

The trends
shaping our future:
A prelude to
strategic planning



Insights you can act on

Dear Clients,

As leaders in your organizations and within your industries, we recognize that you and your teams may spend a significant amount of time planning and preparing for the future.

Customer data may be analyzed, industry and technology trends forecasted, and multiple scenarios examined during strategic planning exercises. All of these inputs can help inform your roadmap toward creating a foreseeable and prosperous future.

At CGI, we undertake similar exercises. We annually update our rolling three-year strategic plan by consulting with our three stakeholders: our clients, our employees, and our shareholders.

The underlying objective of these stakeholder consultations is to better understand the major changes that will have a long-term impact on the major global economic sectors we serve. These perspectives enrich CGI's overall strategic planning, and our consultants and professionals draw on them daily to enable our agility in supporting and guiding you and all of our clients in a constantly changing environment.

In the following text, we have compiled five macro trends that we believe are shaping the future. Over the past few months, we have experienced how these trends are transforming the environment in which we operate. Some changes are materializing at an unexpected pace, exacerbating the intensity of many

of these macro trends. The start of the war in Ukraine, and the global economic landscape are examples of the volatility emerging from these macro trends.

This year, more than 1,700 clients shared their views on these macro trends, and they cited that digital acceleration is having the greatest impact on their business. In future consultations with you and your teams, we will continue to identify and validate the trends that shape your priorities and the economic sectors in which you operate.

We are pleased to share this vision of the future. On behalf of our consultants and professionals, we thank you for the opportunity to support you and your organizations' objectives.

Our teams look forward to discussing perspectives of how these trends are impacting your business sectors, and actions we can take together to build a successful future.



George D. Schindler
President & Chief
Executive Officer



Julie Godin
Co-Chair of the Board &
Executive Vice-President,
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Five macro trends shaping our future

1

A recent shift in the world economic order is resulting in a growing imbalance between Chinese and American standards that is reinforcing the European Union's ability to stay engaged with both countries while leading on select topics that best protect its interests.

2

Supply chains are adapting and becoming more resilient with the adoption of local sourcing and distribution that harnesses sustainability principles and advanced automation technologies.

3

The fight against climate change is now pressuring all economic sectors to innovate and transform to comply with decarbonization targets.

4

Demographic change in the OECD countries highlights the need to address workforce shortages, which incents all economic players to rethink the training and integration of underrepresented populations in the labor market.

5

Digital acceleration offers many opportunities for growth and innovation, from creating digital value chains focused on continuous innovation to stimulating countries' growth and supporting the decarbonization of our economies.

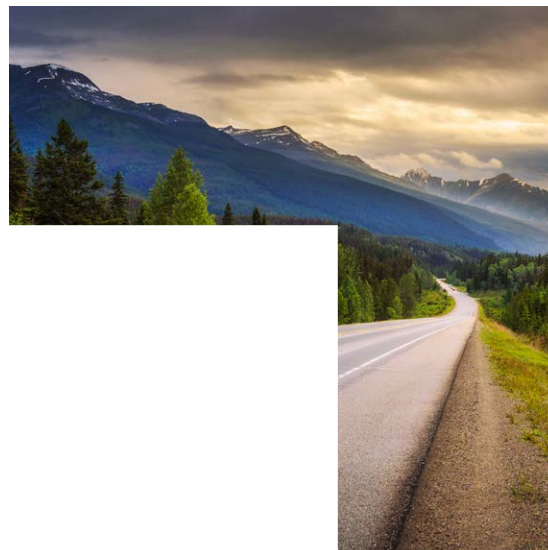


Predicting the future

In today's world, we have increasingly sophisticated and complex models to forecast activities such as economic parameters and weather events. However, science does not currently enable us to anticipate more complex phenomena that involve the simultaneous interaction of demographic, health, social, geopolitical and climatic trends.

We can all agree that predicting the future is no small feat.

“We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run,” said researcher and scientist Roy Amara. We extrapolate emerging trends but overlook the possibility of their reversal, or lack the ability to anticipate trends that have not yet emerged.



Why do we still need to plan?

In the words of former U.S. President Dwight D. Eisenhower, “Plans are worthless, but planning is everything.”

The following analysis is an opportunity to think about the future with curiosity, develop a vision, and more successfully navigate within an ever-changing world.

Taking a closer look at trends

A shift in the global economic order

Increased globalization experienced in recent decades within the Organisation for Economic Co-operation and Development (OECD) countries has led to a massive relocation of the production of goods and delivery of services to emerging markets.

The shift in international trade flows to Asia continues to transform the established economic order, and companies are now competing more and more on a global scale. In this regard, China's rise as a superpower is transforming the economic landscape.

The global driving force of economic growth has shifted to Asia, and we have entered a global race in which the control of technology is becoming paramount. Countries that innovate and take an active role in developing technology standards will dominate the markets of tomorrow.

Considering how the global economic order is evolving, countries will increasingly face a choice between the technology, economic and social standards of the United States or China. For example, the global telecommunications sector could split into two blocks, adhering to either Chinese or American standards.

Faced with this polarization, the European Union will likely favor open economic and social policies that ensure access to both standards and markets, and develop additional regulatory frameworks to protect its own economic interests. It will continue its strong focus on regulation, from policies promoting competition, to ensuring the privacy of personal information, to fighting climate change.



Shifting supply chains

The COVID-19 crisis underscored the vulnerability of global supply chains that were developed to optimize costs.

Over the next few years, companies will continue to rethink their procurement, production and distribution strategies. Depending on the nature of their activities, an increasing number of companies will move to vertical integration or bring production chains closer to their consumer markets. The increasing use of automation in many sectors will reduce offshore production within low-wage countries.

Supply disruptions encountered during the pandemic prompted governments in many countries to reassert their control over certain industries or types of products

to ensure domestic production capacity. This has been the case in the areas of biotechnology, energy production and telecommunications infrastructure.

That said, even as we experience increasingly nationalistic economic policies, global supply chains have become so interdependent that a widespread return to total economic self-sufficiency is unlikely.

Climate change is driving transformation

National and international climate change strategies have been implemented, and one key focus is limiting greenhouse gas (GHG) emissions.

The goal of net-zero emissions by 2050 adopted by an increasing number of governments and businesses will be a major challenge in the coming decades.



The scope of the task requires complementary approaches:

- Public policies that create powerful deterrents, such as an increasingly high price on carbon
- Increased R&D to develop cleaner technologies
- Massive investments in green infrastructure by both the public and private sectors

While mandatory climate change standards have become a strategic issue for some commercial sectors, this rapid transition offers concrete

innovation opportunities for all industries. Companies are being given new timelines to transform their business models. For more traditional organizations, the sheer complexity to adapt their legacy systems and processes to embrace these standards will be monumental. At the same time, large pension funds, investment and insurance companies, as well as banks are pressuring companies to decarbonize.

Decarbonization throughout the product lifecycle will result in a profound transformation of organizations across all sectors. Companies that can adapt quickly will gain a decisive competitive advantage at the expense of those that are slow to innovate. Green innovation will be a key factor in this next industrial revolution.



Demographic change

Aging populations in advanced economies constitute a major demographic trend. According to the OECD, the percentage of those 65 and older within its member countries will increase from 17 to 27 percent by 2050.

This means that many governments' health costs will rise considerably and they will be forced to address the inevitable question of how much of their budget should be directed toward public healthcare.

Some European nations that have opted for pay-as-you-go pension plans face funding challenges due to the gradual decline of contributors.

For businesses, demographic changes will result in the reduction of talent available to enter the workforce. At the same time, corporations will need to become more supportive of their employees' work-life balance.

The main challenge of the current labor market is finding relevant skills. To address immediate needs, immigration will only partly address talent shortages given social and political challenges. To bridge the gap, companies will need to prioritize the development of effective training programs to enable employees to meet the needs of the market.

The acceleration of digital technology is creating profound change

Organizations, regardless of their industry, have a range of potential solutions at their disposal, from the digitization of their entire value chain to leveraging automation, elastic cloud capabilities and artificial intelligence technologies.

Embracing these solutions will result in profound opportunities. To succeed, public and private organizations need to become agile and be masters in change management, which is no small feat. According to this year's consultation with 1,700 CGI client executives, 84% cite cultural change as the biggest barrier to achieving expected digital transformation results.

To enable the future workforce, educational institutions' curriculums and organizations' workplace training programs will need to evolve. Academics will need to integrate more science, technology, engineering, mathematics and social science disciplines into their core curriculums, while companies will need to embrace the principles of lifelong learning and create or redesign learning programs that help employees pivot for the future.



Economic growth has mostly depended on productivity gains resulting from a trained workforce as well as population growth. However, these factors have been on the decline in advanced economies for several years. Despite recent economic recovery, a return to relatively limited growth will likely make financing the digital transition more complex. Innovation is essential for commercial sectors to address these concerns and remain competitive.

Large investments aimed at accelerating the digitalization of companies, along with decarbonizing the economy, will act as an innovation catalyst and boost the OECD countries' medium- and long-term growth.

While these major macroeconomic trends will affect all industries to varying degrees, each industry requires a different response.



Financial Services

Financial services companies have accelerated the delivery of digital services to satisfy customer needs. The rapid modernization required to provide real-time, 24/7 digital services will remain a top priority, especially as the gradual disintermediation of the sector—triggered by open banking—continues to pose serious competitive challenges for established institutions. At the same time, banks may have to deal with digital currencies. Consequently, to maintain monetary sovereignty, it will be important to stay abreast of the role central banks will take in the issuance of digital currencies.

To compete, well-established institutions will need to continue the push toward digitization to enable more customer self-service and to drive process efficiencies.

This includes addressing cultural challenges arising from rapid change, improving the customer experience through intelligent automation, and accelerating the modernization of legacy systems to overcome digitization constraints and drive innovation. Accessing talent with IT expertise and developing an ecosystem of partners to support this transformation will be required.

Pressure from large institutional investors and financial regulators will facilitate the deployment of sustainable finance and the integration of environmental, social and governance (ESG) practices into capital allocation



decisions, including bank loans. Large amounts of capital will need to be raised to address global warming and adapt to the already irreversible consequences of climate change: The Intergovernmental Panel on Climate Change (IPCC) estimates the cost at US \$2.4 trillion per year for the next 15 years at a minimum. This injection of capital will require managing large quantities of data to measure progress and success.

Government

Global lockdowns implemented at the start of the pandemic significantly restricted economic activity. In contrast, emergency support programs established to help offset lost revenue have greatly increased public spending. As a consequence, the populations of the OECD countries in all social categories have largely benefited from the protections offered directly by their governments.

The result is unprecedented public debt, an unsettled labor market and inflationary pressures.



The pandemic also placed enormous stress on health and social services systems. While healthcare spending already accounts for a significant portion of government budgets, it will increase rapidly due to changing demographics. Health and education are expected to remain a priority, and combined spending in these areas will put pressure on other government services.

As experienced in previous economic cycles, governments will opt for alternative solutions such

as public-private partnerships to help fund needed initiatives. They will invest heavily in technology, with the aim of improving the quality of services provided to citizens while increasing productivity and achieving economies of scale. Most governments will promote economic recovery policies that translate to public investment in traditional infrastructure, as well as in technological and green infrastructure with lower carbon footprints.

There also will be strong pressure to increase tax revenues and control public spending, which may include additional taxation of personal and business income or an increase in sales taxes.



Manufacturing

Several exogenous factors will contribute to the transformation of the manufacturing sector.

Geopolitics will influence the reduction of supply chain dependencies in key commercial sectors. Companies will need to review and adapt their plans due to global supply chains heavily impacted by the pandemic and the increasing risks posed by extreme weather events.

Bringing production closer to key markets to meet local demand will require increased robotics and automation, plus innovations such as 3D printing, to address labor shortages and reduce production costs.

The factories of tomorrow will be connected at all stages of production. Machines, business functions, and the entire supply chain will become connected, from suppliers to consumers.

At the same time, the decarbonization of products and processes, accelerated by regulation and growing consumer demand, will further transform the manufacturing sector. Manufacturers will need to innovate and invest on a massive scale to adopt the principles of a circular economy. They will measure and reduce their carbon footprint and mitigate obsolescence throughout their products' life cycles. This will require higher quality products that can be more easily repaired, refurbished and upgraded. When products cannot be reused, consumers will require components or materials that are less polluting and more recyclable.

Retailers

Lockdowns and health safety concerns brought about by the pandemic have propelled online sales, which has, in turn, forced retailers to adapt very quickly. Nevertheless, some categories of brick-and-mortar stores remain essential, and retailers are called upon to transform to offer customers a hybrid shopping experience.

Depending on the product, consumers will be able to choose between the ease and speed of online shopping, the benefits of the in-store experience, and a hybrid experience that includes both.

Large traditional retailers will need to adjust to this hybrid model by reducing the surface areas of their stores, which often have high operating costs. Manufacturers will increasingly benefit from diversified sales networks across different platforms.

Smaller retailers will experience even greater advantages in selling their products around the world, as long as they offer distinctive products, have a strong online presence, and offer a more tailored, flexible service.

The benefits of bringing together manufacturers, retailers and consumers comes with its share of challenges. The increase in online sales requires systematic shipping logistics and customer service to manage returns. The industry will need to find solutions to deal with increasing instances of parcel theft while working to minimize GHG emissions from increased home deliveries.

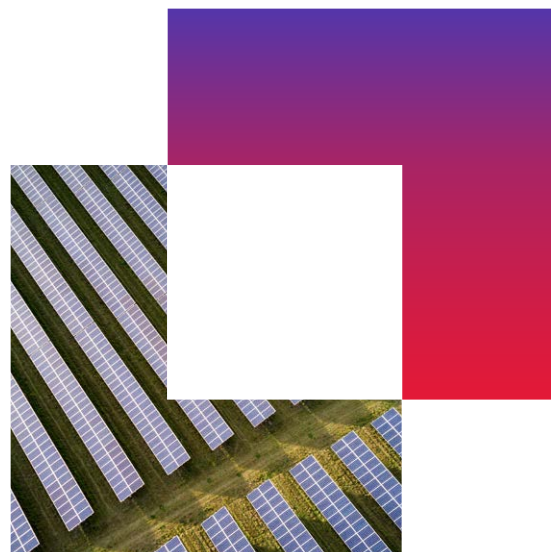


Consumer demands will have an ever-growing impact on the entire food supply chain. Consumers will increasingly demand the smallest possible carbon footprint for the products they consume as long as they are affordable. As a result, food retailers will need to review cold chain logistics. This will involve reducing the environmental impact of transportation by favoring local food supply chains and encouraging greenhouse cultivation in less favorable climates.

Energy

The main priority in the fight against climate change is to improve energy systems to the point that the energy we consume no longer emits GHGs. This involves accelerating the energy transition and the production of renewable energies such as solar, wind, green hydrogen and hydroelectricity.

Other more expensive initiatives are attempting to offset emissions by capturing and burying CO₂. While nuclear energy remains a low-carbon alternative, particularly due to a new generation of small power plants, its social acceptability continues to hinder its use.



The challenge of producing energy without emitting more GHGs is all the more daunting as the global demand for electricity grows exponentially. This is due, in particular, to the substantial share of transportation and industrial processes converting to electric, as well as the growing energy needs of emerging economies.

The energy transition will be accelerated by legislative incentives and a carbon market that penalizes reliance on fossil fuels. Growing investment in renewable energy, work being done in R&D, and a gradual reduction in start-up costs also should encourage the use of alternative energy sources.

In addition, electricity transmission and distribution will experience major changes. Transmission networks will need to be improved to cover larger territories, increase storage capacity, and manage the production of renewables.

In the medium term, electricity distribution management must also integrate a new stakeholder: the prosumer. Technological innovation is enabling the energy market to transform into a prosumer-driven market. Individuals can both produce and consume energy, selling their surplus supply or saving it for future use depending on their needs and their home's energy storage capacity.

Information technology

New technologies for individuals, businesses and governments alike will play an increasingly critical role in all aspects of our society.

Business and IT supply chains are converging. Technology must be embedded and optimized from end-to-end across the entirety of the business value chain to become a “digital value chain.” Regardless of the nature of an organization’s work, technological knowledge and proficiency are now key success factors. Leaders of businesses and governments must put a premium on collaboration, innovation and alignment between and among business, operations and IT to yield transformational results.



This requires an understanding, at all levels of the organization, of how to embrace new technologies and assess both their benefits and risks to meet customer or citizen needs.

For example, the widespread implementation of 5G and future networks will transform the IT ecosystem. Deploying this new infrastructure will enable the instantaneous transmission of an unprecedented amount of information, particularly between connected objects. Artificial intelligence will be required to instantaneously process this exponential amount of data hosted on the cloud, extract its meaning and, ultimately, make or support decisions.

Technological advancements will generate countless business opportunities; however, these advancements bring about inherent challenges. Take the increasing instances of data breaches and ransomware attacks. Cyber crime has become an extremely lucrative market that presents an ongoing battle between those desiring to profit from cyber attacks and those working to prevent them.

Faced with these concerns, citizens, businesses and governments will have to navigate various social and ethical implications, from how artificial intelligence impacts jobs, to how to encourage consumer choice and competition in the technology marketplace, to how to balance data privacy with customer convenience.



For example, the European Union was the first jurisdiction to establish a mandatory regulatory framework that applies to all companies processing the personal data of individuals within the EU, regardless of their citizenship or the geographic location of the companies processing the data. Several countries have since followed the EU's lead and amended their regulations, now requiring that personal data collected and stored using cloud services be stored in physical servers located within national territory. Similar regulations will take hold to address societal issues and the ethical questions brought about by technological advancements.

Conclusion

This overview shares how macro trends will transform and accelerate change within our business environments.

This reflection is essential. It complements our rolling three-year strategic planning process to help us to better understand the challenges our clients face and, as a result, support them through change and help them succeed.

We hope this summary helps inform the planning of your own organizations' priorities and directions.



Business success isn't just about where you'll go and how you'll get there. It's also about who you'll team with. That's why we're here: to be relied upon as an insightful and resourceful partner.

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-based to help accelerate returns on your investments. Across hundreds of locations worldwide, we provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

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or contact us directly at info@cgi.com.