Technology Vision 2021

The world is hungry for a new kind of leadership.

Amid the challenges of 2020, two truths became evident.

More companies than ever have embraced the axiom that every business is a technology business, and they've ignited a new era of exponential transformation as technology continuously reshapes industries and the human experience.

Now, as we begin shaping our post-pandemic reality, companies must learn to **master change**.

2020 and its many crises brought a new reality into sharp focus.

The pandemic and the resulting disruptions exposed the limitations of long-standing norms for how companies operate and how people live.

- Inflexible work arrangements and operations

- Fragile supply chains

- Untrustworthy information

- New customer needs

The pandemic radically accelerated changes that companies knew were coming but didn't expect to see so soon.

A journey to reinvention has begun.

Major shifts that were predicted to materialize in years are happening here and now:

- Industry convergence

- Localized supply chains

- Rapidly and continuously changing customer expectations

There's less clarity than ever into what our long-term future holds.

The era of the fast follower is effectively over.

Perpetual change is here to stay, and leaders must not only embrace it, but catalyze it.

91%

of business and IT executives agree capturing tomorrow's market will require their organization to define it.

12

Prior to the pandemic, deploying new technologies in under a year felt like a stretch.

But in March 2020 the United Kingdom's National Health Service dispelled perceptions of just how fast technology transformation needs to take.

In a matter of weeks, they rolled out Microsoft Teams to 1.2 million employees.

Will your business watch the world change around you?
Or be the one leading it?

Leaders Wanted:
Masters of change at a moment of truth

Stack Strategically

Mirrored World

I, Technologist

Anywhere, Everywhere

From Me to We

The future of every industry is a battle between competing enterprises' technology stacks.

Technology is no longer one-size-fits-all, and the technology choices that a company makes can radically alter their value proposition.

Look at the competition playing out between Microsoft and Sony.

Microsoft

Emphasizing cloud for their latest Xbox device, working to make more games accessible on phones, tablets, and PCs, rather than be tied to just a living room console.

Sony

Delivering experiences with its next-generation hardware, VR headsets, and advanced haptic feedback to match situations in a game.

77%

of executives state that their technology architecture is becoming very critical or critical to the overall success of their organization.

A new era of competition is dawning.

One where architecture matters, and leaders will be decided not just on the success of their business plans, but by the ingenuity of their technology choices.

This range of options presents both opportunity and risk.

The opportunity is to custom-tailor every layer of technology architecture and capture the market with a truly unique approach.

The challenge: most enterprises' technology strategies and architectures aren't designed to take advantage of this abundance of choice.
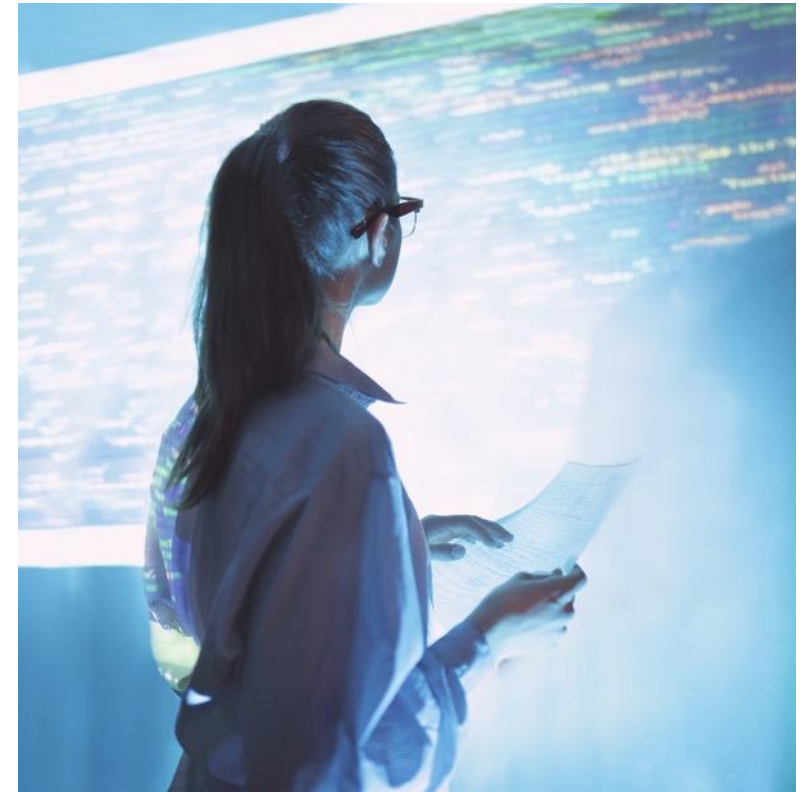
Too often, companies struggle as rigid technology solutions take hold.

In the pursuit of building something cutting edge, many businesses inadvertently built systems that were future-resistant, not future-adaptive.

A strong, but adaptable technical foundation is key to addressing unexpected change.

Truly architecting for change means re-thinking how applications are developed and taking advantage of new opportunities.

The UK Department for Work & Pensions (DWP) used prior experience with microservices to respond quickly to the public-health crisis. When demand started surging, DWP was able to identify and quickly scale services for:

| Requesting universal benefits checks | Services for uploading medical records | Issuing free school meal vouchers |

To capitalize on tomorrow's markets, enterprises need to marry industry and technology leadership.

Identifying and building the right technology stack will bring a business's preferred future to life.

Ralph Lauren has introduced a Digital ID program, where customers can scan QR codes embedded on the garments to guarantee authenticity, while the enterprise can bring more transparency and efficacy to their supply chains.

83%

of executives report that their organization's business and technology strategies are becoming inseparable—even indistinguishable.

A new era of business is dawning – one where architecture matters more than ever and the need to become a technology leader is critical for success.

Today's digital twins are at an inflection point.

Broad adoption of digital twin technologies and their multiplying network effects have created a mirrored world.

Leaders are starting to connect massive networks of *intelligent* twins, linking many twins together to create living models of whole factories, supply chains, ports, and cities. They are creating unbroken threads of data – fabrics that will soon be essential to every enterprise's digital strategy.

Experiments and initiatives emerging today signal a mirrored world is not far off.

Moving toward a digital representation of an entire supply chain.

Unilever is developing intelligent twins for their factories. The company uses data streaming from connected machines to track facility metrics, and then uses machine learning to simulate operational changes to improve production efficiency and flexibility.

To gain the insights and greater agility that the mirrored world promises, you first need a strong data foundation.

When intelligent twins are connected in mirror environments, they are a powerful way to turn data into actionable, big-picture insights. But incomplete or incorrect data will lead to false conclusions.

COVID-19 has made historic data increasingly unreliable, raising a new set of challenges.

It took just one week at the end of February 2020 for the top ten Amazon search terms in multiple countries to shift to COVID-19 related products. Sudden and widespread changes like this can send machine learning models off course, impacting:

| Supply chains | Marketing plans | Inventories |

Expansive networks of digital twins will increase real-time agility.

Building a risk-free playground to explore new product ideas, strategize for many possible futures, and explore limitless "what-if" scenarios.

Big data company TIBCO is partnering with Mercedes-AMG Petronas Formula One Team, to improve race performance. This partnership lets the team test several vehicle factors in a digital twin simulation, helping them build the optimal car without unnecessary track time.
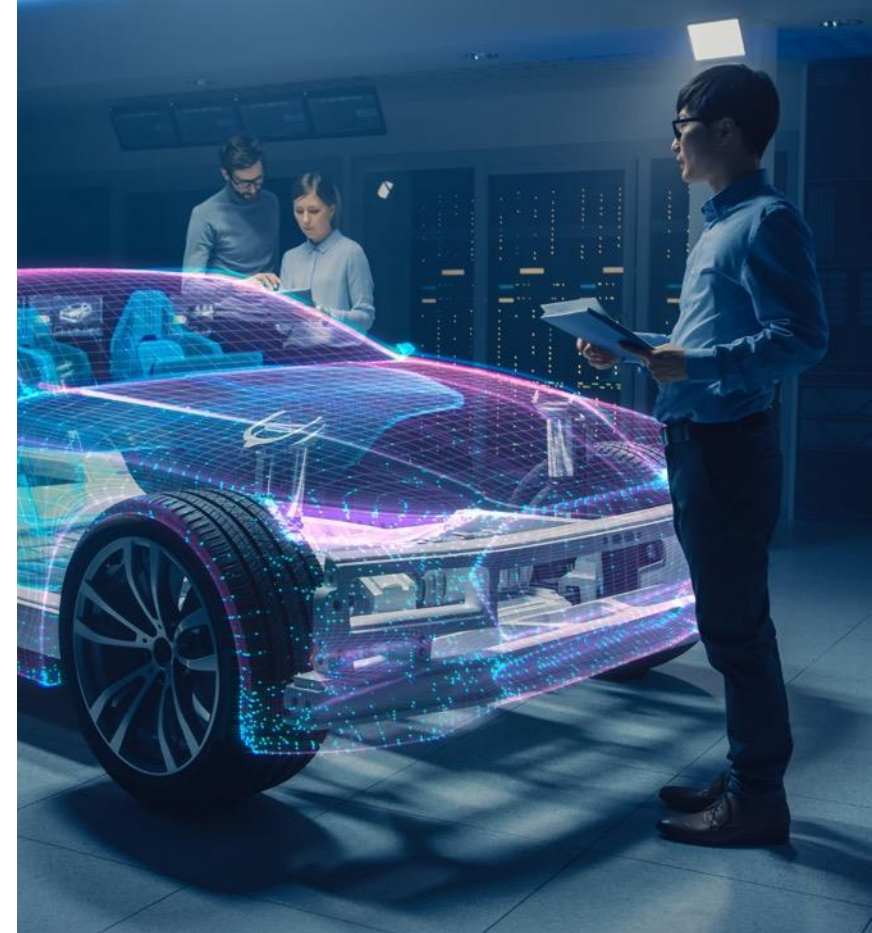
Intelligent twins give enterprises entirely new ways of conducting R&D.

Exploring previously unheard-of opportunities with the simulation power of digital twins.

Oklahoma State University and Ansys explored using the power of digital twins to better target tumors. They developed digital twins of human lungs, then simulated drug delivery models, ultimately leading to 90 percent increase in lung drug delivery efficacy using digital twins.

they found a delivery method that may let doctors increase the accuracy of drug delivery to 90 percent— much higher than the 20 percent common for conventional aerosol methods.

Intelligent twin simulation helps businesses plan for emerging risks.

Businesses can use simulations to model and predict dynamic and sophisticated behavior of bad actors.

Facebook has created a threat simulator, called WW, based on the company's code base. WW uses bots to mimic both innocent users as well as bad actors, allowing Facebook engineers to implement various strategies to stop this behavior.

Leading organizations will start to push the boundaries of the duality of the real world and virtual world, including the need for persistency and seamless navigation through both.

65%

of executives expect their organization's investment in intelligent digital twins to increase over the next three years.

Technology Vision 2021

I, Technologist

The Democratization of Technology

From insights to action, the path to extraordinary value starts here.

accenture

The power to create technology solutions is entering the hands of people across the enterprise.

Natural language processing, low-code platforms, and robotic process automation (RPA) are just a few of the capabilities and services making technology more accessible.

OpenAI's third generation deep learning language model, GPT-3, interprets natural language requests to:

| Write short stories | Compose songs | Help non-technical users code |

Developments like this have prompted many to wonder if programming is on the precipice of democratization.

Technology democratization adds a grassroots layer missing from enterprise innovation.

Leaders will need to extend the innovation imperative across every business unit.

Enterprises have an opportunity to make their employees a core part of their digital transformation effort with democratized technologies.

88%

of executives believe technology democratization is becoming critical in their ability to ignite innovation across their organization.

Enterprises face unprecedented urgency to deliver technology solutions.

Enterprises can't afford to wait and hire someone tomorrow to build the solution they need today.

In the first months of the pandemic, healthcare provider Geisinger saw a 50 percent decline in outpatient visits and a sudden surge in in-patient and ICU needs.

Geisinger used Quickbase low-code development to build an app to help coordinate and reassign thousands of healthcare workers in their network.

In many cases, businesses already have access to democratized capabilities.

Cloud solutions offer an opportunity to bridge the gap between complex technology and workers at every level of the organization.

Existing cloud solutions where enterprises have already made investments offer a stepping stone into the use of democratized technology:

Amazon's Honeycode is an AWS service that lets people build mobile and web apps without writing a single line of code.

Salesforce's Lightning App Builder is a point-and-click tool for creating custom pages on the Salesforce app.

Microsoft Teams allows direct embedding of Microsoft Power Apps.

You don't need to teach employees how to become expert coders, but you do need to train them to think like technologists.

Long-term training initiatives elevate general technology know-how for all employees.

Accenture's Technology Quotient (TQ) program is a global learning initiative to help employees understand important technology concepts, their business value, and how they can solve pressing client needs. The program covers everything from mature strategies like cloud to more cutting-edge technologies like blockchain.

Looking further ahead, democratization will reinvent the role of IT at large organizations.

Schneider Electric has deployed over 220 bots as part of an RPA transformation effort. To mitigate risks, a global RPA team was established to review submitted use cases and help with initial bot development. The group has rejected more bots than they have approved, but the extra process guarantees the bots' usefulness down the road.

Empower your people with democratized technology and create a workforce of innovators ready to make the most of technology transformation efforts.

The year 2020 saw the biggest workforce transformation in living memory.

No one is going back to work as they remember it. Rather companies and employees alike are moving into a new future.

By June 2020, research from Stanford found:

2x

The number of at-home workers compared to on-site workers

66%

of U.S. economic activity was generated from remote work

Forward-looking companies realize workplace transformations are here to stay.

Leaders are rethinking the purpose of their offices
in a world where remote work persists.

Think back to the early days of the "bring your own device" (BYOD) movement, where companies allow employees to use their own preferred laptops or smartphones to perform work.

While that idea is familiar, businesses have moved beyond BYOD and into BYOE: employees are bringing entire *environments* to work.

10

The average number of connected devices in U.S. households in 2020

81%

of executives agree that organizations in their industry will start shifting from a Bring Your Own Device (BYOD) to Bring Your Own Environment (BYOE) workforce approach.

As tempting as it may be to pull back to what's familiar, think about what your organization can do moving forward with intent.

It's an opportunity to reimagine what you do and what you can offer to the employees who help you deliver it.

| Tap into a global talent pool | Build a workforce that is constantly "on" by virtue of time zone coverage | Meet sustainability goals by right-sizing company office spaces and travel demands |

The remote workforce opens up the market for difficult-to-find talent and expands the competition for talent among organizations.

And it presents an opportunity to reimagine the purpose of place.

Businesses are repurposing their offices – allowing workers to stay home by default but keeping these spaces available for co-working or team building.

22%

of Stripe's engineering workforce has made the decision to be permanently remote, even once offices start to reopen. Stripe can support this shift given the company's embrace of remote work in 2019

Supporting BYOE demands cultural changes across the organization.

What does work look like in this new, changing world?

Twitter has identified several actions to improve cultural and geographic diversity in an era of remote work:

- Minimize meeting fatigue with formal guidance on video calls.

- Rethink their performance review system to prevent bias against remote workers.

- Recreate "water cooler" connections and social engagement.

Capturing the promise of BYOE won't happen overnight, but leaders in the future will be the ones who lean in.

The future of work starts today.

Technology Vision 2021

From Me to We

A Multiparty System's Path Through Chaos

Voices of **Change**

From insights to action, the path to extraordinary value starts here.

accenture

Despite widespread technology transformation efforts, businesses have struggled to change the way they partner and coordinate with their stakeholders.

Look at the impact of the pandemic on supply chains:

94%

of the Fortune 1000 reported COVID-19 supply chain disruptions

75%

of the Fortune 1000 reported these disruptions negatively impacted their business

Complementing a business's technology advantages with those of their ecosystem partners is key to meeting shared customer needs.

Honeywell partnered with SAP to create a comprehensive building management platform. This platform's data structure draws from IoT sensors to give building owners a view of operational and business insights such as:

- Progress toward reducing carbon footprint.

- Understanding tenant experiences.

- Managing on-going maintenance requests and leases.

Multiparty systems drive new business capabilities and service.

Multiparty systems enable a shared data infrastructure between individuals and organizations that drive efficiency and build new business and revenue models.

| Blockchain | Distributed ledger | Tokenization | Distributed databases

TradeIX's Marco Polo is a platform for payables financing, receivables discounting and payment commitment, built on R3 Corda distributed ledger technology.

30

The number of banks, lenders and technology providers partnering to use this platform

20%

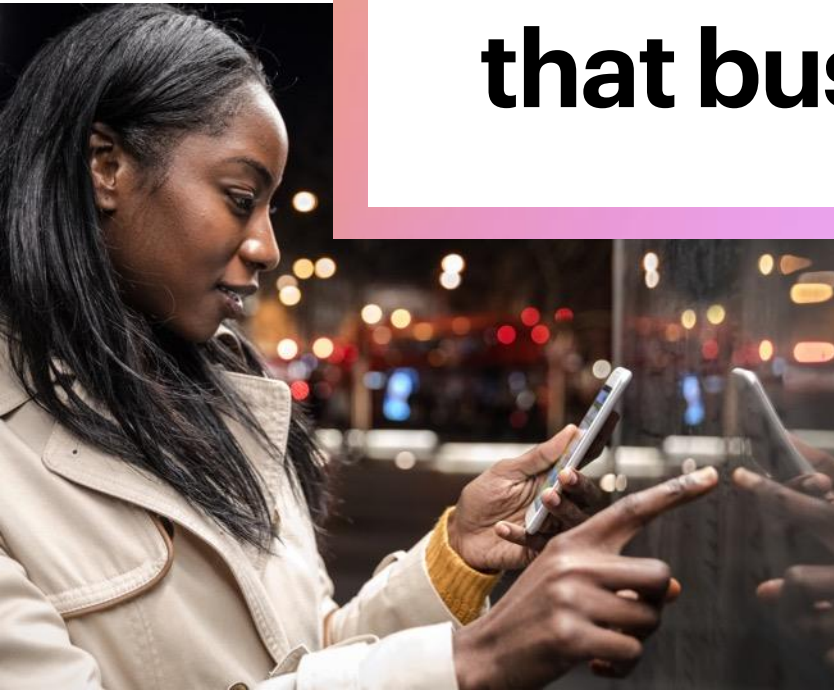Increase the platform can provide in terms of working capital and liquidity

3–4x

Improvements in trade processing speed with this platform

80%

Reduction in data entry and reconciliation with the platform

70

Multiparty systems are reinventing business interactions – it is imperative that businesses help build this future.

Multiparty systems are poised to become the center of commerce, supply chains, and all other transactions between partners and customers.

In October 2020, the International Monetary Fund (IMF) announced partnerships with G20 members to establish a set of standards for "Central Bank Digital Currencies" that are better equipped for the modern era.

71

With multiparty systems, enterprises can create a more equitable future for themselves and their partners.

The World Economic Forum has established a set of experimentation guidelines around distributed ledger technologies that include:

- Giving individuals the right to information about the system in use.

- Allowing individuals to own and manage their data, and have it protected in accordance with recognized technical security standards.

- Provide individuals with the information they need in order to pursue effective recourse.

It's not just saying yes to the idea of an ecosystem, but ensuring systems are architected to allow the business and ecosystem to reach their full potential.

Even the most advanced multiparty systems can be rendered ancillary by virtue of rigid architectures, data silos, or legacy systems. Even worse, with bad data, it's stretching the old axiom of "garbage in, garbage out" to "garbage in, garbage forever."

It's time to move beyond small-scale implementation and become a leading partner in shaping tomorrow's ecosystem.

When the winds of change blow,
some people build walls.

Others build windmills.

- Chinese proverb

>

Thank you

#techvision2021
www.accenture.com/technologyvision