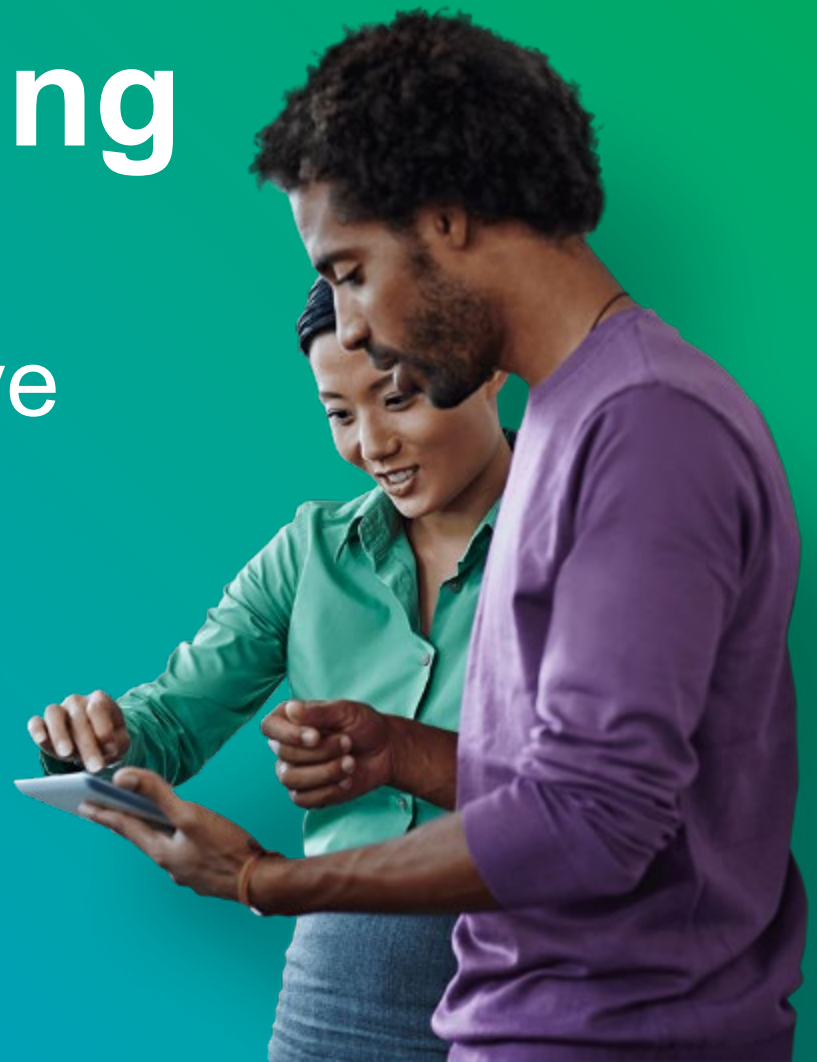
Mercer

welcome to brighter

A look at what's driving the tech industry

Harnessing industry trends to drive growth in 2022



November 2021

A business of Marsh McLennan

Belief Based Engagement : The Approach

Chapter 1

Change is here. More is coming fast.

Detail macro forces that are disrupting or enabling their business model.

Chapter 2

Act now, or risk failure.

Highlight past winners and losers and why they succeeded / failed.

Chapter 3

If you act, great things are possible.

Describe their strategy and desired future state.

Chapter 4

But hard work is required.

List the risk, strategy and people challenges to be managed to reach the desired state.

Chapter 5

Marsh is the risk advisor you need.

Give concrete examples & data to establish our experience and expertise.

Technology Industry BBE Story

Chapter 1: Seismic Shifts

- **The demand for tech talent is "out of control"** as technological capabilities and innovation have become mission-critical for traditional and non-traditional technology companies alike
- An **increasingly decentralized workforce** is forcing companies to create an employee experience without confines
- **Customer preferences continue to evolve**, driving changes to business models, products, and services, with market leaders quickly adapting to meet customer demand (in existing or new markets)
- Eroding trust in the industry is leading to **increased consumer, employee, and regulatory scrutiny**

Chapter 2: Competitive Landscape

Technology leaders betting on innovation-led growth

- Embracing a 'digital first' mindset, embedding remote working in their organizational culture and evolving HR processes, benefits, and technologies to meet the needs of a remote workforce
- Creating personalized experiences for their workforce (career pathing, benefits packages, etc.)
- Investing in new/adjacent industries (e.g., healthcare, automotive) & technologies (e.g., 5G, edge computing)
- Leveraging all facets of the Employee Value Proposition and Total Rewards (benefits, LTI/STI, culture, etc.) to attract and retain talent
- Creating strategies, outlining activities, and defining metrics to achieve marked success in DE&I and ESG
- Embracing M&A activities or strategic partnerships to bridge skill gaps and enable both growth and scale

Chapter 3: Ideal State

The demand for tech talent is "out of control"

- The employee value propositions includes benefits and rewards that meet the needs of a diverse and socially-conscious workforce
- Inclusive benefits and global minimum standards (to the extent possible) have been implemented throughout the org

Increasingly decentralized workforce

- Business processes, policies, and technologies that promote remote working
- The organization embraces remote work styles (e.g., asynchronous operations, flexible working) and expectations have been communicated and trained on

Customer preferences continue to evolve

- Diverse perspectives are represented within the organization that are representative of the customer base
- The workforce has the skills and capabilities needed to innovate and deliver against customer demand

Increased consumer, employee, and regulatory scrutiny

- Investments have been made around cyber-security and data protection in alignment with customer expectations and regulatory requirements

Chapter 4: Challenges & Opportunities: Getting People Strategy Right

Accelerating business growth

- Creating an employee value proposition that is representative of the existing and desired talent market
- Hiring and effectively onboarding talent in a distributed Tech work environment
- Embracing strategic partnerships to mitigate the need to build or buy talent

Workforce challenges

- Developing digital skills and learnability in new and legacy employees
- Rewarding innovative talent differently and creating a choice architecture that reflect diverse needs/tastes

New workplace enablement

- Transitioning to asynchronous working styles and decentralized leadership styles
- Evolving people management capabilities and spans of control
- Digital transparency & information access
- Updating the technology stack to enable virtual working, focusing on collaboration, engagement and accessibility

Solvency and resiliency

- Redefining resiliency and risk for the future
- Preparing for impact of regulatory changes limiting how/where/what Tech companies can do and in which labor markets
- Moving beyond ESG and DE&I promises, holding leadership accountable for progress internal and external goals

Chapter 5: Actions: Mercer is The Partner You Need

Designing tomorrow's employee experience

- Reimagining the employee experience for a hybrid workforce
- Forecasting workforce needs, identifying skill gaps, and elevating the workforce
- Implementing technologies, programs, and policies that support remote working

Creating a foundation to attract & retain key talent

- Designing data-driven talent and Total Rewards strategies
- Reviewing internal labor markets and deploying pay equity standards
- Utilizing technology to enable and accelerate hiring tech talent

Evolving to meet customer demand

- Examining organizational structures to enable agility and employee development
- Accelerating M&A deal value and mitigating post-merger people risks
- Building a more diverse and inclusive workforce

Responding to stakeholder concerns

- Refining people strategies in preparation of adverse events and/or nondiscrimination considerations
- Increasing transparency around ESG and DE&I initiatives
- Providing access to legislative, market and industry research & insights

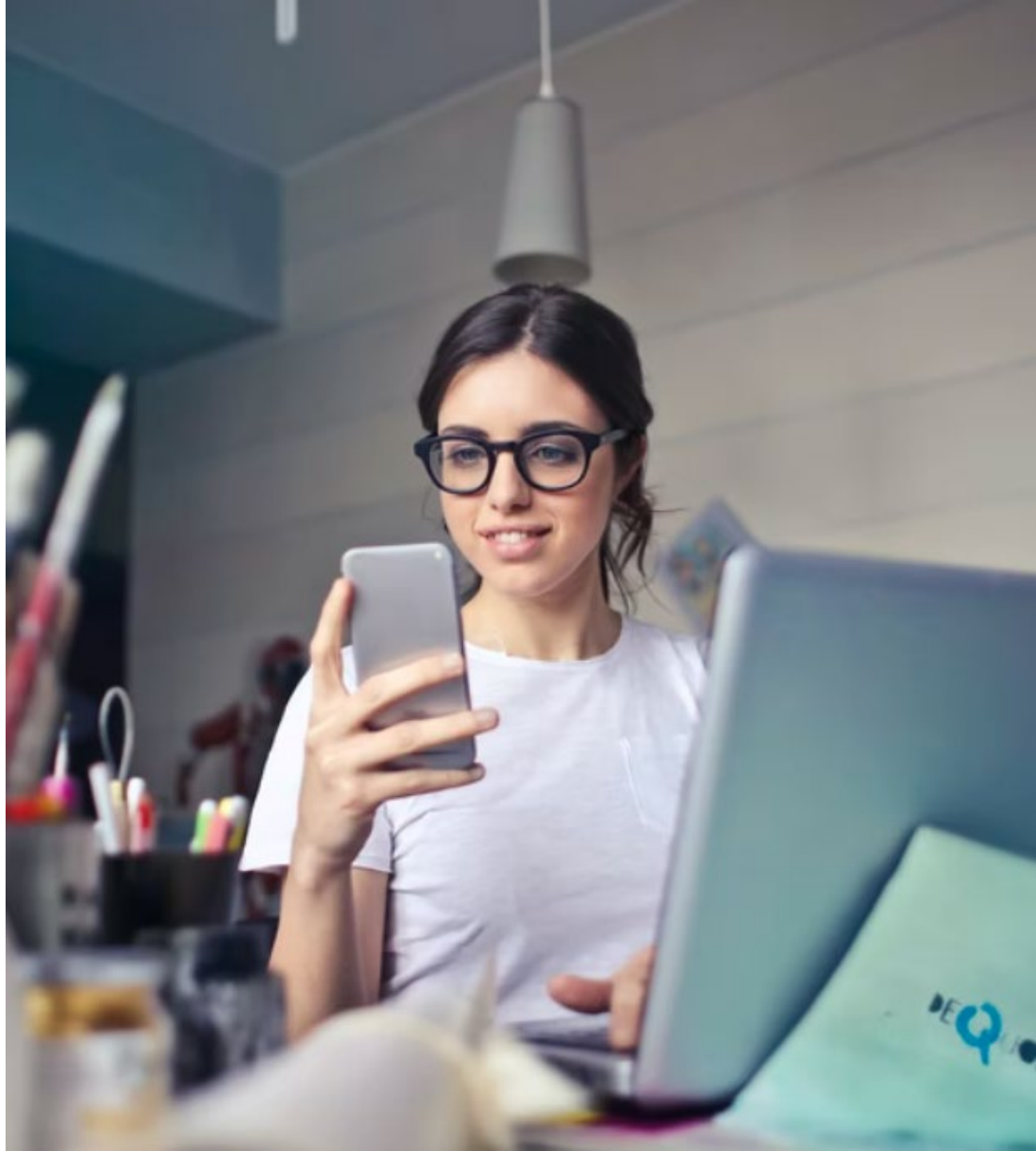
Chapter 1: What's driving the tech industry heading into 2022?

An increasingly decentralized workforce is forcing companies to create an employee experience without confines

The demand for tech talent is "out of control" as technological capabilities and innovation have become mission-critical for traditional and non-traditional technology companies alike

Customer preferences are evolving, driving changes to business models, products, and services, with leaders quickly adapting to meet customer demand (in existing or new markets)

Eroding trust in the industry and it's business practices is leading to ***increased consumer, employee, and regulatory scrutiny***



Chapter 1: Industry leaders are leaning into the seismic shifts

Demand for tech talent is "out of control"

- Turnover is increasingly becoming a problem for tech employers, ***55% indicated that voluntary turnover has increased, in comparison to pre-COVID levels***[4]
- An "every company is a tech company" mentality has permeated traditional non-tech industries, ***1 in 2 tech employers indicated that new competitors for talent is impacting their ability to recruit the right talent***[1]
- Employers are embarking on a number of strategic initiatives to attract and retain talent, ***77% of tech companies engaging employees to uncover what is most relevant to different personas*** and ***86% are increasing visibility for specific populations through networking/ mentoring activities***[1]
- Companies are having to evaluate comp structures (with a focus on bonus and equity awards) to compete with talent, ***competitors are doubling or tripling pay at times***[5]

An increasingly decentralized workforce

- As virtual working becomes engrained in business operations, employees expect a consumer-grade digital experience from their internal systems ***80% of tech companies expecting of the workforce to be remote at least 25% of the time***[1]
- Digital benefits, once an after-thought and an addendum to a delivery ecosystem, are now central, ***more than 7 in 10 employees used telemedicine during the pandemic***[2]
- An increasingly digitally-native candidate pool is forcing Tech employers to rethink HR processes (e.g., recruitment, onboarding) – ***2 in 3 Tech companies are expecting to make virtual people management process permanent fixtures moving forward***[1]
- Distributed working models have created unprecedented cybersecurity concerns – ***data security*** (71% of companies) ***is the #1 risk concern for tech in the next 3-5 years***[3]
- Companies are struggling to maintain and build company culture in a virtual environment – ***4 in 5 tech companies are evolving their corporate culture to be 'remote first***[1]

Customer preferences continue to evolve

- The demand for tech products and services continues to grow at an accelerated rate, ***tech companies being 8x more likely to expect revenue growth in excess of 30%***[6]
- Personalization has become a priority for all companies, and those that can figure out how to leverage data to create personalized experiences and automate tasks will position themselves for future growth – ***Data Scientists, AI/ML specialists, and Big Data Specialists are the most in-demand tech talent roles***[7]
- The pandemic has amplified the consumer's desire for convenience and immediacy, ***retailers all across the globe reporting increases of online orders on the magnitude of 80%-100% and as high as ~200%***[8]
- There is an increased demand for ethical AI as values-based consumers and employees expect companies to adopt AI in a responsible fashion, ***1 in 4 tech employees felt that data was not being used for its explicitly intended manner***[3]

Increased stakeholder and regulatory scrutiny

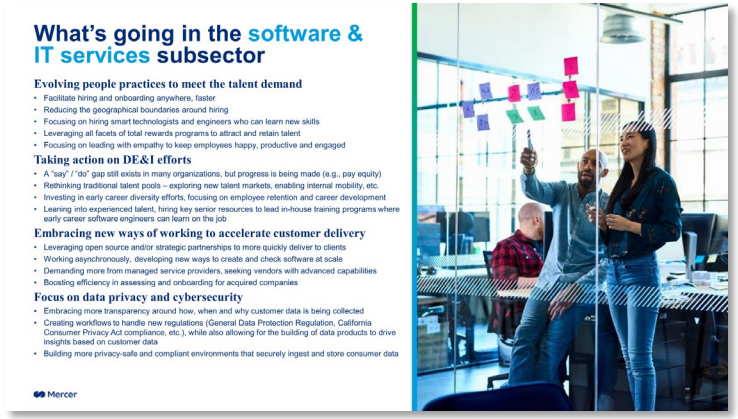
- There is an increased demand for transparency and accountability from tech employers in regards to ESG and DEI, yet tech employers are not taking the action they need, ***only 12% link Environmental Stewardship to Exec Incentive Plans and 32% have linked DEI***)[9]
- The largest regulatory concern for Big Tech continues to be the ***threat of antitrust lawsuits and the strengthening of existing antitrust laws***[1]
- Evan as trust in businesses generally has increased, ***trust in technology companies has steadily fallen over the last decade***[3]
- M&A is likely to continue as companies seek to gain a competitive advantage but talent retention post-close is vital, ***66% of companies say talent issues are the most important HR challenge they face post-close***[10]

[1] Tech industry data from Mercer's Pandemic Spot Poll Survey series
[2] Mercer's 2021 Health on Demand Survey
[3] Marsh's 2021 Global Technology Industry Risk Study
[4] Tech industry data from Mercer's 2021/2022 US Compensation Planning Survey
[5] Insight from Mercer's Total Rewards Leaders Roundtable
[6] Tech industry data from Mercer's 2021 Global Talent Trends Survey
[7] Cross-industry data from The World Economic Forum's Jobs of Tomorrow Report
[8] Oliver Wyman Retail Journal (link)
[9] Mercer's ESG Metrics in Executive Incentive Plans at S&P 500 Companies survey
[10] People Risk in M&A Transactions

Chapter 1: Understanding the unique circumstances and needs associated with tech's sub-sectors

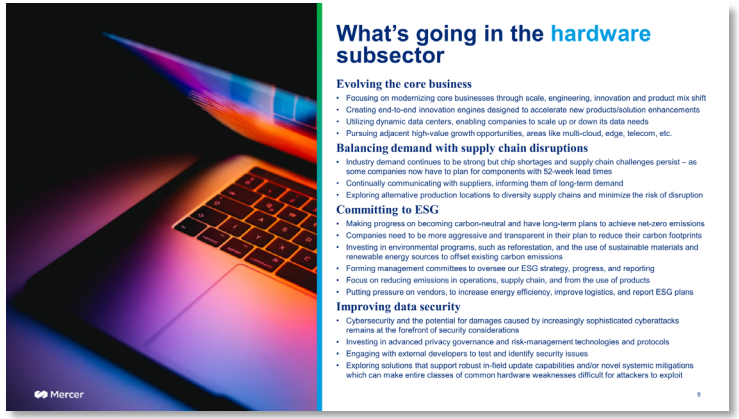
Software & IT services

- Evolving people practices to meet the talent demand
- Taking action on DE&I efforts
- Embracing new ways of working to accelerate customer delivery
- Focus on data privacy and cybersecurity



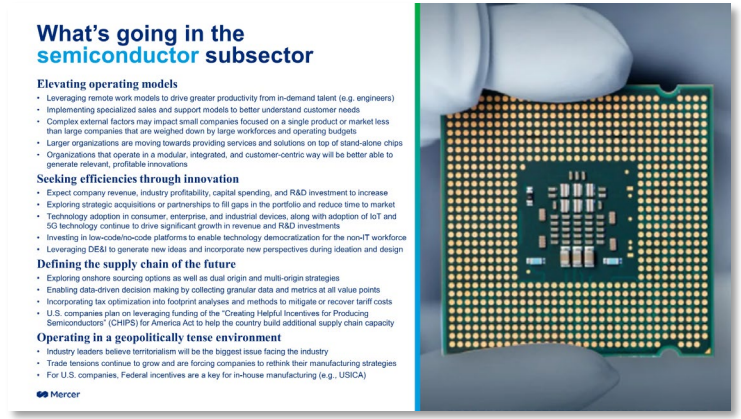
Hardware

- Evolving the core business
- Balancing demand with supply chain disruptions
- Committing to ESG
- Improving data security



Semiconductors

- Elevating operating models
- Seeking efficiencies through innovation
- Defining the supply chain of the future
- Operating in a geopolitically tense environment



What's going in the software & IT services subsector

Evolving people practices to meet the talent demand

- Facilitate hiring and onboarding anywhere, faster
- Reducing the geographical boundaries around hiring
- Focusing on hiring smart technologists and engineers who can learn new skills
- Leveraging all facets of total rewards programs to attract and retain talent
- Focusing on leading with empathy to keep employees happy, productive and engaged

Taking action on DE&I efforts

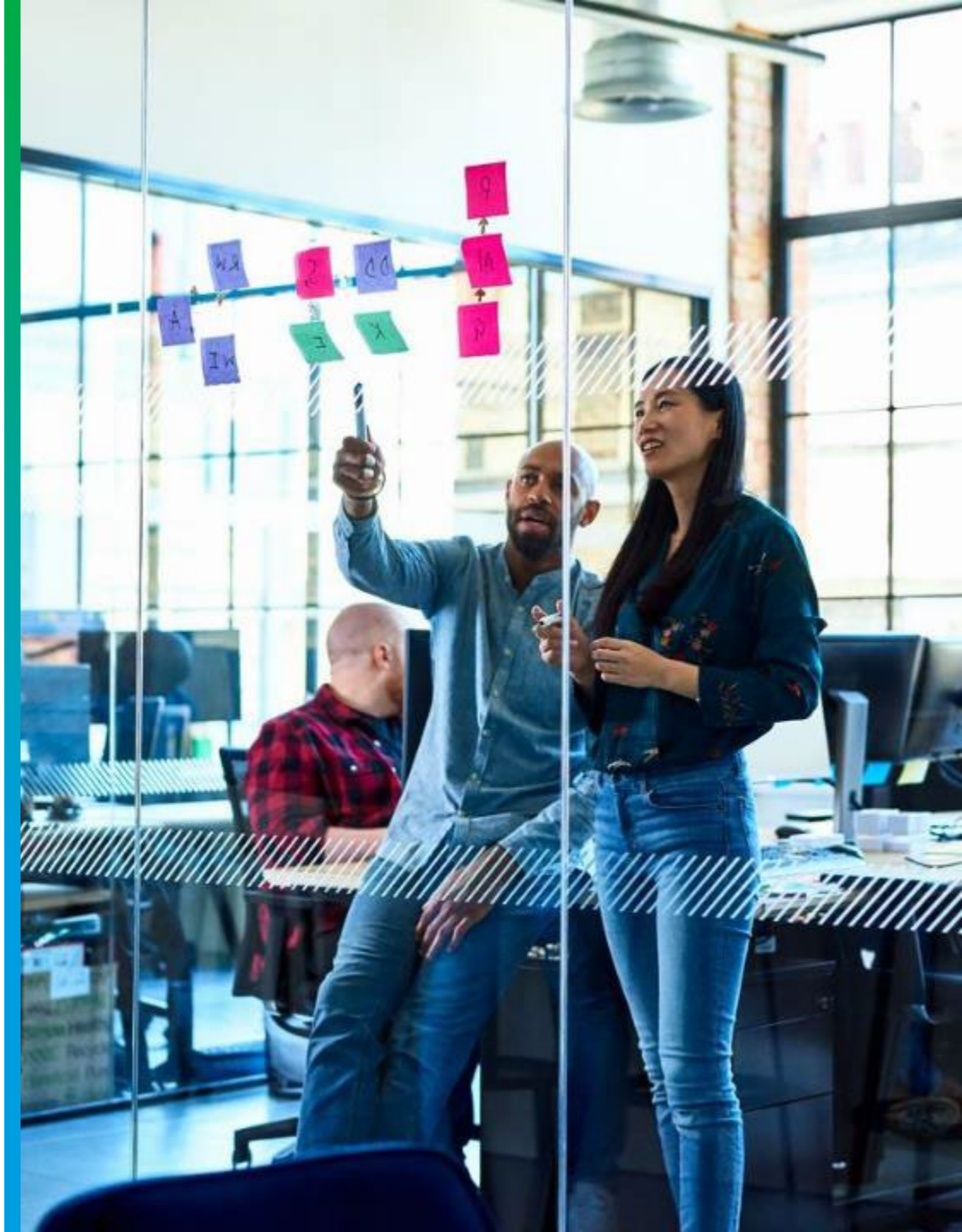
- A "say" / "do" gap still exists in many organizations, but progress is being made (e.g., pay equity)
- Rethinking traditional talent pools – exploring new talent markets, enabling internal mobility, etc.
- Investing in early career diversity efforts, focusing on employee retention and career development
- Leaning into experienced talent, hiring key senior resources to lead in-house training programs where early career software engineers can learn on the job

Embracing new ways of working to accelerate customer delivery

- Leveraging open source and/or strategic partnerships to more quickly deliver to clients
- Working asynchronously, developing new ways to create and check software at scale
- Demanding more from managed service providers, seeking vendors with advanced capabilities
- Boosting efficiency in assessing and onboarding for acquired companies

Focus on data privacy and cybersecurity

- Embracing more transparency around how, when and why customer data is being collected
- Creating workflows to handle new regulations (General Data Protection Regulation, California Consumer Privacy Act compliance, etc.), while also allowing for the building of data products to drive insights based on customer data
- Building more privacy-safe and compliant environments that securely ingest and store consumer data



What's going in the hardware subsector

Evolving the core business

- Focusing on modernizing core businesses through scale, engineering, innovation and product mix shift
- Creating end-to-end innovation engines designed to accelerate new products/solution enhancements
- Utilizing dynamic data centers, enabling companies to scale up or down its data needs
- Pursuing adjacent high-value growth opportunities, areas like multi-cloud, edge, telecom, etc.

Balancing demand with supply chain disruptions

- Industry demand continues to be strong but chip shortages and supply chain challenges persist – as some companies now have to plan for components with 52-week lead times
- Continually communicating with suppliers, informing them of long-term demand
- Exploring alternative production locations to diversity supply chains and minimize the risk of disruption

Committing to ESG

- Making progress on becoming carbon-neutral and have long-term plans to achieve net-zero emissions
- Companies need to be more aggressive and transparent in their plan to reduce their carbon footprints
- Investing in environmental programs, such as reforestation, and the use of sustainable materials and renewable energy sources to offset existing carbon emissions
- Forming management committees to oversee our ESG strategy, progress, and reporting
- Focus on reducing emissions in operations, supply chain, and from the use of products
- Putting pressure on vendors, to increase energy efficiency, improve logistics, and report ESG plans

Improving data security

- Cybersecurity and the potential for damages caused by increasingly sophisticated cyberattacks remains at the forefront of security considerations
- Investing in advanced privacy governance and risk-management technologies and protocols
- Engaging with external developers to test and identify security issues
- Exploring solutions that support robust in-field update capabilities and/or novel systemic mitigations which can make entire classes of common hardware weaknesses difficult for attackers to exploit

What's going in the semiconductor subsector

Elevating operating models

- Leveraging remote work models to drive greater productivity from in-demand talent (e.g. engineers)
- Implementing specialized sales and support models to better understand customer needs
- Complex external factors may impact small companies focused on a single product or market less than large companies that are weighed down by large workforces and operating budgets
- Larger organizations are moving towards providing services and solutions on top of stand-alone chips
- Organizations that operate in a modular, integrated, and customer-centric way will be better able to generate relevant, profitable innovations

Seeking efficiencies through innovation

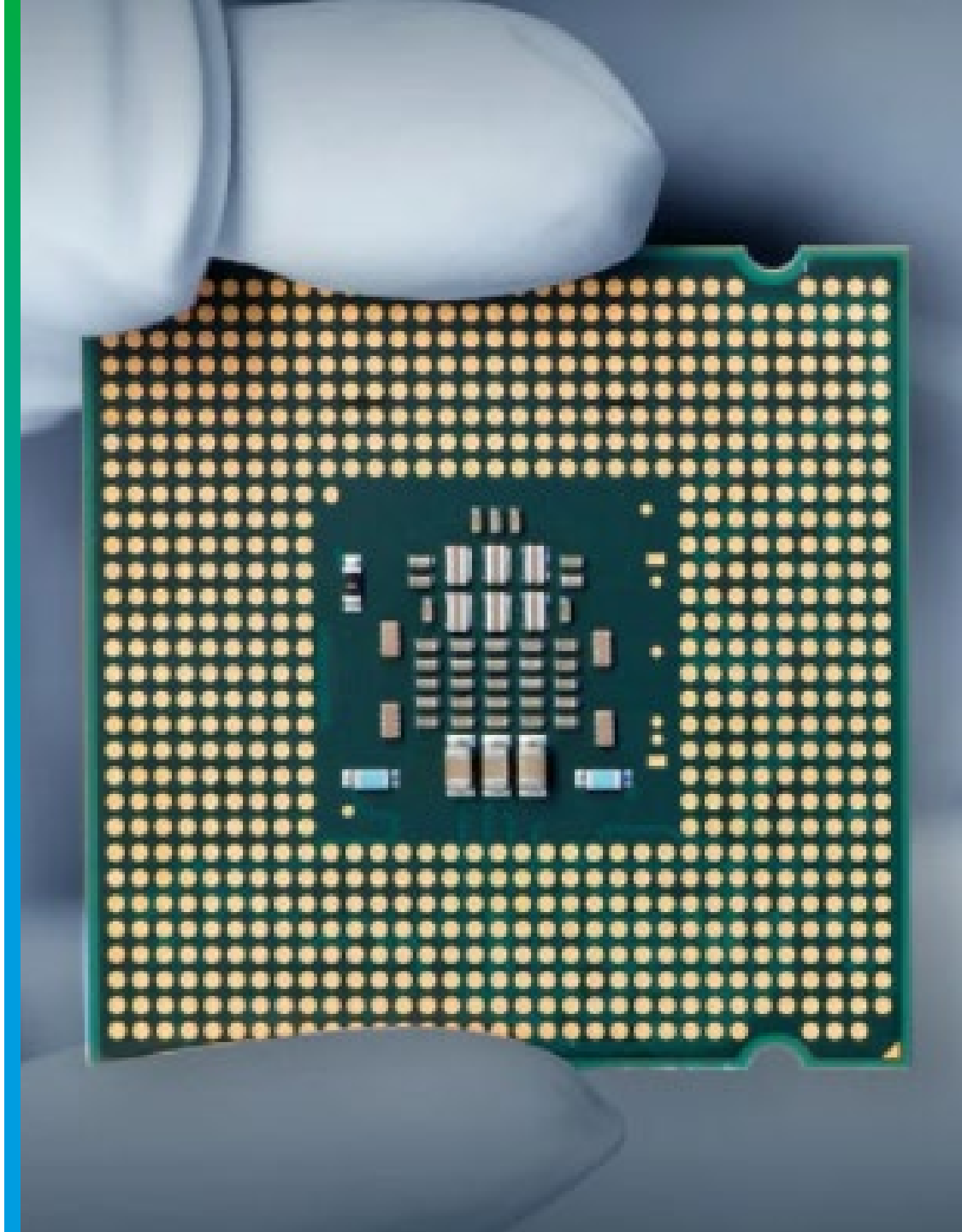
- Expect company revenue, industry profitability, capital spending, and R&D investment to increase
- Exploring strategic acquisitions or partnerships to fill gaps in the portfolio and reduce time to market
- Technology adoption in consumer, enterprise, and industrial devices, along with adoption of IoT and 5G technology continue to drive significant growth in revenue and R&D investments
- Investing in low-code/no-code platforms to enable technology democratization for the non-IT workforce
- Leveraging DE&I to generate new ideas and incorporate new perspectives during ideation and design

Defining the supply chain of the future

- Exploring onshore sourcing options as well as dual origin and multi-origin strategies
- Enabling data-driven decision making by collecting granular data and metrics at all value points
- Incorporating tax optimization into footprint analyses and methods to mitigate or recover tariff costs
- U.S. companies plan on leveraging funding of the "Creating Helpful Incentives for Producing Semiconductors" (CHIPS) for America Act to help the country build additional supply chain capacity

Operating in a geopolitically tense environment

- Industry leaders believe territorialism will be the biggest issue facing the industry
- Trade tensions continue to grow and are forcing companies to rethink their manufacturing strategies
- For U.S. companies, Federal incentives are a key for in-house manufacturing (e.g., USICA)



Mercer

Chapter 2: Technology leaders are doubling-down on employee-centric design

- Embracing a 'digital first' mindset, embedding remote working in their organizational culture and evolving HR processes to meet the needs of a remote workforce
- Creating personalized experiences for their workforce (career pathing, benefits packages, etc.)
- Investing in new/adjacent industries (e.g., healthcare, automotive) & technologies (e.g., 5G, edge computing)
- Leveraging all facets of the Employee Value Proposition and Total Rewards (benefits, LTI/STI, culture, etc.) to attract and retain talent
- Creating strategies, outlining activities, and defining metrics to achieve marked success in DE&I and ESG
- Embracing M&A activities or strategic partnerships to bridge skill gaps and enable both growth and scale

Chapter 3: Employee-centric companies are making strides toward achieving their ideal state

"Out of control" demand for tech talent

- Benefits and rewards that meet the needs of a diverse and socially-conscious workforce
- Inclusive benefits and global minimum standards (to the extent possible) have been implemented throughout the org

Increasingly decentralized workforce

- Business processes, policies, and technologies that promote remote working
- The organization embraces remote work styles (e.g., asynchronous operations, flexible working) and expectations have been communicated and trained on

Evolving customer preferences

- Business processes, policies, and technologies that promote remote working
- The organization embraces remote work styles (e.g., asynchronous operations, flexible working) and expectations have been communicated and trained on

Increased consumer, employee, and regulatory scrutiny

- Investments in cyber-security and data protection that align with customer expectations and regulatory requirements
- Transparency in communications and active leadership involvement in ESG and DE&I

Chapter 4: What are industry Total Rewards Leaders saying?

What's shaping the current talent landscape?

- Competition for talent from traditional and non-traditional employers
- A heightened awareness by employees that there are numerous outside opportunities available to them
- A rising feeling of burnout across the workforce

Most heavily impacted segments of the workforce:

- Tech talent
- Sales professionals

What are employers doing to attract & retain talent?

- Identifying opportunities to balance burnout
- Creating personalized experiences
- Evolving the employee experience

External pressure is growing on tech employers to improve DE&I

Progress is being made, as employers…

- Examine processes and operational mechanisms to identify potential inequities in the business
- Look to uncover/engage diverse populations
- Ensure promotion opportunities are more equitable
- Introduce human capital metrics for Executives
- Actively engaging ERGs to understand employee needs

but challenges remain

- A hypercompetitive talent market is putting pressure the cost of offers and the need to balance compensation/talent acquisition with DE&I objectives
- The market is so hot that companies are choosing to deal with DE&I ramifications later, prioritizing filling key positions and addressing exceptions as they arise
- Inequity perceptions exist, despite employer metrics indicating progress is being made

Mercer is uniquely positioned to help our tech clients continue to innovate, with expertise in talent and reward strategies, digital advisory, and through data and products

Designing tomorrow's employee experience

- Reimagining the employee experience for a hybrid workforce
- Forecasting workforce needs, identifying skill gaps, and elevating the workforce through reskilling, career pathing, and talent marketplaces supported by a learning ecosystem
- Implementing technologies, programs, and policies that enable and support remote working

Creating a foundation to attract & retain key talent

- Designing data-driven talent and Total Rewards strategies
- Expanding inclusive benefits and creating inclusive benefits
- Reviewing internal labor markets to identify and address choke points
- Establishing and deploying pay equity standards
- Implementing tools that allow in-demand tech talent to display their skills during the hiring process

Evolving to meet customer demand

- Examining organizational structures to enable agility and employee development
- Accelerating M&A deal value and mitigating post-merger people risks
- Transforming HR so it can keep up with the speed of business
- Building a more diverse and inclusive workforce that understands the "voice of the customer"

Responding to stakeholder concerns

- Refining people strategies in preparation of adverse events and/or nondiscrimination considerations
- Reviewing compliance to align with evolving domestic and global regulatory changes
- Increasing transparency around ESG and DE&I initiatives and crafting bespoke investment strategies that address risk tolerance, ESG, and DE&I
- Providing access to legislative, market and industry research & insights

Engaging client conversation starters

An increasingly decentralized workforce

What to listen for

- We're expanding into new markets
- We've decided to be "remote first" or "digital first" (i.e., work from anywhere)
- We don't plan on returning fully to the office any time soon

Creating demand

- Remote working has made it easier to enter new markets and/or access new talent pools, what are your growth plans?
- Have you adjusted your HR policies (e.g., mobility), procedures (e.g., onboarding, talent management), and training (e.g., manager training) to enable flexible/remote working?
- The majority of tech companies are choosing to be at least partly remote, what are your plans?

What to say

Mercer can help...

- Reimagine your employee experience for a hybrid workforce
- Forecast workforce needs, identify skill gaps, and create agile org designs
- Implement technologies, programs, and policies that enable and support remote working

Demand for tech talent is "out of control"

What to listen for

- We're expanding into new markets and/or capabilities/offerings
- We're hoping to achieve significant growth in the next few years
- We're experiencing higher than normal turnover and/or we're having trouble hiring

Creating demand

- Remote working has made it easier to enter new markets and/or access new talent pools, what are your growth plans?
- We're expecting the demand for tech talent to remain high in the coming years, have you updated your EVP so that you can attract and retain key talent?
- What are your plans to bridge talent gaps – M&A, upskilling, etc.?

What to say

Mercer can help...

- Address unmet employee needs and design a compelling employee value proposition
- Create or expand inclusive benefits to meet the needs of a global workforce
- Review internal labor markets to identify and address choke points

Customer preferences continue to evolve

What to listen for

- We're expanding into new markets and/or capabilities/offerings
- Out business model has changed in the past year or two
- Our CSAT and/or NPS score isn't what we're used to

Creating demand

- Are you aware of the skills gaps in your organization and what are you doing to bridge them?
- It's great that you're staying in tune with your customers, do you feel you have the capabilities in your organization to deliver what they want?
- Customer-centricity is a major differentiator for tech organizations – if you think about your workforce as your internal customers, what are you doing to address their unmet needs?

What to say

Mercer can help...

- Examine organizational structures to enable agility and employee development
- Accelerate M&A deal value and mitigating post-merger people risks
- Build a more diverse and inclusive workforce that understands the "voice of the customer"

Increased stakeholder and regulatory scrutiny

What to listen for

- ESG, DE&I, or cyber have become a major focus for our stakeholders
- We're going global and/or expanding into new markets
- We'd love to go IPO sometime soon
- We just acquired another company

Creating demand

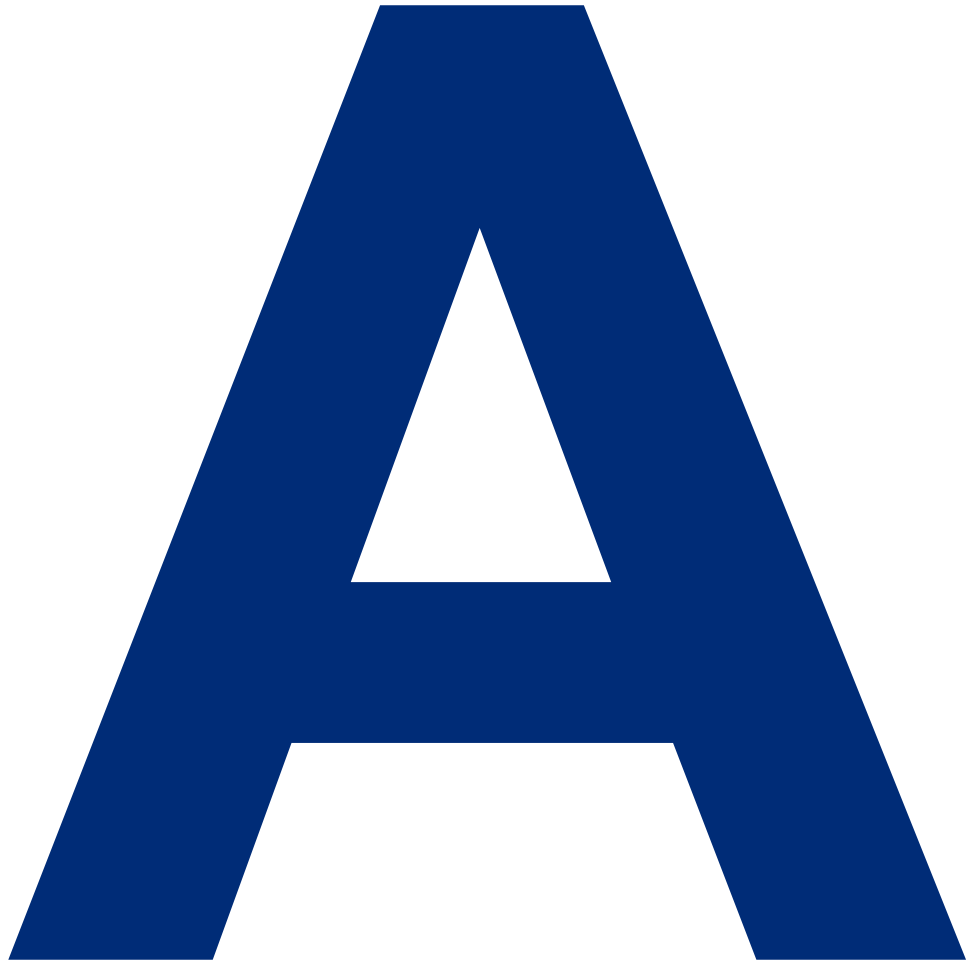
- What are you doing to stay on top of current legislation/regulation or address regulation in the markets you are thinking about entering?
- ESG, DE&I, and cyber have become a major focus for stakeholders, what are you doing to show measured success in these areas?
- IPO activity continues to increase, what are your thoughts on going public?
- More often than not M&A deals fail to achieve the desired outcomes and people are the reason, what's been your experience with M&A?

What to say

Mercer can help...

- Develop people strategies to address adverse events and/or nondiscrimination considerations
- Review compliance to align with evolving domestic and global regulatory changes
- Make progress towards and increase transparency around ESG and DE&I initiatives

Appendix: Detailed sub-sector content



What's going in the software & IT services subsector

Evolving people practices to meet the talent demand

- Continuously adapting HR processes to facilitate hiring and onboarding anywhere, faster
- Reducing the geographical boundaries around hiring
- Moving away from hiring for specific skill sets or open roles, instead focusing on hiring smart technologists and engineers who can learn new skills
- Leveraging all facets of total rewards programs (e.g., equity, sign-on bonuses, inclusive benefits, flex working policies) to attract and retain talent
- Companies are growing rapidly and investing in R&D, creating a constant need to find, recruit and retain a skilled workforce
- Focusing on leading with empathy to keep employees happy, productive and engaged and educating leadership to take that into consideration first and foremost

Taking action on DE&I efforts

- Many organizations have indicated DE&I was a priority, but many have failed to make significant progress in years past
- Rethinking traditional talent pools, targeting:
    - Top computer science programs with diverse student populations
    - Schools that have active and diversity-focused computing clubs
    - Internal candidates that have expressed interest in cross-disciplinary experiences
- Investing in early career diversity efforts, focusing on employee retention and career development
- Leaning into experienced talent, hiring key senior resources to lead in-house training programs where early career software engineers can learn on the job

Embracing new ways of working to accelerate customer delivery

- China's crackdown on its tech sector is creating an opportunity for U.S. software companies to gain market share
- Leveraging open source and/or strategic partnerships to deliver to clients rather than building/acquiring capabilities internally
- Working asynchronously, developing new ways to create and check software at scale, moving away from traditional in-person sprints
- Finding new uses (developing advanced capabilities, etc.)/vendors for managed service providers that help companies to scale without having to worry about the underlying infrastructure
- Boosting efficiency in assessing and onboarding for acquired companies, speeding up the ability to put cutting-edge products and services into production

Focus on data privacy and cybersecurity

- Consumer-trust in the industry is extremely low and companies are embracing more transparency around how, when and why customer data is being collected
- Building appropriate workflows to handle the General Data Protection Regulation, California Consumer Privacy Act compliance, etc., while also allowing for the building of data products to drive insights based on customer data
- Cyberattacks accelerated during the pandemic, requiring engineering teams to build more privacy-safe and compliant environments that securely ingest and store consumer data

What's going in the hardware subsector

Evolving the core business

- Focusing on modernizing core businesses by driving ongoing share gains and improving margins through scale, engineering, innovation and product mix shift
- Investing in R&D, creating end-to-end innovation engines designed to accelerate new products and solution enhancements – exploring embedded intelligence, automation, predictive analytics, proactive support, telemetry intrinsic security, etc.
- Utilizing dynamic data centers, enabling companies to scale up or down its data center, storage and compute resources on demand
- Pursuing adjacent high-value growth opportunities, areas like multi-cloud, edge, telecom, data management which open up multibillion dollar markets

Balancing demand with supply chain disruptions

- Industry demand continues to be strong but chip shortages and supply chain challenges are impacting the ability to fully deliver to customers – as one employer noted "we now have to plan for many components with 52-week lead time"
- Continually communicating with suppliers, informing them of long-term demand so that updates can be provided to customers (B2B and B2C)
- Companies are exploring alternative production locations to diversity their supply chains and minimize the risk of disruption

Committing to ESG

- Industry leaders are making great progress on becoming carbon-neutral and have long-term plans to achieve net-zero emissions and become "climate positive", although many companies do need to be more aggressive and transparent in their plans to reduce their carbon footprint
- Investing in environmental programs, such as reforestation efforts, and using of more sustainable materials and renewable energy sources to offset existing carbon emissions
- Forming management committees to oversee our ESG strategy and progress, as well as ESG reporting
- Focus on reducing emissions in three primary areas: operations, supply chain, and from the use of products
- Putting pressure on vendors, evaluating them on their approaches to energy sourcing, increasing energy efficiency, improving logistics, and climate related measurement and reporting

Improving data security

- Awareness about cybersecurity and the potential for damages caused by increasingly sophisticated cyberattacks remains at the forefront of security considerations
- Investing in advanced privacy governance and risk-management technologies
- Engaging with external developers to test and identify security issues, ensuring a more complete security system is built – at times compensating developers for identifying security risks
- There is still work to be done and employers must explore solutions that support robust in-field update capabilities and/or novel systemic mitigations which can make entire classes of common hardware weaknesses difficult for adversaries to exploit

What's going in the semiconductor subsector

Elevating operating models

- Leveraging remote work models to drive greater productivity, particularly from in-demand talent like engineers and data scientists
- Implementing specialized sales and support models, enabling semiconductor companies to better understand customer needs and customize content and solutions accordingly
- More capacity will come online this year and next due to increases in capital expenditures made by chipmakers in recent years
- Complex external factors impact small companies focused on a single product or market less than large companies that are weighed down by large workforces and operating budgets
- Leading organizations are moving towards providing services and solutions on top of stand-alone chips

Seeking efficiencies through innovation

- Semiconductor leaders expect company revenue, industry profitability, capital spending, and R&D investment to increase over the next year
- Exploring strategic acquisitions or partnerships to fill gaps in the portfolio and reduce time to market instead of deploying R&D to create non-differentiated solutions
- Technology adoption in consumer, enterprise, and industrial devices, along with adoption of IoT and 5G technology continue to drive significant growth in revenue and investments
- Organizations that operate in a modular, integrated, and customer-centric way will be better able to generate relevant, profitable innovations
- Investing in low-code/no-code platforms to enable technology democratization for the non-IT workforce
- Leveraging DE&I to generate new ideas and incorporate new perspectives – for example, semiconductor leaders need to move beyond supporting women and into the critical micro-actions that bring women not just into the industry, but into industry leadership

Defining the supply chain of the future

- Exploring onshore sourcing options as well as dual origin and multi-origin strategies – creating flexibility to deliver into various markets from different locations, depending on the current tariff, free trade, and geographical factors
- Enabling data-driven decision making by collecting granular data and metrics at all value points in the supply chain as well as incorporating tax optimization into the footprint analysis
- Defining micro supply chains and applying true segmentation to deliver greater value versus a "one size fits all" supply chain
- Reviewing available methods to mitigate or recover tariff costs, such as tariff exclusions and reclassifications, customs valuation planning, and duty deferral and drawback programs
- Managing rising trade and tariff costs continues to occupy the semiconductor agenda, with some manufacturers making significant changes to re-optimize the supply chain, such as sourcing chip content from different geographies
- The "Creating Helpful Incentives for Producing Semiconductors" (CHIPS) for America Act is likely to help the country build additional capacity and more resilient supply chains

Operating in a geopolitically tense environment

- Industry leaders believe territorialism – including cross-border regulation, tariffs, new trade agreements, and national security policies – will be the biggest issue facing the industry
- The U.S. is developing new strategies to prevent itself from falling further behind China in chip manufacturing as trade tensions continue to grow
- For U.S. companies, Federal incentives are a key for in-house manufacturing as the cost to build and operate a fab in the U.S. is 25-50% more expensive than alternate location
- The Biden administration's emphasis to boost investment in the sector after the pandemic-related car chip shortage exacerbated fears of relying on foreign tech manufacturers
- The U.S. Innovation and Competition Act (USICA) passed by the Senate provides $52 billion for domestic semiconductor manufacturing