity

Like any major IT undertaking, modernising infrastructure to close the digital divide is a complex task requiring a sound strategy for success. For a city looking to extend the availability of public broadband access in a large number of underserved communities, the challenges were especially steep.

Modernising hyperscale infrastructure represents a critical component of this venture — and an area of deep experience for Insight Cloud + Data Center Transformation. In fact, we often partner with businesses and municipalities to modernise infrastructure, improve access, and establish secure connectivity for employees and citizens alike.

To create a successful roadmap, our team leveraged in-house skills and strategic partnerships to develop and test a full-scale design, installation and services package for a turnkey broadband network that can scale to nearly any scope or user count.

Our detailed approach includes planning, design, electrical remediation services, tower construction, and installation phases to accelerate agreement and project execution.

Since the city put out a request for proposals that required responses to include all solutions rolled into a single contract with final pricing and single-point accountability, we drew on our long-standing relationship with Connected Workforce, Insight's division focused on helping organisations create a cloud-first, mobile-first, next-generation workplace. We also worked with Tilson Technology, JMA Wireless, Sierra Wireless and Geoverse to win the bid for this large-scale, time-sensitive project against several leading competitors.

> "Like any major IT undertaking, modernising infrastructure to close the digital divide is a complex task requiring a sound strategy for success."

Furthermore, with extensive due diligence completed and a clear roadmap for execution, we installed 50% of the proposed cell sites within the first 30–45 days of the project.

The result? Reliable internet access for thousands of city residents and a much narrower digital divide.

Creating smart cities

Secure connectivity for citizens is only one facet of closing the digital divide, however. As Boyce explains, the issue is more like "a three-legged stool" with connectivity, training and devices each representing a component. "Finding solutions to all these issues requires partnership," says Boyce.

"While we may not be able to drive all of the solutions, we want to be part of that conversation and to help in partnership with the players that we have today"

- Collin Boyce

Now that the residents can connect to each other and to economic and educational resources via public broadband services, the city's role in addressing the digital divide has evolved. "While we may not be able to drive all of the solutions, we want to be part of that conversation and to help in partnership with the players that we have today," explains Boyce.

Today, the city is looking ahead to deploying new technology including the Internet of Things (IoT) to create a smart city that better provides residents with a higher quality of life — and businesses with a hospitable and sustainable environment.

Our detailed approach includes planning, design, electrical remediation services, tower construction, and installation phases to accelerate agreement and project execution.

Creating access to public broadband is only the first step in creating a smart city that eliminates the technological gaps between residents and makes the community attractive to new business and development opportunities. The same technologies that create the foundation for a smart city initiative can also be used to address complex enterprise challenges faced by construction, mining, logistics, healthcare and many other industries.

Insight Cloud + Data Center Transformation can help your organisation or community bridge the digital divide. **Please get in touch with one of our experts to learn more.**

About the author
Jeremy Nelson
Director of Services for Cloud + Data Center Transformation, Insight

City of Whittlesea floods data platform with IoT information, **optimising efficiency** and **building value**

The City of Whittlesea (CoW) is one of Australia's fastest growing municipalities with around 220,000 residents spread across 490 square kilometres, stretching from Melbourne's northern suburbs out to its more rural fringe.

CoW is undertaking an Internet of things (IoT) driven digital transformation that promises to radically change the sorts of services that the council can provide, and the value it delivers for residents.

Hans Wolf, chief information officer for CoW, says that what he wanted to foster was a data collection and analytical capability that would help improve decision making across the council – both simple process related decision making and longer-term strategic planning.

Wolf wanted to support the Council with accurate data. "That's where the concept of this IoT and sensors came from. If we were going to invest in a park and a playground, what was the patronage before that playground went in, and what was the patronage after? How do we prove that it was successful in attracting people to the park? "It was to make sure that we're getting the best bang for buck that we possibly could with what we had."

Smart Cities Network

After securing a Smart Cities grant from the Federal Government, the City of Whittlesea worked with RMIT, La Trobe University and Minnovation Technologies to develop a solution that has also been rolled out across Moreland City Council, Banyule City Council, Mitchell Shire Council and Nillumbik Shire Council which share in both its cost and benefit.

The Northern Melbourne Smart Cities Network leverages a LoRaWAN network that allows data, initially from five different types of sensors, to be collected. These first five sensor types are for people counting, air quality and environmental factors monitoring, water level monitoring, waste management collection and asset tracking.

Working with Microsoft partner Insight, CoW then designed a system that collects and stores that data in an Azure based data platform where it can be explored by Council staff using Power BI.

George Ibrahim, head of business insights and analytics at CoW has led the initiative to introduce self-service analytics and set up the data platform.

"You can see people activity in some of our shopping strips. And then you can see the people activity completely fall away. It's nice to be able to share that with the local traders, so they can get an understanding of when things are coming back up again from a pure data perspective."

Innovation acceleration

The transparency that the IoT network and data platform are providing is leading to rising demand across council to deploy new sorts of sensors – for example to monitor feral animals, to check whether newly installed bird-boxes are actually being used by birds, and to track noise levels in specific areas where there have been resident complaints.

Inside Council the opportunity to investigate the data using Power BI has been widely embraced says Ibrahim, with around 40 people now trained to use the system.

Previously a report might take two or three days to find the data and generate a report. Now reporting is increasingly self-service and based on up to the minute data.

It's not just reporting that is being streamlined – Wolf is working toward increased process automation across Council.

"The ultimate goal is we genuinely want a sensor to trigger a job. So we don't want the community to tell us there's a pothole on a road, we want a sensor to know it before the community even notices. We think that's genuinely the best customer service we can provide, knowing about things and fixing things before anyone notices."

"What this allows us to do is bring in our data into our own environment, which is shared. It allows us to bring that data in, in a raw format and curate that data and split it in between each council and then transform that data using the Azure functionalities into our data warehouse, and then individually into data smarts for each person to actually use, or each council to use. And each database administrator is basically the owner of their database. And if they want to share their data with anybody else, they can, if they don't want to, they don't have to. So it was just an easy environment to set up and maintain."

The system was completed in June 2020 – so much of the recent sensor data reflects how parks or assets have been used during Victoria's lockdown. As the State emerges from lockdown it will be possible to use data to assess how people's activities are changing.

According to Wolf; "We'll have the trends of what things were happening during the COVID period and what it was like outside of a COVID period.

City of Whittlesea (CoW) recently won the Smart City Achievement award at the **MAV Technology Awards.**

The Power of **Mixed Reality** to Support the **Future of Work**

How mixed reality technologies, such as Microsoft HoloLens 2, are providing an innovative and increasingly accessible path for employees to work smarter — from anywhere

It's no secret the past year has changed the way modern organisations operate, from embracing remote work to broadening the lens on employee safety. But while the catalyst behind these shifts may be reaching a long-awaited end, it's clear the momentum has driven us forward into a new era of work enabled by technology.

According to **Gartner**, more than two-thirds of CFOs (74%) plan to permanently shift a percentage of their employees to permanent remote work even after the COVID-19 crisis ends. This trend is largely attributed to greater productivity and lower operating costs associated with a remote or hybrid workforce.

But supporting productivity, collaboration and even training in this new era of work comes with new challenges which aren't always easily solved through traditional technology platforms. As organisations learn to adapt to these new realities, Augmented Reality (AR) and Virtual Reality (VR) solutions provide a valuable and engaging alternative — giving employees new levels of access to work environments, customers and one another.

Applications for AR/VR

A 2020 survey commissioned by Grid Raster found that 56% of businesses had implemented some form of mobile AR or VR technology, with an additional 35% considering opportunities for implementation. In the past year, spending on mixed reality solutions is estimated to have increased across retail, manufacturing and even government agencies.

By connecting workers with enhanced access to their environment, AR and VR solutions are equipping these organisations to solve complex problems in innovative ways — from providing more effective training programs to supporting employee safety and improving collaboration.

According to the survey, top applications for AR and VR currently include:

60% virtual or augmented labor on production floors

53% virtual customer visits

53% virtual product design and engineering

23% virtual or augmented employee training

One of the key benefits of virtual reality is the ability to provide simulated training for high-risk tasks, particularly those in the fields of healthcare, manufacturing and energy. However, augmented reality can be used to support the execution of these tasks in real time. Augmenting the user's field of vision with alerts, points of focus or even step-by-step reminders can simplify complex decision-making and reduce instances of human error. Finally, when it comes to the future of work, one of the simplest, but most powerful applications for mixed reality is collaboration. Providing a virtual workspace for employees and even customers to gather "face to face" can streamline communication, improve understandings and provide a sense of community beyond what's possible with standard video conferencing platforms.

Microsoft HoloLens 2: Features and benefits

Among the most widely known and widely adopted AR/VR devices on the market today is HoloLens 2. Launched in November of 2019, Microsoft's response to the increased demand for mainstream mixed reality provides a uniquely accessible point of entry for modern organisations. The standalone headset boasts a user-friendly holographic interface, audio guidance and a range of other built-in capabilities designed to help users make the most of the technology from day one.

Voice command capabilities equip employees to keep their hands on their work while keeping useful information in sight, a function which has extremely valuable applications in healthcare and medicine, engineering and design, as well as military training and other sectors. Last year, Lockheed Martin announced HoloLens 2 was being used to support the production of NASA's Orion spacecraft. The headsets provided audio and visual guidance to users performing high-precision manufacturing work, allowing employees to complete repetitive tasks up to 90% faster and all but eliminating assembly errors.

With Microsoft Teams and Dynamics 365 Remote Assist, HoloLens 2 also provides opportunities for hands-free remote assistance. In the medical field, this enables doctors to perform a procedure on a patient, while other specialists provide guidance or analysis through a live video feed — from anywhere in the world. Throughout the COVID-19 pandemic, this functionality proved extremely valuable to organisations like Imperial College Healthcare NHS Trust. Using HoloLens 2 allowed consulting physicians and surgeons to support front-line workers while reducing exposure to high-risk individuals and even helped to conserve limited Personal Protective Equipment (PPE).

Furthermore, as modern organisations become more distributed and concerns over cybersecurity continue to grow, HoloLens 2 provides peace of mind with built-in, enterprise-grade security. An end-to-end framework safeguards data and protects privacy while enabling communication and collaboration across the globe.

Equipped with these features, HoloLens 2 has helped leading organisations achieve impressive gains in operational efficiency:

30% improvement in assembly time

50% store footprint reduction

80% design validation time reduction

85% reduction in overall training time

90% greater accuracy on service repair tasks

97% reduction in time to information

Dynamics 365 Remote Assist and Guides

As previously mentioned, Dynamics 365 Remote Assist empowers teammates to work together to solve complex problems in real time without requiring them to be in the same physical location. For businesses looking to eliminate unnecessary travel, and reduce risks, costs or delays related to in-person meetings, this provides workers with all the benefits and capabilities of on-site collaboration without the hassle.

Remote Assist combines live video, one-on-one or group calling, high-resolution snapshots and screenshots, and mixed reality annotations, allowing employees to share real-time views with remote collaborators while remaining safely distanced and hands free.

For those looking to adopt a modern approach to on-the-job training or improve worker productivity, Dynamics 365 Guides creates dynamic instructions and step-by-step walkthroughs for employees to

access within an organisational workflow. The mixed reality application allows operators to draw from visual instructions as needed. These virtual guides can include images, videos and three-dimensional models. Best of all, they don't require any coding or specialised programming skills to create. Guides even allows operators to control the interface with their gaze, using eye motions to move to the next step, leaving hands free and enabling workers to easily manipulate equipment and tools. The result? A comfortable and intuitive training experience that reduces mental processing time, errors and the need for live, in-person supervision of training.

Visualising the future

Across industries, it's clear we're only beginning to scratch the surface of what's possible with augmented and virtual reality. Beyond existing applications, new use cases are emerging from entertainment and tourism to asset management, mental health and even emergency response services. As you begin to consider the role this technology may play in the future of your organisation, you'll need to think beyond basic device acquisition to develop a true AR/VR strategy. An experienced partner will be able to guide you through procurement, implementation, adoption and training to maximise the value of your investment.

Get in touch with an expert to learn how Insight can help your enterprise get started with HoloLens 2.

About the author

Matt Fedorovich
National Lead, Immersive Technology, Insight

The Value of Computer Vision:

More Than Meets the Eye

How image processing and the intelligent edge are transforming operations and adding value across key industries

Humans are highly visual creatures. We gather the vast majority of information about our environments, our daily tasks and each other through visual perception. In fact, sight is so critical to our experience that nearly half the human brain is directly or indirectly involved in visual processing.

As a result, much of the world we've created for ourselves — the work we do and the obstacles we face — depends on some form of visual input. As we increasingly look to Artificial Intelligence (AI) to help solve a range of real-world challenges, this means computer vision will, by necessity, have a significant role to play.

The 2020 McKinsey Global Survey on artificial intelligence reveals **50% of companies have now adopted AI in at least one business function,** with the greatest number of use cases targeted toward product or service development, and optimising operations.

What is computer vision?

In the simplest terms, Computer Vision (CV), or machine vision, refers to the use of machine learning to analyse, understand and respond to digital images or videos. Applying deep learning algorithms to input from cameras allows visual information to be converted into data that can be processed and evaluated for patterns. By analysing a selection of images, neural networks can be trained to recognise, classify and react to what they "see."

But computers don't learn to identify objects the same way humans do. Our broad intelligence means we're able to use a wide range of attributes, as well as other senses, to identify, characterise and make inferences about many observations at once. We easily adapt our understandings to accommodate variations in size, angle, shape or color.

While computer vision can be trained to solve almost any visual problem, each model is extremely narrow in its capabilities. It's only able to recognise what it's been taught to recognise. One of the most complex examples of computer vision comes from self-driving cars. Although the capabilities of autonomous vehicles may seem broad, they rely on hundreds or thousands of CV models, non-CV models and higher-level machine learning models working together. The system as a whole is capable of identifying, locating and responding to street signs, traffic lights, pedestrians and other vehicles on the road — but each function requires a specialised algorithm, fine-tuned to that task. This narrow functionality makes computer vision extremely effective at addressing individual challenges. It also means CV models need to be carefully developed, trained and implemented with a specialised function in mind.

Computer vision applications

As tactics become more advanced and technologies from Internet Protocol (IP) cameras to edge gateways become less cost prohibitive, computer vision has shifted from the realms of possibility to accessibility for modern organisations. Grand View Research reports the value of the global computer vision market is expected to reach $19 billion by 2027, up from just over $11 billion in 2020.

Computer vision has enormous potential to help address a variety of challenges from operations and logistics to employee safety, particularly in environments where human capabilities are costly, physically limited or high risk.

Computer vision can reliably execute the same task over and over without instances of human error caused by distraction or fatigue. It also enables observation of remote or dangerous locations with incredible accuracy 24 hours a day. Models can even be trained to process information at high speeds or in visual spectrums such as UV or infrared that would otherwise be invisible to the human eye.

Grand View Research reports the value of the global computer vision market is expected to reach $19 billion by 2027, up from just over $11 billion in 2020.

- Hardware
- Software

$11 billion

$19 billion

2019 2020 2021 2022 2023 2024 2025 2026 2027
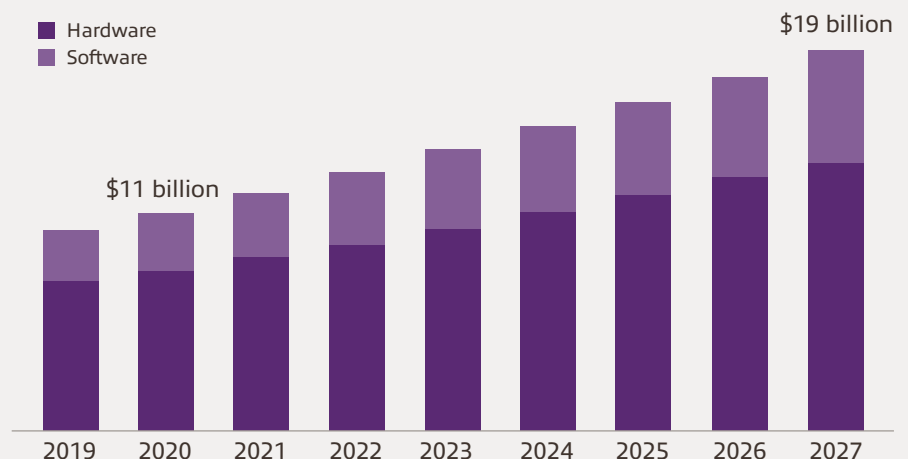
So, what does the current landscape look like for computer vision? Which industries are best positioned to capitalise on this technology today and in the next few years?

Energy

From nuclear plants to wind farms, the need for safety, efficiency and regulatory compliance have resulted in a broad range of use cases across the energy industry. Forward-thinking organisations are already leveraging computer vision to monitor equipment for signs of wear, as well as to safely and effectively inspect the condition of linear assets such as power lines or pipelines. Correlating multiple vision models or other sensors to detect cracks, leaks or warning lights can help to pinpoint anomalies and provide early maintenance warnings.

In addition to the benefits of reliable, round-the-clock equipment monitoring, computer vision offers highly effective means of regulating "danger zones." It can be used to identify authorised personnel badges in restricted areas or even provide alerts when an individual has crossed a designated safety threshold.

Manufacturing

Production lines have played host to some of the earliest applications of computer vision, with models trained to regulate machinery, count products or evaluate product quality. Beyond simply detecting defects, cross-referencing data from other cameras and sensors can help to pinpoint the source of production issues, accelerating repairs and preventing costly downtime. Machine vision models are even being used to associate packaging with product descriptions to prevent mislabeling or shipping errors.

As with the energy industry, computer vision also provides opportunities to improve employee safety in manufacturing environments. Image classification models are being leveraged to identify whether workers are wearing required equipment. If a system detects an employee without a safety vest or helmet, visual alerts or notifications can be sent to the appropriate parties to prompt corrective action.

Transportation

Beyond autonomous vehicles, the transportation and logistics industries can also benefit from more discrete applications of machine vision. From pallet counting and sorting to damage alerts and warehouse surveillance, this technology has the potential to streamline operations and reduce supply chain disruptions.

To ensure safety and efficiency among transportation fleets, some organisations have applied visual models to ensure proper docking, loading, fueling or tire pressure. CV-enabled aerial vehicles (drones) are being leveraged by modern railroad companies to conduct inspections along thousands of miles of railway. This solution reduces costly and sometimes dangerous fieldwork, allowing human inspectors to shift their focus from finding problems to fixing them.

Retail

Particularly within large retail environments, computer vision provides a variety of solutions ranging from inventory management to customer service. While positioning cameras to monitor every shelf throughout a store

may not be realistic, or indeed cost effective unless executed at enterprise scale, CV models can be useful for monitoring critical stock in warehouses or specific displays.

Computer vision can also be used to monitor the store environment, sending alerts if a refrigerator door is left open or when checkout lines are getting too long. With the increased popularity of self-checkout, computer vision is increasingly being applied to shrinkage and loss prevention by correlating visual data with Point-of-Sale (POS) machines to ensure that items being scanned by customers match the appropriate product description.

Healthcare

Medical diagnostics are often among the highest profile applications for computer vision, with researchers and tech giants alike exploring the benefits of AI for risk assessment or early detection of disease. But while this area represents enormous potential for good, the potential human harm caused by a misdiagnosis has far greater implications than most other CV use cases. This means many additional layers of precautions are required for these models, including more vigorous training, narrower margins for error and more active human involvement in the decision-making process.

But beyond diagnostics, there are many other applications within the healthcare field where computer vision has demonstrated value with far lower risk. Vision models can be used to track handwashing among medical staff, providing reminders if it appears this step has been missed. CV systems can be used to track inventory in pharmacies or supply closets to prevent stock from running low. Optical Character Recognition (OCR) is also increasing in popularity as a way to automate document processing, reducing administrative burdens and ultimately lowering the cost of care.

Computer vision supports public health — beyond the healthcare industry. Learn how one craft brewery is leveraging thermal cameras to keep guests and employees safe in the wake of COVID-19.

Getting started with computer vision

The measurable benefits of lower costs, increased efficiency and reduced downtime mean there's significant Return on Investment (ROI) to be captured through computer vision. And thanks to the growing democratisation of AI, intelligent edge and cloud solutions, these benefits are increasingly within reach.

But while the hardware, and even many off-the-shelf CV architectures are readily available, there are a few key points to consider before kicking off your pilot project.

Engage the experts.

First and foremost, you'll need to make sure you have the knowledge and resources to build, implement and operationalise a highly accurate

CV system at scale. Computer vision is a unique field that requires a specialised skill set. If your organisation already employs a team of data scientists, this is a great starting point, but unless your team has successfully implemented a CV model in the past, it's well worth the time to engage with an experienced consultant that can guide your project from ideation to execution.

Consider the context.

Once you've assembled your team, you'll need to analyse the problem you're trying to solve to evaluate any ethical considerations, as well as the relative risk and corresponding accuracy that will be required. While high accuracy is always the goal, anomalies, environmental changes and other unknown variables will make some degree of uncertainty inevitable. For this reason, some challenges are better suited for computer vision than others, particularly those that enable your organisation to augment rather than replace the human decision-making process.

Optimise your training data.

As you prepare to develop and train a CV model, it will be important to consider not only the quantity of relevant images available but also the quality — including lighting, angle, size, color of the backdrop and more. Due to the relative rigidity of computer vision, it can be difficult to know what types of outliers will lead to misidentification or misclassification. As a result, training will need to include a variety of positive and negative examples to improve results. An experienced CV consultant or decision scientist will be able to help direct these efforts.

Maximise the human factor.

No matter the use case, any form of AI must be put into production in a way that's verifiable and supported by human decision-making. This means that in addition to training your computer vision model, you'll need to determine the most effective way to introduce the resulting intelligence to users.

Unfortunately, when humans are consistently presented with highly accurate intelligence, we quickly become reliant upon it and may fail to notice otherwise obvious mistakes. To prevent this, CV systems should employ tactics that continue to rely upon and engage active responsibility from human workers — especially in healthcare or military environments where the risk of inaccuracy is highly consequential.

Leading the way
with computer vision:
**Insight was recently
named a strong performer
in The Forrester New
Wave™: Computer Vision
Consultancies, Q4 2020 report.**

⚠ **Beware of bias.**

Artificial intelligence is only as accurate as the data used to train it. Sadly, but inevitably, human biases are reflected in human data, often in ways that can be difficult to perceive. To overcome these challenges, developers must understand and adhere to the practices of responsible AI, ensuring CV models are consciously structured and rigorously tested under a range of conditions — particularly when human imagery is involved. In addition to relying on experienced consultants in this field, engaging a diverse range of decision-makers can help to broaden perspectives, uncover unexpected challenges and safeguard against the perpetuation of bias in your model.

💡 **Think long term.**

AI, including computer vision, represents an entire business lifecycle. As a result, you'll need to make sure you're not only investing in the skills needed to develop an effective model, but also the infrastructure, pipeline and operational expertise to implement that model in a way that creates real, long-term business value. This is where MLOps comes into play.

Artificial intelligence is self-disrupting by nature, meaning the circumstances for which a model is trained are bound to change from the moment of implementation. MLOps goes beyond traditional DevOps to ensure that once a model is deployed, it's constantly tested and retested, and that it can retrain itself against data dynamically so that it continues to provide high-quality intelligence even as the surrounding business environment changes.

Looking forward

By embracing computer vision, modern organisations have a unique opportunity to drive higher quality, reduce the cost of goods and services, and position themselves at the forefront of disruption. As advancements in custom vision, new methodologies and algorithms continue to progress, computer vision will become easier and more cost-effective to deploy.

Already, the market has seen an influx of new products geared toward localised AI and CV as manufacturers begin to recognise the demand for these solutions. While some of today's edge devices have the ability to run smaller AI models independent of the cloud, in the next few years, increased efficiencies will make it possible to run higher accuracy models on lower power devices. This will enable companies to adopt computer vision more rapidly and at lower cost.

Those that begin exploring, investing in and piloting CV solutions today will be well-positioned to capitalise on these benefits while driving industry transformation in a way that improves employee safety, increases engagement and boosts customer satisfaction.

Read the Forrester New Wave Computer Vision Report for an overview of today's top CV consultancies and see where Insight's capabilities stand out.

About the authors

Amol Ajgaonkar
Chief Architect, IoT, Digital Innovation, Insight

Ken Seier
National Practice Lead for Data & AI, Insight

3-in-4
IT security leaders lack confidence

in their company's cybersecurity posture.

In 2020, the pandemic forced organisations to react quickly to the security needs of a remote workforce and an increasingly distributed IT landscape. As a result, budgets went up, confidence went down and top cybersecurity challenges became increasingly clear.

Dive into the details behind these and other key findings from the Insight-commissioned IDG survey **"Cybersecurity at a Crossroads: The Insight 2021 Report."**

Access the full survey results and related resources here

Insight.

CXO Corner:

Why Deciding Fast and 'Feeling Fool[...]
Can Help You Be a Better Leader

Business leaders today are challenged with decisions and responsibilities far beyond their job description. But for Carolee, making quick decisions amidst uncertainty, leading teams through change, and championing a diverse and inclusive culture inspire an intense passion and excitement for her role with Google Cloud.

You're a global channel chief and the head of worldwide SMB sales for Google Cloud. What does your role look like today and how do you see it evolving?

Well, like every person here at Google Cloud, I'm responsible for making sure our customers are successful, in whatever way they define it, with our solutions and offerings. But more specifically, on the channel side, I'm responsible for making sure our partner community is both adding value to our customers' experience, and that we're ensuring our partners get real value from working with us to solve big customer challenges.

My organisation owns the partner program for all types of partners for Google Cloud, so we work to ensure we're equipping and enabling our partners to make the most of the solutions and opportunities with Google Cloud. As the global head of our SMB business, my job is to ensure

we're reaching this segment — from supporting someone's 'side hustle' to helping multimillion dollar businesses with solutions that can transform the ways small businesses reach, serve and inspire their customers. We're really in the business of creating possibilities — and then making them real.

Some things about my role won't ever change, such as the centrality of the customer in what we focus on, our commitment to being a great partner and building win-win businesses with our partners. However, how we can best fulfill that commitment will continually evolve. This market is still dynamic, growing at such an incredible rate, with new product capabilities being released every time I turn around. As such, the role is really around making sure our partners and customers are aware of and capitalising on the value we can create when it's moving this quickly.

We're really in the business of creating possibilities — and then making them real.

Carolee Gearhart
Global Channel Chief and Vice President
of Global SMB Sales, Google Cloud

What do you love most about your role?

We have some of the best partners in the world, and they inspire me every day in the way they show up and transform our customers. I love hearing about real challenges that are being solved with Google Cloud technology, and connecting with the people who are impacted by them. I get to meet incredible people all the time. A great example is Ania Kruk, who owns a jewelry company with her brother in Poland where her family has been in this business for generations.

Hearing her talk about the way Google Workspace allowed her company to thrive — and made for a seamless transition during COVID-19 — gets me so excited. Supporting the ambitions of small businesses with big dreams, helping working women with families who are able to lead companies — this all speaks to me on both a personal and professional level. (Not to mention I love buying from our customers

and have some incredible necklaces from Ania's company to show for it!)

How do you encourage innovation and support your people through change?

Well, if it was anything, 2020 was a time of change for our people and certainly a time when they needed support. It's always leadership's obligation to provide context — employees are smart, engaged and want to do the right things. You can really unleash their power when you entrust them with as much information as you can on the "why" because then they can run independently, but in a way that's complementary.

I've spent more time on context, and once that's really shared and assimilated, we were able to focus on flexibility for employees, making sure there was time and space for fun, and providing opportunities for team members to learn. Lastly,

> **When all decisions are treated as if they can never be changed, you start to stifle an organisation's creativity and willingness to take risks — and really slow things down.**
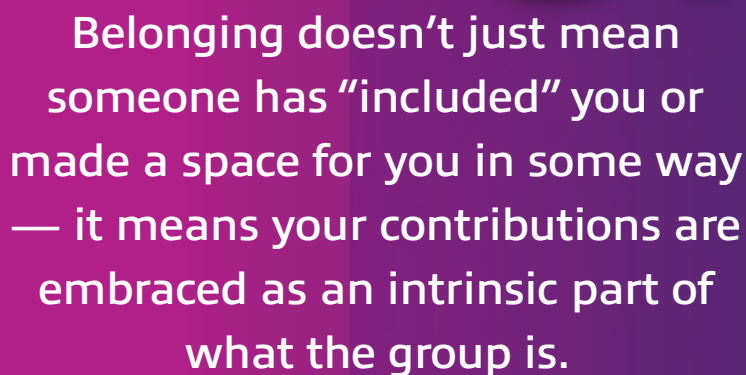
2020 has given us the opportunity to truly get to know our people on a deeper, more human level. Oftentimes supporting people through change has been supporting their new work-from-home environments, hours of work and sharing our own experiences while giving them the necessary space to adapt.

With so much uncertainty surrounding the past year and still today, how do you make decisions in a way that allows you to move forward with confidence?

This is another interesting question. While all decisions that come to me may be important, not all are irreversible — and that's a really important thing to distinguish. When all decisions are treated as if they can never be changed, you start to stifle an organisation's creativity and willingness to take risks — and

really slow things down. I've actually found it more freeing for myself and my organisation to acknowledge that we'll make the best decision we can make now with the information available, and we'll do it while agreeing what will be signs or indicators of success. That way you have an agreed measuring stick to evaluate if it was a good call or not — and if it wasn't, we can simply change it.

Oftentimes both people and companies can paint themselves into a corner if they're too entrenched in a decision that was made to acknowledge a mistake, or even if not a mistake, data that shows course corrections are needed. I make decisions with an agreement on what success will look like and knowing if the outcomes don't seem to be matching, we'll modify and adjust as needed. In a market that's growing and moving at the pace cloud computing is, it's more important to be fast than it is to always be right the first time.

> Belonging doesn't just mean someone has "included" you or made a space for you in some way — it means your contributions are embraced as an intrinsic part of what the group is.

What does cultivating a diverse and inclusive workforce look like today?

There are four main pillars that are critical in cultivating a diverse and inclusive workforce: representation, progression, retention and inclusion. Representation is really about who is in the organisation, and ensuring the workplace really reflects the broader community. Progression is ensuring equitable growth for everyone. That means parity in performance reviews as well as promotion across lines of difference, such as race, gender identity or physical ability. Retention is a focus on reducing attrition in what have been historically under-represented groups. And, fundamental to success across all of these areas is inclusion, which means creating a place where everyone feels like they belong.

This sense of belonging is often undervalued, but it's really the secret sauce in any successful organisation. Frankly, it's been a significant driver in my own success. As someone who was adopted, the concept of a sense of belonging touches me to the core. The very fact that I was adopted meant that someone didn't want me. But at the same time, it was my parents who really defined for me what it means to feel like you belong. There I was, in a family that also had a biological son, but there was no discernable difference in our family between the two of us.

Belonging doesn't just mean someone has "included" you or made a space for you in some way — it means your contributions are embraced as an intrinsic part of what the group is. I say this because it's the other hallmark of belonging, which is the ability to be free to criticise the group without being afraid of being excluded from it. Even as a teenager with angst who often disagreed with her parents, I never had any fear that a difference of opinion would result in them abandoning me.

The breadth of my parents' embrace of me has been such a gift in my life. It taught me that every day we can make choices that transcend birth and background — and build connections that are unbreakable.

Key questions to ask ourselves are:

- How do we go beyond inclusion and equity into creating that sense of belonging for every person we work with?

- How do we nurture not only one anothers' authentic selves — but our best selves?

When the world around us seems to be in disarray, it's critical that we as individuals and collectively as a company uphold our values, challenge our views on family and community, and continue to build bridges — not break them.

The great thing is that a diverse and inclusive workforce is a "two-for" — a two for the price of one set of benefits. On a human level, it's simply the right thing to do — enabling all people within your organisation to be fully included and have access to equitable outcomes for their work. And there are clear business benefits when we do that. There has been a lot of great research in this area, and it consistently demonstrates financial return and accelerated growth. A 2018 research report from **McKinsey** called Delivering Through Diversity found corporations that embrace gender diversity on their executive teams were more competitive and 21% more likely to experience above-average profitability. There was also a significant performance impact of racial and ethnic diversity, with 35% more likely to have improved financial returns and the positive association with sales revenue, profits and market share.

There's no question that diverse groups of people take a bit longer to build into a high functioning team. But, once achieved, the outcome of well-managed teams ultimately leads to much higher performance and productivity.

What career advice would you give to current or aspiring leaders?

Learning often starts where feeling foolish begins. Early on in a career it can be difficult to admit where you have gaps because you're working so hard to try and establish credibility yourself. But it's critical to always be reaching beyond what you've done before; you learn so much faster when you're willing to ask lots of questions and try things yourself. Those lessons you've lived are the ones that really serve you in the future.

Ironically, as you become more senior, it can get more difficult all over again to look foolish. I make it a regular habit, so I never get out of practice. I think it's important for folks in my organisation, and the extended external partner and customer community I'm responsible for, to know I'm an approachable person. They respond to the authenticity that's shown when they know that together we share both successes and failures.

Learning often starts where feeling foolish begins.

![Tech from the Heart logo]
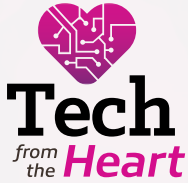
Evolving together

Even during tough times, we don't have to look far to find hope, determination and the strength of the human spirit. As a community, we see these principles exemplified every day by caring, like-minded people who strive to make a difference. At Insight, we also see it in the creation of new technologies that make these opportunities possible and prevalent, and also in the way teammates around the region and around the globe give back to the communities in which we live.

With the onset of a pandemic and heightened awareness of social justice in 2020, corporate social responsibility has undeniably been drawn to the forefront of nearly every industry. This past year shed newfound light on just how important it is for businesses to be transparent, authentic and responsive – the pandemic and the needs of the clients, partners and teammates - and responsible and ethical in how they go about their businesses. We've found this to be especially true during a time when technology and culture are more intertwined than ever before.

Corporate social responsibility at Insight

When you read, hear or even say "corporate social responsibility," what comes to mind? For me, this term speaks to the ways we're collectively and uniquely equipped to give back to our communities. At Insight, this aligns with our technological capabilities and how what we do — creating intelligent technology solutions — can improve people's lives.

Corporate social responsibility is about creating positive change within organisations,

communities and society. Not only is this the right thing to do, but this focus also inspires our teammates — creating even more pride in the work we do, together.

Three Simple Values, One United Team

At Insight we firmly believe our people are our greatest strength, and we live by a simple yet memorable set of core values — hunger, heart and harmony — that define who we are. Hunger, which is apparent in everything we do, captures our insatiable desire to create new opportunities for our clients and our business. By showing heart, we seek to positively impact

the lives of the people we serve by always putting our clients, partners, teammates and communities first. Through harmony, we invite perspective and consistently celebrate each other's unique contributions as we work together to bring the best solutions to the world.

HUNGER

We're driven by a deep curiosity – to learn, to explore and to grow. Where others assume, we question, and where others stop, we're just getting started.

HEART

We don't think of ourselves as individuals but as teammates. We take care of each other, our clients and our communities. We believe in each other and take in what we can collectively achieve.

HARMONY

We're different in skill sets, perspectives and backgrounds but united by a common goal. We welcome uniqueness and all points of view as we work together to make transformation happen.

Putting values into action

Across last year, Insight teammates partnered with our clients to help them navigate and respond to the COVID-19 world; here in Asia Pacific we saw countless examples of teams rapidly formulating plans and delivering outcome for clients to help respond and continue to operate across uncertain times. One example is the University of Western Australia (UWA) in Perth, which had to make the sudden transition to online learning for 60,000 educators and students. Insight helped make that possible in just two weeks. Identity and access management was a primary concern for rapidly deploying a modern way of teaching, as was establishing a full rollout of Microsoft Teams to enable student collaboration and remote learning for 3,144 classes. Insight already was working with UWA on the latter prior to COVID-19 shutting down the school campus. We helped the university

establish 2,158 Office 365 Groups and Teams, adding defined channels, tabs and meetings to facilitate online and remote learning by leveraging Learning Management System (LMS) data. Using Azure Automation, this process continually runs and updates Teams membership and creates meetings for classes. In transitioning to online learning, more than 50,000 student accounts were migrated to Office 365 in less than a week, including emails, calendars and contacts. Also rolled out was multifactor authentication and a self-service password reset for all UWA staff and students.

The power of making a difference

Just as our Insight teammates demonstrate our value of heart in their communities, corporate social responsibility contributes toward a larger, more meaningful goal. And when we take this responsibility seriously, there's no telling how far we can go together. One of the best things about Insight is that we live the 'growth mindset' mantra. We learn, we grow, we challenge ourselves and we challenge the status quo. We also pride ourselves in attracting and retaining the best and brightest in the industry, and it's an honour to be recognised as a 'Best Place to Work' again in 2020; it's a real testament to our teammates and culture here at Insight.

If you're interested in reading more about how we strive to give back at Insight — through our technology and from living our values of hunger, heart and harmony — I encourage you to explore our 2021 Insight Corporate Citizenship Report. After all, there's a great story behind every solution — and a great team of passionate people who bring them to life.

About the author

Mike Morgan
Senior VP and Managing Director APAC.

Insight