

## Augmenting the Reality of Everything

Augmented reality isn't just "a game thing." It will quickly appear within trips, experiences and transactions in both our personal and business lives, in the form of what we call journeys. Organizations across industries need to begin weaving immersive technologies into customer, employee, supplier and partner interactions – or risk irrelevance in the years to come.

By Robert Hoyle Brown



# Executive Summary

It's morning – time to get up and go to work. You put on your spectacles, just like millions have done since Benjamin Franklin invented bifocals generations ago. But yours are no ordinary eyeglasses. They're a gateway into all the journeys you'll take throughout the day – big and little, personal and work, and everything in between.

And when your work is done, it's also fun to leave some time for chasing phantom zombies around the neighborhood.


Welcome to the coming world of augmented reality (AR), a technological watershed preceded by years of trial and error, goofy-looking headgear, brawls with “glassholes”<sup>1</sup> and sci-fi detours into isolated realms of virtual reality (VR). Those who write off AR as “just a game thing” do so at their own peril. AR will remake experiences in our work and personal lives in important – and yes, fun – ways.

Many leading companies – from film, travel, healthcare, retail, automotive, education and heavy equipment industries – have moved beyond pilot phases and are deriving real results from early initiatives applying this profound visualization tool. Whether it's used to help electric utilities install and optimize wind turbines, bring smiles to the elderly in dreary nursing homes,<sup>2</sup> enhance factory floor safety for industrial workers, design a new skyscraper (or even place your next tattoo), early adopters are using AR to orchestrate the future of work – and play – experiences.

Advancements in immersive technologies such as AR, VR and the mash-up of the two known as mixed reality (MR) suggest a future of limitless possibility. Important early signposts include:

- **Massive bets have been placed on AR and VR by technology visionaries.** Just since 2014, Facebook paid an estimated \$2 billion (some say \$3 billion) for Oculus,<sup>3</sup> Magic Leap has reportedly raised nearly \$1.4 billion in funding,<sup>4</sup> Microsoft bought Osterhout Design Group's patents for a reported \$150 million, Apple bought Metaio, and Google, Facebook, Intel and Snapchat have each acquired multiple component makers and solution providers.<sup>5</sup>
- **It's not just for gaming – business processes will also become AR-enhanced “journeys.”** Just as most new technology today starts in the consumer space and moves to the enterprise, AR will catalyze advances in gaming – but it won't stop there. It will meld people, places, time, space, things, changes of events, A/B choices and next-best-actions into a fusion and flow we call a journey.
- **Consumer behaviors have turned time (and our attention spans) into a ready canvas for AR.** Augmented with immersive technologies, captive moments present latent opportunities to close information gaps and capture our attention.
- **The “services economy” is giving way to the “experience economy.”** Frictionless AR will personalize the next generation of storytelling and serve as the midwife for the so-called experience economy, with a massive and profound impact on processes – and business models.

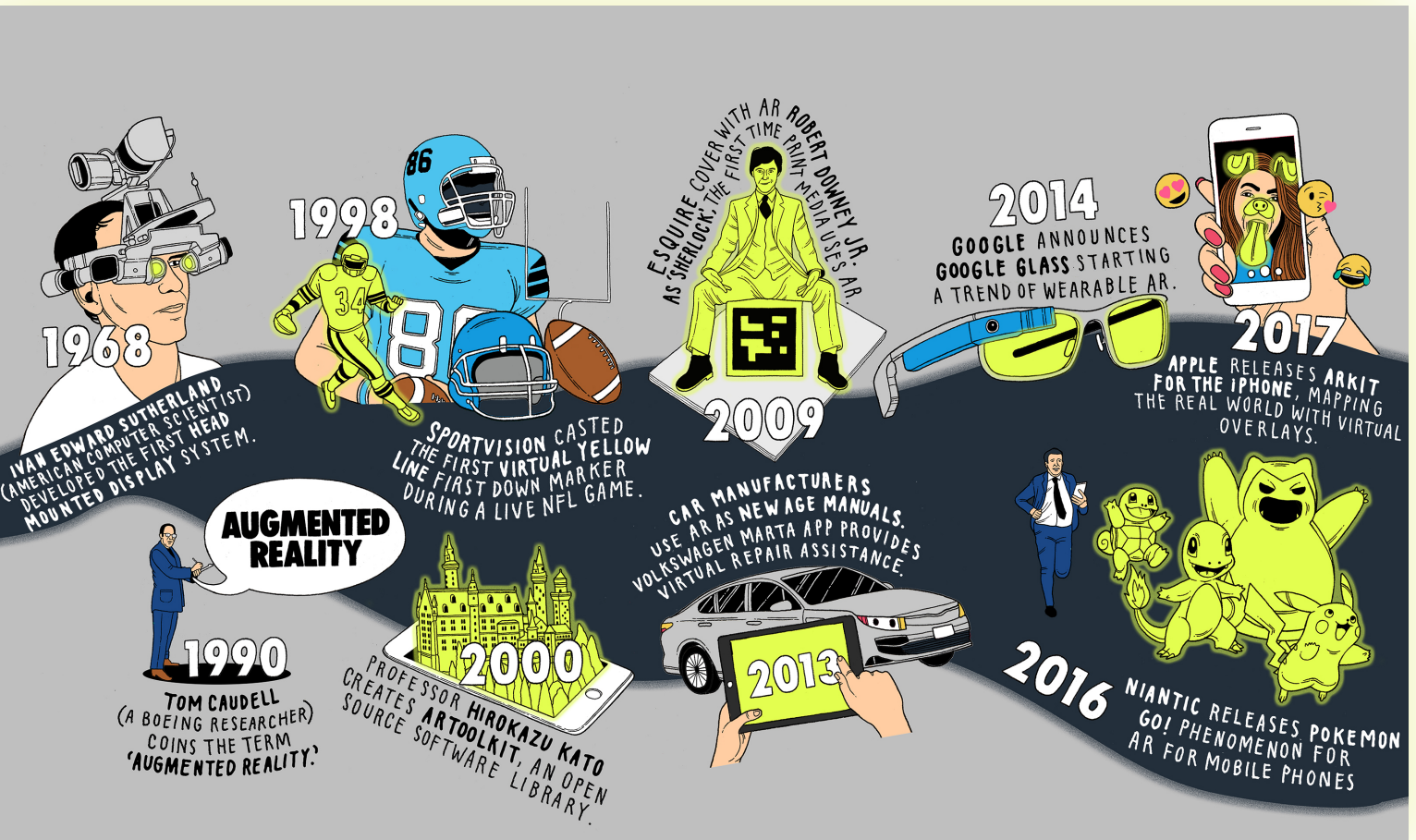
This report provides an in-depth perspective into the impact of AR on the future of tasks, business processes and personal experiences. Practical actions from progressive adopters show how AR can lead to value generation, quickly. Whether you're a senior operations executive or in the AR lab experimenting on the cutting edge, you'll soon see processes morph, influenced by gaming, design, storytelling, deep analytics and online commerce, using augmented reality as the catalyst.



# **'REALITY' VS. IMMERSION: THE SHORT-, MEDIUM- AND LONG-TERM FUTURE OF AR**



## A short history of augmented reality



Source: Cognizant Center for the Future of Work and Cognizant Research Center, with copy adapted from Augment.com, <http://www.augment.com/blog/infographic-lengthy-history-augmented-reality/>.



From a consumer standpoint, the understanding of AR and VR – what they are and the difference between the two – is not always well-developed. So far, the limitations of VR pose major business impediments. Especially pronounced is the issue of space; i.e., VR headsets completely block the user’s view and require the individual to remain stationary or in a well-defined boundary. VR-induced nausea continues to pose a problem for some people, although headset manufacturers are working to overcome this issue.

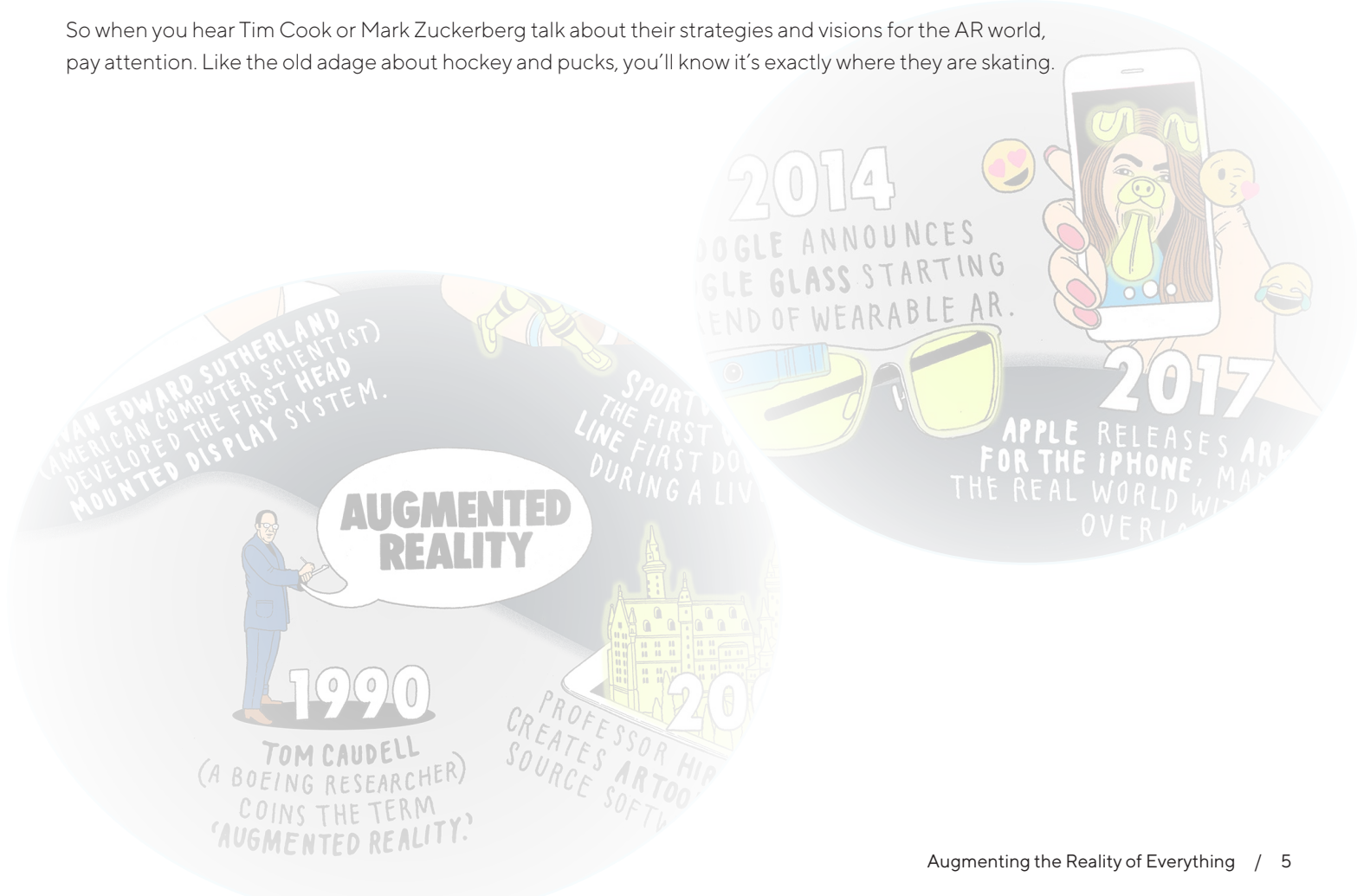
This is where AR technologies have an advantage, as the head-mounted displays (HMD) allow for a continuous view of both the virtual and real worlds. Unlike with VR devices, AR headsets allow users freedom of motion and the ability to remain productive with other tasks.<sup>6</sup>

That said, HMD technologies are still limited today. Honestly, does walking around for hours at a time with a two-pound headset strapped to your head sound like a good time? Probably not.

So at least for the short term, the augmented revolution will play out on smartphones, tablets and integrated displays. But it’s also precisely because the smartphone is so ubiquitous that AR has a strong chance of taking off as the next wave.

The release of the iPhone X was preceded by Apple’s ARKit platform to help bring some nifty ideas to life, like ripping a hole in “reality” and stepping into a virtual one. Facebook and Google have repeatedly emphasized augmented reality as a game-changer in personal, instrumented computing.

So when you hear Tim Cook or Mark Zuckerberg talk about their strategies and visions for the AR world, pay attention. Like the old adage about hockey and pucks, you’ll know it’s exactly where they are skating.



**AR  
RECONFIGURES  
WORK,  
PROCESSES -  
AND LIFE -  
AS 'JOURNEYS'**

The real value of AR won't be found in applying it to processes as they exist today but in thinking of every process – in every industry, in every interaction – as a journey. Think about it: Nearly every interaction we have as consumers involves a journey, be it through physical space or cyberspace. Shopping. Perusing the Sunday real estate open houses. Going to the doctor. Traveling for business or pleasure. Enduring the rush hour commute. Even simply killing time, waiting at your kid's dentist appointment.

## Reimagining everyday experiences as AR journeys



Journeys also abound at work. Pick, pack and ship. Field service fixes. Deliveries of all kinds. Each of these activities involves information exchanged while we're on the move (or "on the wait").

So, what exactly is an augmented journey, and why is it important to you and your organization? Rather than being synonymous with "processes," journeys are a new way of thinking about steps within processes, and changing those processes as a result.

The time spent getting from Point A (the start, or beginning) to Point B (the destination, or conclusion) is the setting for enhancing the interactions among people, places, things, content, scenarios and next-best-actions, using AR during linear progressions and processes. The field service worker, for example,



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could overlay a repair diagnostic on a piece of equipment. The home-buyer could view the finished house (plus interior) from the sidewalk of the empty lot. The traveler could navigate the airport as Sherlock. Said differently, time and physical space are the canvas, and AR content is the paint (or, as Shakespeare might have said, “All the world’s a journey, and we are merely viewers”).

These reimagined experiences, in the form of AR journeys, will propel outsized revenue uplift, next-gen levels of customer engagement and full captivation of customers’ and employees’ attention. This last outcome is what is often called “being in the zone,” a feeling of energized focus, full involvement and enjoyment in the process of the activity.”<sup>7</sup>



AR can be a personal step-by-step process guide or “Sherpa,” delivering just-in-time precision information, fusing things like training videos, sales spiels and guidebooks into an intuitive, engaging, measurable and actionable real-time immersive experience.

### **Managing journeys – not processes – will be a key business competency**

Journeys may completely revamp processes, or just tweak them to make their features and parameters more usable. The primary benefit to workers is access to in-the-moment data so they can work heads up, not down, with real-time overlaid immersive experiences supporting their work. AR can be a personal step-by-step process guide or “Sherpa,” delivering just-in-time precision information, fusing things like training videos, sales spiels and guidebooks into an intuitive, engaging, measurable and actionable real-time immersive experience.

Workers can couple thorny in-process error and safety alerts, schematics, imminent threats and other crucial information with virtual coaching from senior managers, resulting in massively improved process outcomes. Benefits include increased first-pass accuracy, better customer satisfaction, lower costs and more effective collaboration.

**BUSINESS  
JOURNEYS:  
EARLY USE  
CASES PROVE  
AR ISN'T  
'JUST A GAME  
THING'**



The Nature Conservancy is developing automated facial recognition software – for fish – called FishFace that will provide an efficient analysis of threatened fish stocks using digital photos rather than manual counts on boats or processing plants.

Already, we're seeing practical actions from progressive AR adopters that can quickly lead to value generation. Given these early advancements, organizations that don't bolt AR onto their existing channels face a high probability of appearing significantly behind the times.

### **Healthcare: The AR doctor will see you now**

We're already seeing myriad examples of AR journey plots in healthcare processes. San Francisco start-up Augmedix, Inc. has partnered with Google to use Google Glass coupled with AI capabilities to perform in-the-moment, automated remote note-taking, provide instantaneous information, compare patient symptoms with millions of others and predict the most effective treatment. The solution addresses key burnout variables for doctors: note-taking, transcription and "double data entry" in electronic medical records.<sup>8</sup> Augmedix estimates that its remote scribe capabilities can yield an 80% decrease in less electronic health record charting, saving doctors up to 15 hours per week in paperwork time. AR solutions like these promise to help caregivers focus on their empathic human skills in patient interactions.

### **Travel & hospitality: the white glove treatment**

Many processes in travel and hospitality could benefit from journey thinking, including the basics of ensuring a clean hotel room. Frankfurt, Germany-based AR-Check is developing an AR system to support the work that custodial and room cleaning staff perform, day after day. Using smart glasses, AR-Check gives workers real-time information on procedures to use for each task, as well as the tools and cleansers required. Sensors on vacuum cleaners, mops and even gloves will indicate the correct pressure to be applied during cleaning. The system promises to reduce errors and improve speed and quality, as well as monitor worker progress.<sup>9</sup>

### **Conservation: a visual approach to saving the planet**

Immersive technologies stand to help conservation organizations save places, plants and animals. For example, Conservation International and Jaunt have partnered to produce "Under the Canopy," a film that can be viewed in fully immersive VR via an app, which is intended to educate people on the natural wealth and sensitive lands of the Amazon. The experience allows viewers to descend a 200-foot tree, view ancient ruins and see the details of plants and animals. Clear-cuts show the impact of deforestation.<sup>10</sup> It's easy to imagine how such an approach, using AR, could profoundly benefit conservation efforts, from seeing how threatened parcels of land and sensitive species look with rampant development, or the effects of seawater on specific cities as a result of climate change. The Nature Conservancy is developing automated facial recognition software – for fish – called FishFace that will provide an efficient analysis of threatened fish stocks using digital photos rather than manual counts on boats or processing plants.<sup>11</sup>



## Going the distance in sports & fitness

New thinking is emerging in sports and fitness journeys – in some cases, as an outgrowth of healthcare – that puts individuals in the action of a gamified plot. In addition to helping Fortune 100 companies train their employees faster, Silicon Valley virtual reality start-up STRIVR is helping NFL quarterbacks execute virtual reps to become the next Aaron Rodgers, Tom Brady or Joe Montana.

Using STRIVR, athletes can perform immersive repetitions, regardless of physical space. Its research cites learning retention rates as high as 75% vs. just 10% for traditional approaches such as reading or a lecture. Longer term, imagine a QB getting an in-the-moment overlay showing wide-open receivers. Much as we've seen with helmet intercoms in the last 20 years, winning will become dependent on the best information, and delivering it to the players on the field.<sup>12</sup>

## Augmenting retail products, services ... and space

Why do big-box retailers continually struggle with being the biggest showrooms in the world for Amazon? In an immersive world, AR promises to become the ultimate retail showcase. What if your organization could map – over and over – the pace, pattern and signals of customers and curate journeys specific to individual shoppers, showcasing new merchandise, all from remote locations? For aficionados of apparel, what if you saw a killer pair of shoes in any journey you took, and could order them by double-clicking in AR by blinking your eyes? Abandoned malls in the U.S. are already reinventing themselves as VR/AR arcades and theater action spaces. In Salt Lake City, start-up Virtualities is turning vacant retail space into a dedicated “safe” space for immersion.<sup>13</sup>

## Education: persistent immersion teaches ‘learning by doing’

We are quickly moving into an era when teachers and students can use immersive “gaming” to teach and learn, incorporating 3-D graphics and 360-degree videos. It can be a fast ramp-up: A 30-minute tutorial with Hewlett-Packard's Aurasma can get students started with augmented, interactive “auras.”<sup>14</sup> Many leading museums are in the vanguard: The British Museum hosts AR scavenger hunts, allowing children to gather clues in the form of words and virtual objects. The Smithsonian has the ability to overlay skin on dinosaur bones.<sup>15</sup> Google Expeditions, meanwhile, gives students guided tours of cities, stars and planets. Its Project Tango is driving virtual objects into the physical world, from toys to planets to pets.<sup>16</sup>

## Banks move from transactions to journeys

To paraphrase Bill Gates, we need banking *services*, not banks.<sup>17</sup> As you move through your day, from place-to-place, in immersive retail or travel destinations, what if you could pay with your eyes using retinal, real-time payments?<sup>18</sup> Already, Visa Europe and Blippar have enabled immediate, real-time AR purchasing capabilities for fashion-show garments. As spectators view models on the runway, the system can recognize items of interest and allow customers to complete the transaction and have them delivered the next day.<sup>19</sup>

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CAR MANUFACTURERS  
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VOLKSWAGEN MARTA APP PROVIDES  
VIRTUAL REPAIR ASSISTANCE.

Perhaps the most practical journey examples today would be augmented reality that guides you to a bank branch by “materializing” the path,<sup>20</sup> like Waze does for car trips. Royal Bank of Canada affixed this capability to its smartphone app to make location finding much easier; it utilizes the real-time street view with directional information showing the distances to the nearest RBC ATM or branch.<sup>21</sup>

### **Making insurance journeys safer (and better) with AR**

Possibilities abound for AR to predict and prevent accidents before they happen, based on environmental and road conditions. Augmented overlays paired with strong AI back-ends could alert drivers to conditions that would otherwise prove treacherous, such as icy roads.

Digital photos are already being used by customers to speed claims processes, and digital AR tape measures on smartphones have recently arrived. We foresee in-the-moment data augmenting the views of adjusters to calculate replacement and fix-it costs. Following 2017’s Hurricane Harvey, first responders used drones powered by AR software from Edgybees to determine the optimum route to their destinations through the destruction and debris.<sup>22</sup> Insurance companies could use AR journeys to help policyholders visually explore options for reconstructing their homes or street grids after being damaged by fire or natural disaster.<sup>23</sup> In the future, more sophisticated tools could apply AR journeys to processes like subrogation to re-create the circumstances of accidents and determine fault (helping to reduce loss ratios).

### **Manufacturing puts augmentation to use everywhere**

Forget instructions, paper and assembly manuals. Boeing has deployed an AR industrial solution from Upskill in multiple locations to support a variety of applications in its plants, maintenance and repair facilities, and distribution processes. In one pilot, the aviation giant realized a 25% improvement in production time and higher first-time quality in its wiring harness assemblies.<sup>24</sup> Workers who previously had to toggle between their wiring work and the instructions on their laptops now use lightweight AR glasses and voice commands to view schematics and get visual responses to wire placement questions, directly in front of their eyes.

### **Destruction of construction instructions**

There’s tremendous potential (and existing use cases) for augmented journeys to help all stakeholders of complex, multi-phase construction projects. Using immersive technologies, construction businesses can visualize sections of buildings during imaging, design, architecture and build-out – well in advance of laying steel, pouring concrete or drafting blueprints. The key is in using 3-D graphics, holographic images and AR overlays in the modeling phases. At each step, augmentation can help teams visualize, collaborate, share ideas and manage change.<sup>25</sup>

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# **DON'T LOSE THE PLOT: SIX ELEMENTS OF AN AUGMENTED JOURNEY**



To harness AR, businesses need to understand the critical elements of the AR journey. Every business process within a journey has a main character that moves through a “plot,” often involving time and space.<sup>26</sup> Plots are the central “actions” that manifest any business process.

- For an airline, it might be what happens from gate-to-gate.
- For a travel company, it could be what happens from the customer’s home to his or her destination (and back).
- For an auto manufacturer, it could be the customer’s experience in the car.
- For educators, it’s the learning that students do to improve their performance.
- For a P&C insurer, it could be the claim, and the variables that impact it.
- For a trader, it might be the rationale for a trade order.
- And so on ...

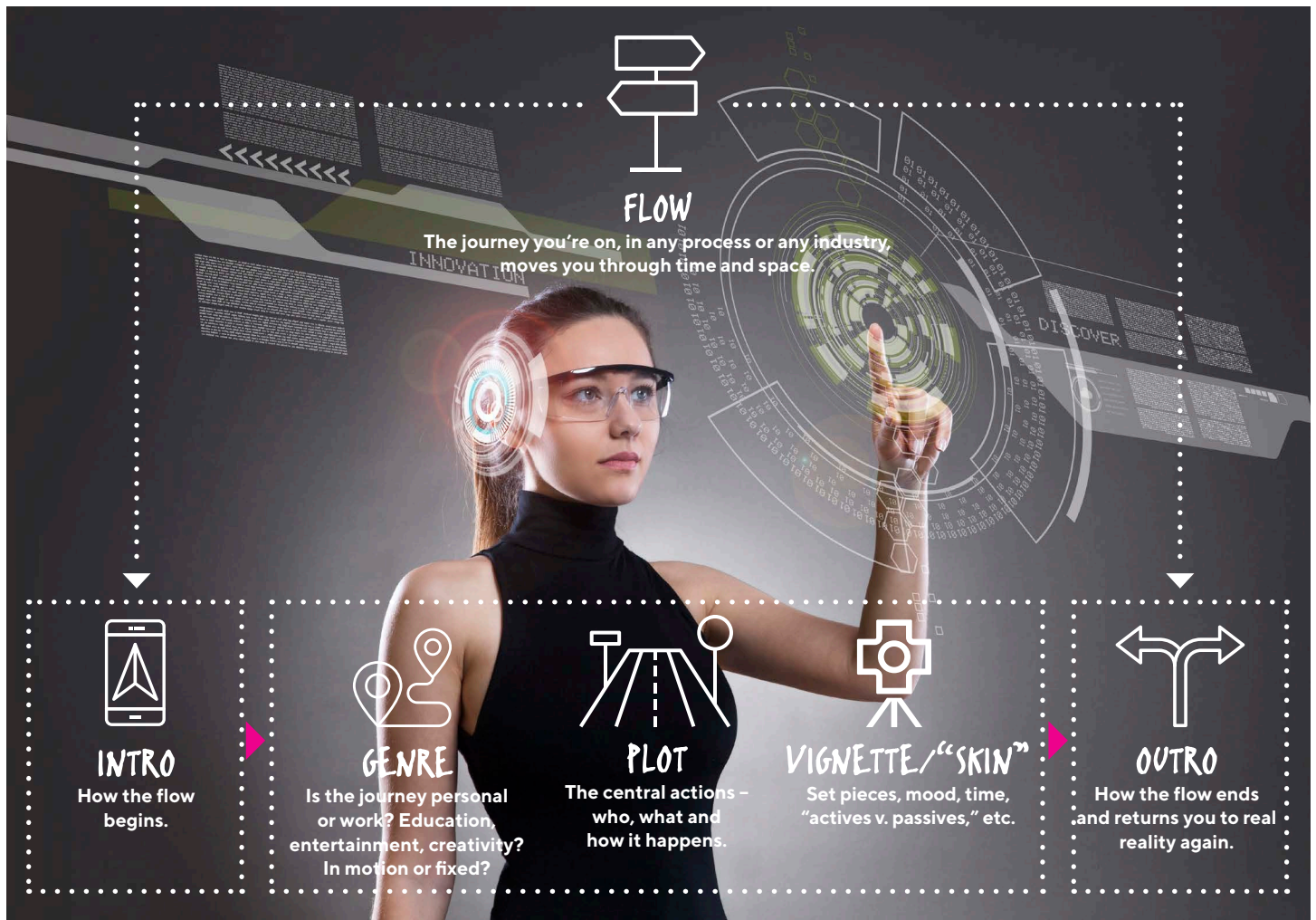
Further, every business process has a defined start and stop – a beginning, middle and end. Think about how an app of convenience like Triplt basically maps time, place and forward movement – and is able to switch modalities, from transportation (plane, car, train) to lodging (hotel, Airbnb, etc.) – depending on the flow of time.

We believe every process that can be transposed into an augmented journey needs to focus on getting the following six elements right.

1. **Flow:** Overlaying the entire AR journey is the flow. For any journey in any industry, flows are the actions required to get from “here to there.” A flow could incorporate any combination of places, tasks, enhanced situations, customer expectations and the physical spaces or environments in an augmented world for new creative experiences and business models.
2. **Intro:** This is where the flow begins. Any great story consists of three stages – the beginning, middle and end – and the same is true for AR journeys. In the world of augmented journeys, the intro serves as the transition into the augmented experience from the non-augmented, analog “real world.” Seamlessness is key; the shift can’t be jarring or stilted. The world of video games offers something of a template or guide to best practices here: You want to create an engaging first impression that fuels curiosity and a desire to dive deeper.
3. **Genre:** This is what sets the context for the journey. Genres differ greatly by industry and process type. To establish the genre, businesses should ask several critical questions: Is this part of a personal or work journey? What is the process, and is it geared toward education, entertainment, creativity or something else? Is the main character moving or fixed? Some genres – especially in a medical context – will require heightened emotional intelligence or involve painful situations.
4. **Plot:** This is the central action of the flow – who, what and how it all happens (and – for commercial journeys – how to buy). As participants move through the process journey through space and time, the plot unfolds. It will include information like characters and the narrative of the story or process. To stay highly situational and responsive in real-time to unfolding or dynamic events, it will require an algorithm to accommodate changes of events, propose A/B choices or support next-best actions. It will also need to foster exchanges and interactions with other real or virtual participants in the flow. Lastly, the plot needs to support transactions, such as instant identification of people, places, objects and information (e.g., a Pokémon, “Easter Eggs”, etc.), and enable ways to instantly obtain goods or services (including, potentially, support of instantaneous retinal purchases).

5. **Vignette** (or “skin”): This is the visual vernacular style applied to the flow – and is where the real creativity begins. If you were to create a “Pandora” or “Spotify” for journeys, the vignette is the channel you’d plug into, as it establishes the set, mood, historical time, etc. of the journey. Another consideration is the “active” or “passive” character interactions within the process flow and genre. To establish the vignette, developers can leverage metaverses of content, such as Google images, asset stores from Unity 3D, Wikis, etc., to decorate and adorn the flow and genre.
6. **Outro**: And back out to the real world again. Like the intro, the shift away from AR can’t be jarring – it needs to gently mix augmented and “real” reality in a way that buffers the experience. It also needs to preserve continuity, which is needed for stops and re-starts, should the flow be interrupted for any reason.

## Six elements of an augmented reality journey





# **NEW JOB TITLES – AND MONETIZATION OPPORTUNITIES – MATERIALIZE FROM AR JOURNEYS**



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The monetization possibilities for taking AR from abstract possibility to commercial reality are huge. Everywhere that humans move through space and time presents an opportunity to change customer interaction. What does all this mean for the jobs needed to build this out tomorrow?

In a world of immersive AR technologies, activities that humans do well will be even more important. Recombination of skills will create new jobs. The following categories provide just a few of the many examples possible.<sup>27</sup>

**I Connecting people:**

- > Remote writing of journey plots.
- > Telepresence for journey builder squads.
- > Ecosystems of field service technicians.
- > “Be there” livestreaming of events and tourism experiences.

**I Coaching people:**

- > Remotely helping people get better at things (fitness, health finances, etc.).
- > Teaching/credentialing.
- > Interior design.
- > Work task training, workplace safety.

**I Caring for people:**

- > Remote caregiving and interactions (for seniors, disabled, etc.).
- > Storytelling.
- > “See what I see” in-the-moment troubleshooting.
- > Remote “wing men/wing women,” meditation guides, biofeedback coaches, and mental health and wellness professionals.

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## Help wanted: AR journey builders, experience conductors





It's not difficult to imagine myriad teams needed to design, write, create, calibrate, gamify, scene-set and – most importantly – personalize the next generation of stories for AR journeys.

Additionally, new creative roles will emerge. Imagine “AR journey builders” collaborating with engineering leads and technical artists to craft or otherwise harness an explosion of new, in-the-moment content by leveraging AI and algorithms to map tens of thousands of permutations and possibilities calibrated to individualized tastes.

It's not difficult to imagine myriad teams needed to design, write, create, calibrate, gamify, scene-set and – most importantly – personalize the next generation of stories and AR journeys. These continually forming, swarming agglomerating teams will craft interactive “virtual vignettes,” leveraging prior-art from any filmic genre or vernacular imaginable.

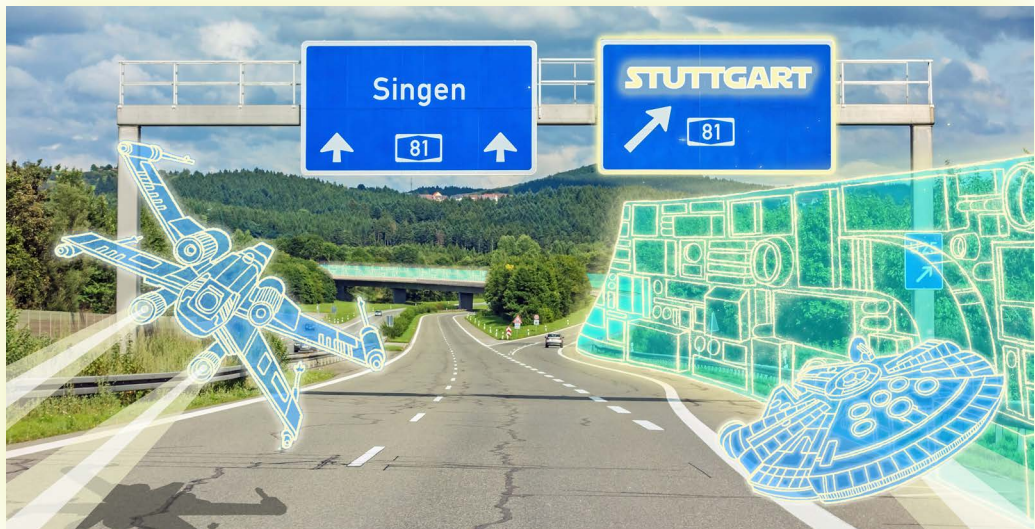
If customers like their work, AR journey builders and their teams will be paid handsome bonuses. And the collective genius of their vignettes could be replicated by platform, ready for use, redeployment and recombination into additional situations and parameters, with royalties attached in perpetuity.

Much as composers, bricklayers and playwrights were in demand a century ago, AR journey builders might be thought of as their 21<sup>st</sup> century successors, transposed to the medium of augmented reality – equal parts “experience conductors,” “data overlayers” and “CX/UXwrights.”



# **PERSONAL JOURNEYS: AR WILL MELT TIME**

## Commuting in a galaxy far, far away...



AR journeys will also increasingly crop up in our personal lives. Today's compulsion for many of us to check our smartphones every five minutes transmutes into a frictionless path to AR tomorrow. Just as we no longer "go online" on PCs, smart glasses will drive ubiquitous augmented, mobile computing.<sup>28</sup>

Think about how your smartphone "melts" your wait time in an airport today or in line at the grocery store, or furtively looking at a map while stopped in traffic. Experiences, journeys and interactions will sense, respond, guide and "suggest" the undivided attention of people.

### **If Tesla had invented *Pokemon Go!***

Imagine a task – say, your morning commute – that results in some amount of boredom; it may likely require an hour or more of teeth-gritting, soul-destroying grind as you move through gridlocked traffic. Your mind wanders all over the place, and your heartbeat and blood pressure increase.

Now imagine if Tesla had invented *Pokemon Go!* instead of Niantic, and with all due consideration given to safety, suggested different routes and streets to take to rack up points, and working with Waze, helped to pick apart the Gordian knot of reducing traffic congestion?

What if you could also reduce the drudgery by augmenting the commute with interesting details, motifs, characters or plot twists? How could you gamify the turning points for your car (Waze-like shortcuts could become part of a game – perhaps breaking up traffic jams as a result) and roads you have to take (enhancing every step of your journey with characters, situations or side adventures)? Your day is brightened – and all the players involved with building out the ecosystem can monetize their input, based on the usage, repeat engagement, scale and creative recombination of the platform.

### **The end of Groundhog Day**

With us so far? Now let's *really* go out on a limb. Instead of *Pokemon Go!*, let's say you're a *Star Wars* fan, and you love everything about its galaxy-far-far-away vernacular look, feel and tone. In our morning



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commute example, a move into the fast-moving exit lane might entail an overlay that drops you into the Death Star trench (again, with all due concern given for safety). What once seemed like a daily “Groundhog Day” replay happening the same way, over-and-over can become an engaging experience that lets you see things, literally, through a different lens.

One could imagine the emergence in five to 10 years of AI-driven “journey experience services” that create, calibrate, diagnose, gamify, reverse-engineer and suggest – like Pandora does with music – the perfect “genome” of the things you see, interact with, decide and experience during your journeys of personal time, as well as those that wrap around work and work processes. Included will be the setting, information, tone, characters, suggested things or experiences to buy, side-destinations to take, friends to include, and more.

It’s impossible to know where creativity or the spark of a new idea may come from. If you’re working on an architectural model, what’s stopping you from overlaying a Van Gogh *Starry Night* “skin” to all the surfaces on the 3-D blueprint, just for fun, just for today? Doing so can facilitate creativity, innovative inspirations and breakthrough thinking.

### **What’s personal is business: make way for the experience economy**

The potential for AR technologies to change our experiences as we move through time and space in our personal and business lives may also usher in the next chapter of what some are calling “The Experience Economy.”<sup>29</sup>

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## **All the world’s a stage in the experience economy**



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Augmented reality will be a catalyst, and journeys everywhere will be an open door for creativity, self-actualization and experiences. Thinking about the future possibilities from a B2C perspective might look something like this:

- **Want to know what it's like to be on-stage with the E Street Band?** Facebook/Rift will put you next to the Boss at the venue of your choice.
- **Want to experience what it's like to run a French vineyard?** Airbnb will arrange it for you.
- **Want to chat with Captain Scott in his hut in Antarctica?** Khan Academy and HoloLens, working in partnership, have it all set up.

Say you're a huge fan of George R. R. Martin and are on a five-hour plane ride from JFK to SFO. What if you could plug into your AR *Game of Thrones* immersive channel and dynamically interact with different characters, settings or kingdoms? When you get bored, how about switching to the *Indiana Jones* channel, or venturing into the world of *Stranger Things*, *Harry Potter* or the dancers of *La La Land*? And so on?

The rise of the experience economy means that even stalwarts among the traditional media and entertainment companies may – quickly – encounter Silicon Valley juggernauts as their biggest competitors.

Consider strategic initiatives like Airbnb's Experiences (overseen by none other than Airbnb CEO Brian Chesky himself), which includes everything from exploring Havana's music scene to visiting street markets in London. Though happening in "real reality" today, the sky's the limit for initiatives like these in the augmented reality tomorrow.

Beyond the world of entertainment, we also believe AR will be used to resolve entrenched issues faced by people and societies today. Sample headlines aligned with improving work, health and policy decisions might look something like this:


- **Want to know what climate change could look like?** *Using NOAA Data, Google Earth Has Modeled Any Timeframe within the Next 500 Years*
- **Want to see the future of your work?** *ZipRecruiter, in Partnership with LinkedIn, Can Show You Potential Career Pathways Over the Next 10 Years*
- **Want to see what your body looks like if you fail to stay healthy?** *Fitbit and Oculus Show You the Damage of a Sedentary Lifestyle, and the Value of Staving Off Preventable Diseases*

Plenty more examples will emerge of old processes, tasks and work being consumed by the new technologies of AR, in combination with algorithms, automation and AI. Today's car companies could be tomorrow's leading game companies. Moribund retailers could reboot as immersive space businesses. Hospitality organizations could supplant movies, TV and social media by delivering consumers' wants and needs of augmented immersion.

Augmented reality will improve ways of working, relating with customers and generating value. The coming Experience Economy will couple imagination and creativity together, yielding large-scale abundance and discovery of new business processes, showing us a world augmented far beyond what's been imaginable so far.



**RECOMMENDATIONS:  
STEPS TO  
TAKE NOW  
TO BEGIN THE  
JOURNEY**



Many business leaders are sensing the signs of a coming world of AR journeys. How will your organization respond?

Here are some of the critical steps leaders should be engaging in now to make AR feasible in the near future:

- I Recraft processes as journeys.** Pilot sample functions that could be enhanced with existing AR technologies. For example, if your business has a field service process and you don't have an AR strategy in place, it's time to get going – immediately. Companies that have already rewired their operations digitally around social, mobile, analytics, cloud and Internet of Things (IoT) technologies are primed to make quick and long-lasting gains, since these technologies are foundational to both AR and VR. With this in mind, companies will need to ensure a reasonably smooth transition by thinking through how and where to integrate their existing technologies with AR and VR, and properly train and reskill employees to benefit from them.
- I Journey-map your processes.** Include all the elements needed for ensuring the continuity of flow (e.g., place, steps, enhanced situations, etc.). Genre is critical to process change. Lastly – and most importantly – AR experiences will be nightmarish if they're jarring; strong consideration must be given to intro and outro for continuity with "the analog world."
- I Strike new, innovative partnership approaches.** New models will evolve to reduce development costs, access external capacity and share the risk and reward from integrated product development. Success will be achieved by companies that offer the best experiences to capture customer spending or spot a new market opportunity, or focus on areas that boost employee productivity and quality. Mastery of proprietary and third-party data counts immensely.<sup>30</sup> Consideration for data sources are paramount: Will journeys entail creation of bespoke information, recycled or reconfigured information, or involve the collection of real-time data for in-the-moment vignettes?
- I Address data privacy and security.** The use of AR only intensifies the need for data privacy, since wearables (as well as smartphones) are capable of tracking user behavior down to the most minute detail. While use of this type of data is necessary in order to hyper-personalize the user experience, it can also raise privacy issues, especially in consumer-facing applications. Users should be made aware of and have a say in what information is stored, with appropriate steps taken to ensure the security of enterprise data.



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## Endnotes

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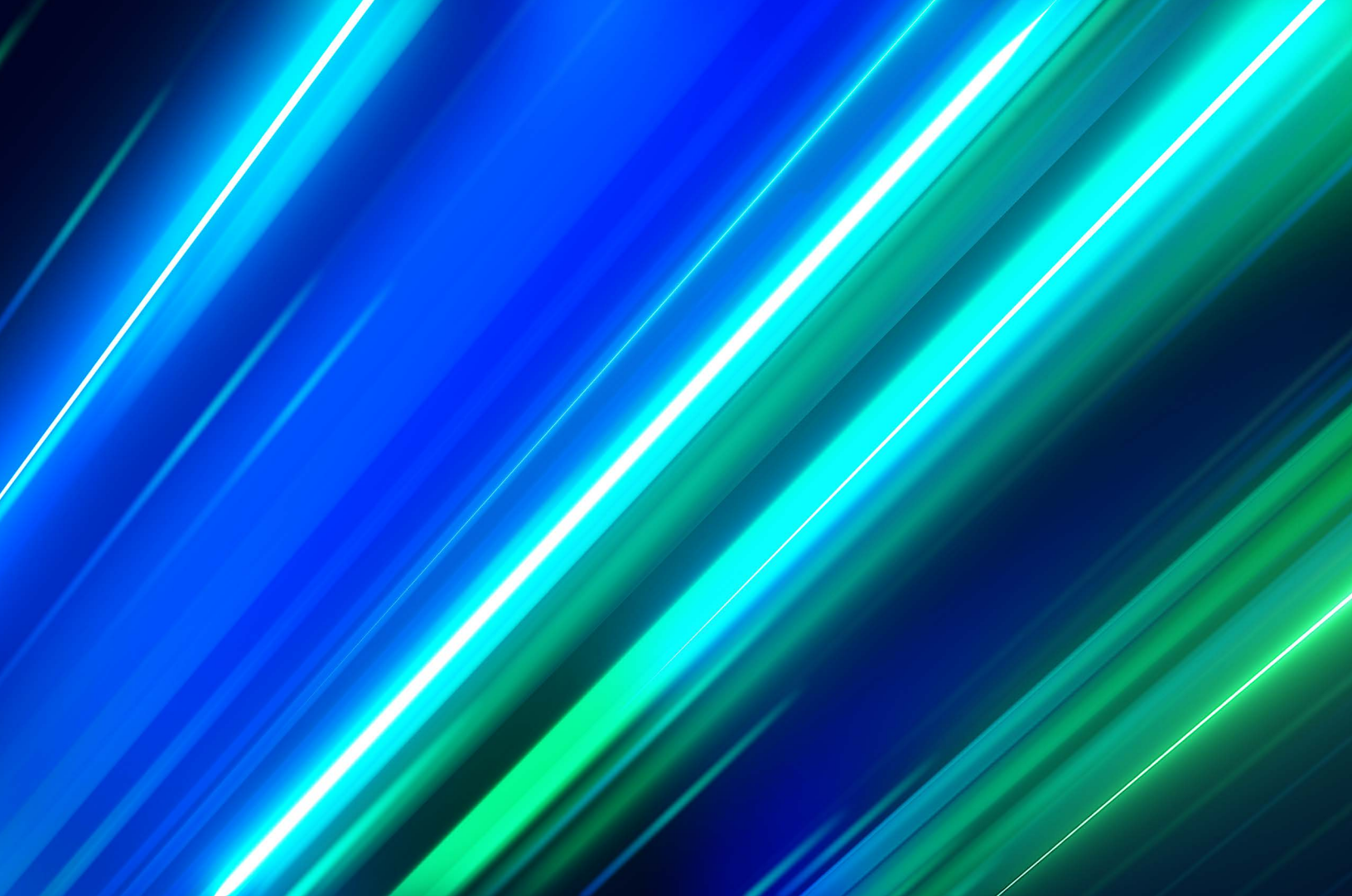
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## Acknowledgments

The author would like to thank Euan Davis, Associate Vice-President in Cognizant's Center for the Future of Work, for his valuable insights on this report.



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## About the Center for the Future of Work

Cognizant's Center for the Future of Work™ is chartered to examine how work is changing, and will change, in response to the emergence of new technologies, new business practices and new workers. The Center provides original research and analysis of work trends and dynamics, and collaborates with a wide range of business, technology and academic thinkers about what the future of work will look like as technology changes so many aspects of our working lives. For more information, visit [Cognizant.com/futureofwork](https://www.cognizant.com/futureofwork), or contact Ben Pring, Cognizant VP and Managing Director of the Center for the Future of Work, at [Benjamin.Pring@cognizant.com](mailto:Benjamin.Pring@cognizant.com).

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## About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](https://www.cognizant.com) or follow us [@Cognizant](https://twitter.com/Cognizant).

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