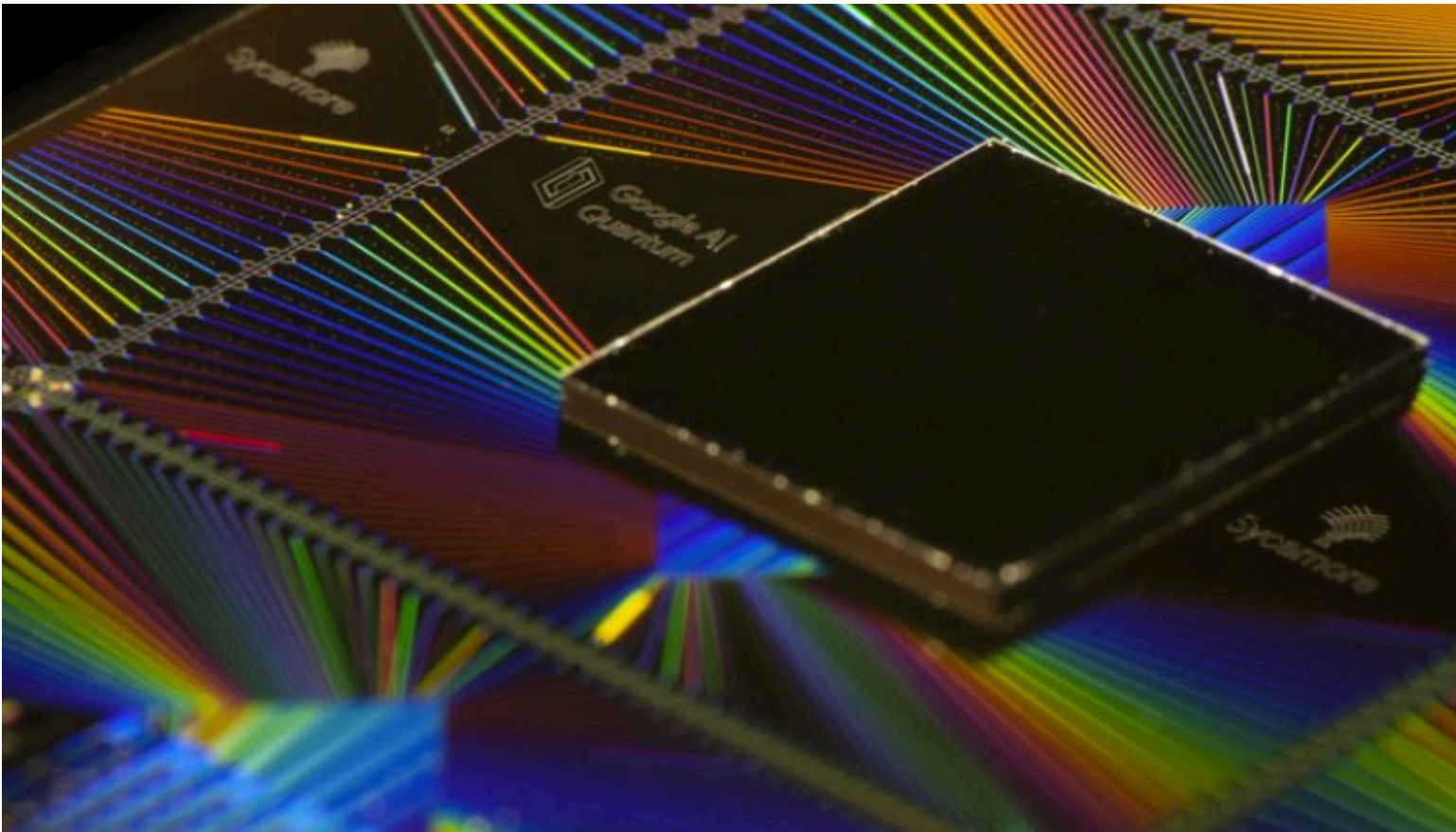# GoSpotCheck

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Tech Trends for

2020

An inside look at the people-centric technology that will revolutionize innovations in 2020 and beyond.

2019 was a big year -- but 2020 is shaping up to be even bigger.

Last year, we identified AI-driven development, quantum computing, edge computing, digital twin, and blockchain setting the stage for key developments in tech. Within the last 12 months, some of the world's most notable leaders in innovation made significant headway in these categories:

- In November, Google announced it created a computer that reaches "quantum supremacy." The machine, according to Google, "needs only 200 seconds to solve a problem that would take the world's fastest supercomputer 10,000 years to figure out."[1] With this development in 2019, we can expect to see the rise of quantum computing to continue in the coming years with much faster processing speeds to follow, allowing for major advancements in global issues such as traffic optimization, drug development, cybersecurity, and even climate change.

- Deloitte's 2018 Global Blockchain Survey revealed

that almost half of respondents (1,386 senior executives in a dozen countries) planned to invest at least $5 million in blockchain over the next 12 months. In this year's survey, "53% of respondents say that blockchain technology has become a critical priority for their organizations in 2019 -- a 10-point increase over last year."[2]

- AI-driven development grew rapidly in 2019, with sizable investments of note: In July 2019, Microsoft invested $1 billion in OpenAI, with plans to focus primarily on "a platform to create new AI technologies and deliver on the promise of artificial general intelligence."[3] In the same month, SoftBank invested $38 billion in AI-based technology with LPs including Microsoft, Apple, and Foxconn.

Such advancements in 2019 may seem like a tough act to follow in the coming months, but with the remarkable progress in IoT, new and highly-improved network technology, and expertise democratization, it appears another formative year is upon us —

1 https://www.cnn.com/2019/10/23/tech/google-quantum-supremacy-scn/index.html

2 https://www2.deloitte.com/content/dam/Deloitte/se/Documents/risk/DI_2019-global-blockchain-survey.pdf

3 https://medium.com/dataseries/artificial-intelligence-and-recent-billion-dollar-investments-2019-759e78b042ad

particularly when considering the growing need for a people-centric tech strategy in an automated world. We've rounded up five of the most influential trends in tech to watch in 2020, complete with insights and recommendations from our GoSpotCheck team.

1. Smart Spaces

With smart devices at our fingertips in nearly any environment, you've likely experienced a smart space in one of its many forms -- perhaps even in your own home. Powered by one or multiple IoT devices, a smart space brings together **people, processes, services,** and **things** with a human need at the root of its purpose. David Cearly, Vice President and Gartner Fellow, describes the value of implementing technology that keeps the human in mind: **"Putting people at the center of your technology strategy highlights one of the most important aspects of technology — how it impacts customers, employees, business partners, society or other key constituencies."**[4] Smart homes, smart factories, smart stores, and smart cities are all considered to be smart spaces -- **and the global smart space market is expected to reach $23.4B by 2026,** with key players such as IBM, Cisco, and Hitachi leading the charge.[5] IoT devices such as wireless sensors for facilities management and restaurants, and smart shelves for brick and mortar retailers are just a few of the many options available to organizations to capitalize on the smart space trend and its myriad benefits to business. "With how accessible IoT devices are and will become, there will be fewer and fewer reasons for organizations to not consider implementing an IoT strategy," says Brandon McLaughlin, Product Marketing Manager at GoSpotCheck. "The benefits are widespread, specifically when it comes to the ability to switch from periodic maintenance to condition-based maintenance to manage facilities, restaurants, and stores." To learn more about how enterprise leaders are investing in IoT and shaping critical roadmaps for 2020 and beyond, download our white paper here.

"[Smart spaces] create meaningful impact every day on businesses and communities, whether we're aware of them or not. A smart space , broadly speaking, is any space that improves your quality of life without interfering with your life."[6]

2. Democratization of Expertise

To understand the significance of the democratization of expertise, consider the proliferation of public digital resources like Instagram, GarageBand, or YouTube: With one click, we can learn any skill on demand--how to be a photographer, a musician -- you name it. Similarly, acquiring expertise in things like coding, developing apps, or designing software no longer requires extensive and expensive training and resource allocation, thanks to the rise of the low-code no-code movement. In fact, a tectonic shift inside enterprise organizations is underway, as individual employees, close to business problems, leverage the power and flexibility of SaaS (software as a service) solutions to become "citizen developers" without the long lead times and resource challenges typical of tech investments in the past. Historically, corporate IT teams procured, configured, and maintained software and hardware on behalf of the entire company, making technology a centralized endeavor. However, the proliferation of the cloud and the consumerization of software design have created a world in which anyone in the company can sign up for a new tool or service and get immediate value -- often outside the purview of IT. In addition to being able to learn new skills on-demand in an era where expertise is being democratized, "citizen developers" are new pioneers in a world in which everyone is a builder. In this universe, those who sit closest to the problem will be the ones to create business applications to meet their custom needs at warp speed. As democratization gains momentum, corporations can unleash "power users" in low-code, no-code environments where they can safely create solutions. By 2021, **market demand for app development is expected to grow at least 5 times**

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4 https://www.helpnetsecurity.com/2019/10/23/strategic-technology-trends-2020/

5 https://www.marketwatch.com/press-release/global-smart-space-market-share-size-growth-opportunities-component-types-top-players-regions-statistics-outlook-2019-demand-and-forecast-research-to-2025---28-aug-2019-2019-08-28?mod=mw_quote_news

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6 https://www.forbes.com/sites/forbestechcouncil/2019/11/15/smart-spaces-are-only-as-smart-as-the-sum-of-their-parts/#4611d07f37da

faster than IT's capacity to deliver [7] -- inevitably leading to a ubiquitous adoption of low-code, no-code platforms at enterprise scale.

> *"Democratization, in this case, refers to wider access to technical expertise (e.g., machine learning, application development) or business domain expertise (e.g., sales process, economic analysis) for users via 'a radically simplified experience and without requiring extensive and costly training."*
> - Forbes[8]

7 http://www.dv-cg.com/wp-content/uploads/2019/05/embracing-low-code-development.pdf

8 https://www.forbes.com/sites/peterhigh/2019/10/21/breaking-gartner-announces-top-10-strategic-technology-trends-for-2020/#315eefb40744

"Low-code no-code software, or ease-of-use development platforms, require very little to no coding expertise or formal training and allow businesses to capitalize on tech with preexisting resources."

- Laura Sellers, VP of Product & Engineering, GoSpotCheck

Democratization Is About Empowering Everyone

Accessible Technology

Accessible Intelligence

Citizen Data Science

Citizen Process Automation

Citizen Development

You

Marketing Virtual Assistant

HR Virtual Assistant

Sales Virtual Assistant

Gartner.

Fig. 1: The power of democratization of knowledge as it relates to technology and intelligence.

What exactly does this mean for organizations? "The availability of point-based SaaS solutions has changed the landscape entirely," explains Joey Alfano, Chief Product Officer at GoSpotCheck. "It has empowered employees that had little or nothing to do with IT decision-making to have perspective and input in solution discovery and administration within their department." According to Forrester, spending on low-code software development is expected to reach $21.2 billion by 2022 -- representing a 40% growth each year.[9] Once again, technology is strengthening its capabilities to meet the needs of the people: In this case, it will result in ultimate empowerment, collaboration, and transformation within organizations that may not have considered single-handedly adopting or revamping a tech strategy.

3. 5G

Although conversations around 5G and its revolutionary potential have been circulating for years, it's finally here -- and 2020 is expected to be what Intel is terming "The Year of 5G." For those of us who have become frustrated with the limitations of 4G LTE, 5G will be significantly faster once rolled out to all devices: 400-500 Megabit per second (Mbps) as compared to the current speeds of 4G LTE, 35 Mbps; but 5G poses many more benefits to people and to businesses than faster download speeds. "There's much more to the potential speed of a connection than just the bandwidth of a single channel," says Bob O'Donnell, president, founder, and chief analyst at Technalysis Research. "Modern cellular network connections combine several different channels together in various different ways."[10] In other words, 5G has the ability to merge different channels -- or frequencies -- to combine various sets into one unified connection. For organizations, this will result in a profound improvement in data collection on a much larger scale -- and at a much faster speed.

"*5G is not just another generation of wireless connectivity – it will have an incredibly broad scope, supporting billions of connected devices and services across a wide range of industry sectors. It will enable the development and deployment of developing innovations such as IoT (Internet of Things) technology, Artificial Intelligence (AI), and immersive technologies such as Virtual Reality (VR) and Augmented Reality (AR). What's more, it will provide the backbone for the smart cities and autonomous vehicles of the future.*"

- Libby Plummer, Technology Writer, Intel

While significant change and progression as a result of 5G networks will begin in 2020, its full potential is expected to gradually progress over the next few years. 5G connections are predicted to reach 1.2 billion by 2025, accounting for 14% of total connections at the time,[11] but organizations should start preparing now. "For 5G to become a reality, businesses need to replace fixed-function equipment with virtualized software-defined networks," Explains Libby Plummer. "Switching to the cloud will be vital, as 5G relies so heavily on virtualization."[12]

4. Hyper-Automation

For many, the concept of full-fledged automation may come with feelings of hesitation. We can't help but imagine a world with robots roaming alongside us in our daily routines, completing human tasks — but the irony of automation is that it simply cannot function without human direction and decision-making. According to Forrester's Predictions for 2020, "automation will replace, on net, 1.06 million jobs from cubicle, coordinator, and function-specific knowledge worker personas in 2020. By contrast, work personas that require intuition, empathy, and physical and mental agility, including cross-domain knowledge workers,

9 https://www.computerweekly.com/feature/Low-code-maturity-boosts-efficiency-and-helps-user-acceptance

10 https://www.forbes.com/sites/bobodonnell/2019/11/19/how-fast-will-5g-really-be/#7c781e745cf3

11 https://www.gsma.com/newsroom/press-release/two-thirds-mobile-connections-running-4g-5g-networks-2025-finds-new-gsma-study/

12 https://www.intel.co.uk/content/www/uk/en/it-managers/2020-5g.html

Reduce human effort by accomplishing more work in shorter periods of time

Reduce the risk of human error by using machines calibrated for precision

Improve quality of work by eliminating tedious and potentially dangerous processes

RESULT:
Increased productivity & higher output

Fig. 2: Observing the business benefits of hyper-automation

teachers/explainers, and digital elites, will add 331,500 net jobs in 2020."[13] Put simply,

"human channels still matter."

But where is the role of the human when considering hyper-automation -- the combination of multiple machine learning, packaged software, and automation tools? The answer lies in hyper-automation's ability to empower the citizen developer by supporting the low-code, no-code movement, eventually allowing citizens to deliver even more value than advanced data scientists. Another benefit of hyper-automation? Systems get more intelligent, which means we'll see huge leaps forward in productivity as smart recommendations are produced and allow the developers and administrators to make even better bets for the business, spot and optimize patterns, and iterate on profiles of success, almost effortlessly. Ironically, automation can actually enable more creative and meaningful ways of working as humans tinker, experiment and build with strong signals from automation platform--we are entering the era of perfect harmony between humans and machines.

> *"By 2021, automation of data science tasks will enable citizen data scientists to produce a higher volume of advanced analysis than specialized data scientists."*

As identified by Gartner, hyper-automation refers to the tools that extend across the full journey of automation and enable analysts to discover, analyze, design, automate, measure, monitor, and reassess.[14]

The challenge to succeeding with a hyper-automated strategy, however, is balancing automation with a non-intrusive approach. For example, Satyam Vaghani, senior vice president and manager of IoT and AI at Nutanix, partnered with Hardis Group to create a non-intrusive optimization strategy for warehouse management. The collaboration resulted in a fully-digitized supply chain without disrupting employee workflows, led by machine

13 https://go.forrester.com/research/predictions/

14 https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2020/

vision technology and the ability to create a digital twin of a warehouse. Ultimately, with the deployment of what Nutanix calls "hyper-converged infrastructure software," companies that operate in remote environments such as oil rigs, factory floors, and retail stores are able to automate processes and analyze data within a platform rather than inside a data center.[15] By eliminating the need for an advanced, highly-trained data scientist, coder, designer or app developer through task automation, hyper-automation directly supports the second trend in our report— the democratization of expertise — and leads us to our fifth and final trend.

5. Multi-Experience

As evidenced by the increasing prevalence of IoT devices and smart spaces throughout the consumer journey, the desire for a consistent, meaningful customer experience at all digital touchpoints will continue to grow in 2020. The experience economy can be largely attributed to the first digitally-native generation in history, Gen Z (people born between 1996 and 2010), who will make up 40% of all consumers in the U.S. by 2020.[16] Gen Z has picked up a nickname in recent years, as coined by McKinsey: "True Gen," or the generation that's defined by an underlying search for truth in its consumption and in its relationships with brands.[17] In this sense, the role of human authenticity in an organization's tech strategy is more vital than it has ever been. And in order to reach True Gen on a deeper, more authentic level, companies will be tasked with creating uniquely experiential, personalized consumer relationships across channels, from mobile apps, wearables, and digital offers, to thoughtfully-curated assortments and unique shopping experiences.

> *"Multi-experience replaces technology-literate people with people-literate technology."[18]*
> - Gartner

Gartner expects 2020 to be the year in which **"the top 10% of CMOs will broaden their role in the name of customer value,"** and will "recognize that **the best mechanism to drive growth is a strategically-planned ecosystem that delivers value to customers throughout their lifecycle."** Creativity in how to effectively design a multi-experience strategy will be a challenge for companies looking to adopt multi-experience in the coming years, primarily due to the shifting focus on individuality in a saturated digital landscape. "Consumers are seeking meaningful personalization from brands, and they want a real relationship. We want to be known, understood, and empowered. Humans are wired for creativity and want to reward it in others at a neurological level," says Heather Larrabee, Executive Vice President of Marketing at GoSpotCheck. **"Companies that integrate the incredible digital insights we've been amassing with inspired, relational touchpoints that are innately human will win.** This is paramount for brands to plan for now with the emergence of Gen Z -- they seek authenticity, they want real-life connection, and they want to be in relationships with products and services they trust and admire who are making a difference in the world. You can't produce that in a lab or a data lake; this work takes human ingenuity and heart." And with True Gen's *anywhere, anytime* mindset led by its mobile-first tendencies, mobile apps have been identified as the first touchpoint to begin that relationship and generate business impact. "Contrary to the perception that mobile apps are in decline, they are in the lead for applications projected to have the most impact on business success by 2020," says Jason Wong, VP Analyst at Gartner.[19]

15 https://www.iotworldtoday.com/2019/11/15/nutanix-and-hardis-team-up-on-supply-chain-transformation/

16 https://www.forbes.com/sites/janicegassam/2019/11/11/dear-businesses-generation-z-does-not-want-to-hear-please-hold/#58b37eb66b46

17 https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/true-gen-generation-z-and-its-implications-for-companies

18 https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2020/

19 https://teletimesinternational.com/2019/gartner-says-the-future-of-app-development-is-multi-experience/

The Year of the Automation Paradox

In 2020, people-centric technology will take center stage. Smart spaces, democratization of expertise led by low-code, no-code software, the rise of 5G, hyper-automation, and multi-experience all have one common thread: empowering people and organizations to simplify and elevate their productivity -- at work and at home. As tech continues to progress into 2020, CMOs and CIOs will be challenged to prioritize creativity and personalization, while also investing in robust software to drive innovation and sustain strategy for years to come. And with newer devices, faster download speeds, and progression in ML, AI, and robotics, the need for human creativity and empathy isn't dissipating -- it's only growing stronger.

200+ brands in 70 countries across 6 continents power their teams with GoSpotCheck. Our easy-to-use mobile app helps increase sales, optimize labor, generate business insights, and improve profitability from the field. Named a **2019 Editor's Pick by Consumer Goods Technology** with a **4.7 End-User Rating on G2-Crowd**, GoSpotCheck has Salesforce integrations, deep linking, data encryption in transit and at rest, SCIM provisioning, and is GDPR compliant and SSO-enabled.

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