

# THE ROAD AHEAD:

Business, Supply Chain & The World Order

● ● — 2023

TABLE OF CONTENTS

• FOREWORD	iii
• COMMERCIAL RELOCATION	1
• CYBER TRENDS	3
• GEOPOLITICAL RISK - ASIA	5
• GEOPOLITICAL & NATURAL RESOURCES RISK	7
• HUMAN CAPITAL - PLANNING & SCHEDULING	11
• HUMAN CAPITAL - LABOR LAW COMPLIANCE	13
• HUMAN CAPITAL - TALENT	15
• INSURANCE - COMMERCIAL	17
• LOGISTICS - AIRPORTS	21
• LOGISTICS - CARGO & DISTRIBUTION	23
• LOGISTICS - GLOBAL SUPPLY CHAIN & PORTS	25
• MARKETING - ARTIFICIAL INTELLIGENCE & COMMUNICATION	29
• MANUFACTURING - NEARSHORING: CENTRAL AMERICA	33
• MANUFACTURING - NEARSHORING: DOMINICAN REPUBLIC & FREE TRADE ZONES	35
• MANUFACTURING - NEARSHORING: LATIN AMERICA	37
• MANUFACTURING - NEARSHORING: MEXICO	39
• MANUFACTURING - NEARSHORING, RESHORING, FRIENDSHORING: WORLDWIDE	41
• MANUFACTURING - OFFSHORING: INDIA	43
• MANUFACTURING - RESHORING	45
• MANUFACTURING - TALENT	47
• SUPPLY CHAIN - SOFTWARE & ARTIFICIAL INTELLIGENCE	49
• SUPPLY CHAIN - SOURCING & ARCHITECTURE	51
• SUPPLY CHAIN - MITIGATING RISK	53
• SUPPLY CHAIN - PROCESSES & PEOPLE	57
• TECHNOLOGY - ARTIFICIAL INTELLIGENCE & INFRASTRUCTURE	59
• TECHNOLOGY - ERP	61
• TECHNOLOGY - THE CUSTOMER EXPERIENCE	63

FOREWORD



The visible signs of supply chain chaos have dissipated. Yet, business volatility and disruptions remain high. Everything is interconnected, and risk is at an all-time high.

The next few years will separate the market leaders from all others and will provide more opportunities than ever before. Those companies that stay ahead of their ideal customers’ needs and reconfigure their supply chain, technology and talent will speed by the competition and secure their position for decades to come.

This is a once-in-a-lifetime opportunity and will not be for the faint of heart. Be aggressive, be willing to invest, take the plunge into technology and align across your end-to-end supply chain. Success will follow.

EVERYTHING IS CONNECTED

The world is connected. For example, the U.S. is dependent on China for healthcare products and pharmaceutical ingredients. The world is dependent on Taiwan for advanced computer chips (90%) used in almost every aspect of life. Europe is dependent on Russia and Ukraine for oil and natural gas. Africa is dependent on Russia and Ukraine for food. Much of the Western world is dependent on the U.S. for military support.

Beyond basic needs, our green goals (such as EVs, solar and wind) have controversies intertwined in the global supply chain. For example, China has been permitting two coal plants per week to power these manufacturing needs, yet the U.S. has the cleanest energy in the world and refuses to use it. Even though amazing progress has been made with green technologies in the logistics world, regulations have surpassed the ability to deliver it, leaving the industry frustrated, the West Coast Ports losing volume and the global environmental impact in negative territory.

Outside factors impact business decisions. Inflation impacts profitability. Interest rates and credit availability drive investment decisions. Fears of recession drive cost reduction strategies. Demographics impact the talent pool as baby boomers retire faster than trained resources can backfill. Global conflicts change shipping lanes

and essential product availability. Supply chain disruptions cause increased inventory, which is far more impactful as interest rates increase yet are required to support successful reconfigurations. And technologies such as ChatGPT and cyber have the ability to transform the world.

## RISK IS AT AN ALL-TIME HIGH

Global tensions are at extreme levels. China, Russia, Iran and North Korea provide abundant geopolitical risk with impacts around the world. These will result in severe supply chain implications and potentially disrupt businesses far more severely than during the height of the pandemic. Resources (energy, electricity, food and water) are limited and/or in a critical state. Without resources, manufacturing cannot produce essential products, logistics cannot transport goods to where they are needed, and technologies (phones, computers, robotics, modern car features, port automation) will not function.

We are in unprecedented times. Inflation is starting to level off but continues at high levels with little signs of returning to normal. The threat of recession hangs in the balance as costs escalate, interest rates rise and fears of a drop-off in demand remain in the forefront. Global tensions and resource risks could propel a mild recession into a deep depression. Businesses aren't sure what to do. Executives are cutting back, reducing inventory and panicking yet still cannot supply the full backlog nor find enough talent. With the Great Resignation, businesses have simply started prioritizing which customers to serve. The collapses of Silicon Valley Bank and Signature Bank have led to a credit collapse with global impacts including Credit Suisse's forced merger, the recent demise of First Republic and the potential demise of several other regional banks. The bottom line is that risks are abundant. Only the resilient will survive. Yet, more importantly, only the resilient, innovative and technologically advanced will thrive.

## RECONFIGURE YOUR SUPPLY CHAIN

Staying with sole-sourced suppliers for key materials will be a recipe for disaster. On the other hand, reconfiguring your supply chain will not be for the faint of heart. You'll have to consider your suppliers' suppliers, your customers' customers, natural resources and a host of other considerations.

For example, if you move production from China but are still dependent on a second or third-tier supplier in China, you haven't mitigated your risk. On the other hand, if you decide to nearshore production to Latin America, and they cannot find the talent, run out of natural resources or the ports are shut off because China owns the terminal, you've invested heavily without achieving a positive result. Or, if you

onshore manufacturing without evaluating your technology infrastructure needs, you might end up like Southwest Airlines during the 2022 peak holiday season. However, if you don't take proactive steps to take control of your supply chain, you will lose.

The smart and proactive are taking the leap. They are sourcing additional reliable suppliers at a higher purchase cost (yet might not be a higher total cost), developing strategic partnerships, expanding supplier scope further into the supply chain, reshoring and expanding production closer to customers (regional supply) and nearshoring/friendlyshoring as it makes sense. Certain U.S. states, Mexico, Costa Rica and other Latin American countries such as the Dominican Republic offer vast potential. As it relates to Asia, India offers intriguing possibilities, although infrastructure and resources such as water can add risk. Logistics support must be aligned with these changes and is evolving on its own as shipping lanes and port volumes evolve, resources and regulations come into conflict and the goods movement system of systems is impacted by mode of transport (air, rail, truck) changes, customer requirements and sustainability objectives.

## TAKE THE PLUNGE WITH TECHNOLOGY

Technology is advancing at a breakneck pace. What was advanced yesterday has become a basic today. For example, a modern ERP system is simply required to meet base customer objectives. 5G, AI (artificial intelligence), business intelligence/predictive analytics, cybersecurity, additive manufacturing (3D printing), digital twins and robotics/automation have become a "must" in many industries. Those who can accelerate the use of the "right" technology in the "right" place at the "right" time will leapfrog the competition. In addition to meeting customer needs, as costs rise across the board (raw materials, labor, benefits, insurance, capital), leveraging technology becomes a critical priority to automate, digitize and thrive. Furthermore, to engage new generations in the workforce, integrating technology into business processes is the only route to success.

## TALENT MUST REMAIN A TOP PRIORITY

Recession or not, talent will remain a top priority. It will be a fight for good talent. Manufacturing must ramp up at scale to support regional supply chains instead of being dependent on China and other risk-laden options. Yet manufacturing talent remains scarce. Baby boomers leaving the workforce are far outpacing those entering and taking significant experience and expertise with them. Common sense has become even less common as companies struggle to fill the gaps. Mentoring, apprenticeship-type programs, adaptive operations and workforce scheduling automation will be required to support shift-based operations.

Companies must identify their superstars, engage, develop, and, most importantly, retain them. With technology changing at the speed of light, businesses need people interested in continuous learning, improving skills and gaining experience. Skills and jobs will evolve at a rapid pace, and rote jobs will be automated. Satisfactory employees will no longer be sufficient. Instead, companies need people who are willing to make hard decisions. Informal and formal leaders are precious commodities as you must have people to tie it all together, provide guidance and structure and champion the appropriate changes, technologies and process upgrades.

Beyond shift-based operations, technical talent, planning, purchasing, supply chain, ERP and data analytics will be essential. Leveraging technology, upgrading processes, and providing training and education will be critical to success. Every client has a gap. Consider filling your gaps with experts/consultants who will jump in and support your resources while upgrading processes and setting you up to take advantage of future opportunities. You'll gain diverse viewpoints, specific expertise and the ability to fill gaps. Be creative and entice talent to you.

TIE IT TOGETHER WITH SIOP

Talent, technology and responsive reconfigurations are not enough. You must align and connect your internal departments, customers, suppliers and all end-to-end supply chain partners. Demand and supply will remain out of alignment as inventory grows, disruptions continue and as reconfiguration further disconnects the ecosystem.

SIOP (Sales Inventory Operations Planning), also known as S&OP, shines a light on what is needed, engages all departments across the organization and proactively aligns demand with supply to enable growth, profitability and cash flow. SIOP creates predictability in revenue forecasting and builds an operational rhythm that ensures the appropriate strategic and tactical decisions are made to drive EBITDA growth and working capital improvements. To learn more about SIOP, download our complimentary eBook - <https://www.lma-consultinggroup.com/siop-book>.

BOTTOM LINE

We are headed into times of extreme volatility and opportunity. The only question will be whether your company is ready to take advantage of the opportunities to grow profitably or if you'll struggle for survival. Mitigate key risks. Continually improve the customer experience. Leverage technology to create a superior customer experience, automate repetitive tasks, and pinpoint key data to predict “where the puck is going” instead of wasting time going “where it is.” Create a culture of innovation. Manage costs proactively, but, more importantly, take the opportunity to invest when everyone else cuts back to create your future.

INSIGHTS FROM TRUSTED ADVISORS

I asked trusted advisors and experts in various disciplines what their most successful clients were doing and what we should do to take advantage of the opportunities in 2023. Talent, technology, reconfiguration and SIOP rose to the top.

THANKS TO TRUSTED ADVISORS FOR THEIR CONTRIBUTIONS

Last, I want to thank the Trusted Advisors, also colleagues, for their contributions to this Special Report. Your contributions have provided valuable insights to get ahead of the competition and leverage the opportunities coming down the pike.

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*Reshoring, nearshoring, friend shoring, alternate suppliers and automation/digitization... are all increasing. While it will take time, it will all impact warehouse space.*

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## WAREHOUSE SPACE

Warehouse space is still in great demand for occupants, and supply is still not strong, with a vacancy factor below 2.5%. As companies start to reshore, this space will become even more in demand, especially as the prospect of confrontation with China looms.

Until the cost of capital comes back down, I don't see a lot of new development other than projects that have already been entitled.

As relocation experts, it is hard to find a balance as we project manage relocations into 'not the ideal' floorplans. And details not considered in the past come up. When a company wants to go higher and tighter with their racking, do the fire sprinklers have the output for their commodities? Can we add mezzanine space? Can we utilize some of the office space for inventory or assembly? And the big question is, how much will it cost?

## OFFICE SPACE

Companies are pushing to bring their staff back, even in a hybrid environment. And preferences have changed - we are reconfiguring existing or new spaces with more hoteling options, open space for more collaboration, phone booths for private conversations, and making it a more fun environment to try and rebuild a company culture.

The smart will succeed. The rest will diminish as it won't be easy.



Cyber is becoming more critical in manufacturing and supply chains as technology is added and relied upon to produce, transport, etc. Cyber trends continue to show that small to medium-sized manufacturing businesses are at increased risk of damages from a cyberattack. The truth is that yesterday's defenses are no longer enough. It's time to rethink the approach to defend our businesses.

## ZERO TRUST

It's time to adopt a new philosophy entirely, one where we take measures to lock down networks to prevent breaches. Zero Trust cybersecurity methodology is critical to securing digital assets in 2023, particularly for manufacturing businesses. In recent years, cyberattacks have become more sophisticated and frequent, and manufacturing companies have become prime targets due to the valuable data they store, including proprietary information and customer data.

Traditional cybersecurity methods, such as perimeter-based security (Firewalls, Anti-Virus, MFA), must be revised to protect against these advanced cyberthreats. Zero Trust can provide a more proactive approach to security by assuming that every device and user is potentially compromised, requiring continuous authentication and authorization. In a Zero Trust environment, access is granted based on the principle of least privilege, meaning that only the minimum required access is granted to users and devices. Access is continually monitored to ensure that users and devices do not behave unexpectedly. This approach helps prevent lateral movement, where attackers use one compromised device to access others on the network.

For example, let's assume that the software you commonly use in your business becomes compromised, and you have not installed a security patch yet. Since that software is allowed and "trusted" to run on your network, a hacker could use that software as a cloak to move around the rest of your network and deploy Ransomware. There have been numerous attacks using this method in the last two years.

Conversely, if your ERP system is hijacked and used to run a system registry change, it would be blocked and not trusted to access those resources. Any function out of the ordinary is denied and then must be reviewed and validated. This greatly limits an attacker from gaining access to your network. Containing the attack to a single computer or server is paramount to avoiding serious damage that could halt the business indefinitely.

## THE INTERNET OF THINGS

Manufacturing companies are particularly vulnerable to cyberthreats because they rely on industrial control systems (ICS) and the growing trend of connected devices in manufacturing, commonly called the Internet of Things (IoT). Zero Trust can help secure these systems and devices by treating them as untrusted and continually monitoring and protecting them. It can also help manufacturers comply with regulatory requirements, such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), by providing a clear framework for protecting data and ensuring access is only granted to authorized personnel.

Take the time to analyze your current security practices. It will allow you to see potential vulnerabilities and shine a light on areas that need to be closely monitored. And consider making your IT environment Zero Trust.

The smart will succeed. The rest will diminish as it won't be easy.

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***The truth is that yesterday's defenses are no longer enough. It's time to rethink the approach to defend our businesses.***

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For example, when U.S. House of Representative Nancy Pelosi visited Taiwan last year, a client could not receive a critical shipment of new products destined for an imminent launch in Japan. China's naval exercises staged in protest around Taiwan effectively blockaded the island.

As China becomes increasingly belligerent in the South China Sea, companies must consider incorporating risk mitigation into their logistics strategy and contingencies for mostly foreseeable eventualities. This could affect Taiwan, and territorial disputes could affect Vietnam and the Philippines.

As a result, Japan is planning and diversifying for a resilient supply chain to reduce Japan's reliance on any one country or region for critical components and supplies. It is strengthening ties with Vietnam and Thailand and increasing investment in India to reduce its reliance on China.



The world's a mess. There is trouble everywhere you look. And, if you are an American businessperson, you'd better take a good hard look at the things that will directly or indirectly affect your company (and our country) in 2023.

### RUSSIA/UKRAINE WAR

The war shows no sign of ending and shows every sign of being protracted at a great loss to both Russia and Ukraine. Time favors Russia under current conditions. It has more of everything. Since Putin cannot afford to lose, the war could last a long time, or the Russians will finally figure out how to beat the Ukrainian armed forces. There is continued creeping exposure to risk for the NATO alliance as it continues to supply weapons and other materials to Ukraine.

The ripple effect of the war includes disruption of deliveries of critical supplies like wheat, barley, crude oil and refined oil products, which have already affected changes in the marketplace. Interestingly, the energy market has already adjusted remarkably to the change in supply lines because of sanctions and the need to replace Russian crude oil, natural gas and refined products with the equivalents of those goods from other places. Russian cargoes of energy goods are now going primarily to India and China, while energy goods from South America, the U.S. and the Mideast are flowing into Europe. This is likely to be a permanent realignment since there is no good reason to trust the Russians.

### CHINA

The concern is not about China as a country. Rather, it is about Premier Xi and the Chinese Communist Party, which is becoming increasingly authoritarian and militaristic. In China, the official explanation of Covid is that it originated with the U.S. military.

China's economy has major structural weaknesses. The days of 8-12% annual growth are long gone. China set a goal of 5% growth for 2023. Realistically, it might barely add 2% to GDP in 2023.

While Taiwan is a key area of concern, I believe it highly unlikely that China will invade Taiwan for three reasons:

- The U.S. and NATO response to the Russian invasion of Ukraine has given Xi good reason to be wary.
- Given China's internal problems, China is not in the best economic state to undertake a war.
- The China military has never been battle-tested. The surprisingly poor showing of Russian troops and tactics in Ukraine puts a heavier burden on the Chinese military to convince Xi that Taiwan would fall quickly. Xi is aggressive, but he is also risk-averse in many ways. Expect China to continue being aggressive and rattle the sabers but back off from an invasion.

The Biden administration's policy on China has been incoherent (so was Trump's) but is hardening into a Cold War mentality. This is not productive. China is not our friend. And despite all the belligerence and bad conduct, it isn't exactly an enemy yet, but it soon will be. There was an opportunity in early 2023 to thaw the developing freeze and reduce the tension in the U. S. relationship with China, but the ridiculous spy balloon incident on China's part removed any chance of improving relations.

Many people think an economic downturn in China is good for the U.S. and the rest of the world. That's really not true. When China's economy downturns, it means that it will buy less from the developing world which is bad for those developing countries. It also means that exports to the U.S. will be down too. Where are we going to get other supplies? Have you diversified from China yet?

We're still working out a big backlog of overbuying goods from China during Covid, which is still affecting supply chains. Yet, in absolute terms, the volume of commerce between China and the United States will be enormous for the foreseeable future, absent war.

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***There is trouble everywhere you look. And, if you are an American businessperson, you'd better take a good hard look at the things that will directly or indirectly affect your company in 2023.***

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THE MIDEAST

We seem to have forgotten about Iran. Make no mistake. Iran is deadly. It is very near to having enough enriched uranium to produce a bomb. And in their eyes, we are still the Great Satan. Iran has conveniently cozied up to Russia and China, giving them increased diplomatic influence in the last year. This is worrisome.

Equally concerned are the Israelis and most of the Arab world. At some point, sooner rather than later, Israel will strike the Iranian nuclear facilities and be secretly applauded while loudly condemned. An Iranian bomb is an existential threat to Israel. And taking out Iran’s nuclear capability with a military strike will likely ignite a war in the Mideast.

U.S. INTERNATIONAL POLICY

The Biden policy is warlike toward Russia, incoherent toward China and nonexistent toward Iran. This does not consider North Korea’s dictator decimating the country while popping nuclear-capable missiles into the air. There are too many trouble spots like the Mideast where an incident could spiral out of control.

RESOURCES

*Energy.* Oil and gas remain both abundant and still relatively cheap. The resiliency of the energy market was exemplary despite the brief spike in energy prices at the wholesale level at the outset of the war, which settled quickly back to expected norms. Retail prices for gasoline and natural gas spiked far above what the fundamentals of the market predicted and will be slower to return to lower prices, to the continued dismay of consumers at all levels. I anticipate that, while there might be short spikes in response to geopolitical risks, crude oil prices will remain in the range of \$75-85/barrel for 2023. However, I do not believe in predictions of \$200 to \$500 for a barrel of oil. The fundamentals do not support it.

*Electricity.* The forecast could be better for electricity. California, most of Europe, and a growing number of states in the United States face short to severe electricity supply disruptions, especially in extremely hot or cold weather. Green energy needs backup peak power generating plants to supplement during those times. Environmental policy has forced the closure of those plants run on fossil fuels. We must solve the storage problem before an industrialized country can run on renewable electricity, no matter how many solar panels or windmills are installed. And renewables connect differently to the grid, which is much more expensive and difficult to maintain. The

new interconnections to aging grids will trigger more failures. California’s grid is on the brink of catastrophic failure, and the Texas grid isn’t far behind. A major failure could also bring down many other states because power is freely wheeled across state grids. Our way of life depends on abundant (and cheap) energy and complex systems. Without the former, the latter won’t work. So, forget mandating EVs, California, until you can find a way to power them all.

*Food.* Globalization lifted three billion people out of poverty and substantially reduced the number of people who lack sufficient food. The war temporarily interrupted deliveries of bulk food cargoes from Ukraine and Russia and focused attention on declining stocks of multiple grains. While ample food production remains to feed 8 billion people, the logistics for getting food to the people are under increasing strain. Temporary shortages can develop locally. Shortages trigger panic buying, hoarding and black markets, worsening the problem. Some regimes still interfere with food deliveries and people go hungry or starve. The increase in malnutrition in many countries is from deliberate interference. In the modern world, famine results from deliberate human action, not crop failure. Our global margin of safety in food production, storage and distribution is diminishing. Fortunately, this is a reversible trend.

*Water.* Water is in a critical state. We need food and water to survive. The world faces a water crisis, worsening daily. We need more water for everyone on the planet. It’s just that clean potable drinking water isn’t where all the people who need it live. That means we must bring water to those in need. That’s an expensive proposition because water is heavy and voluminous. In the western U.S., we have mismanaged scarce water resources for decades. Despite the rainfall in 2023, nothing will make up for the several years of drought and the overuse of the Colorado River. As bad as it is in the U.S., it is an order of magnitude worse in India and China, where over 45% of the world’s population live. Neither country can sustain its population, its crops, and its industries with the water they have. China may eventually cut off India’s access to water from several rivers originating in the Himalayas on the Chinese side of the border.

Despite the gloom and doom above, I believe Winston Churchill’s assessment of Americans is correct: “America will always do the right thing after it has exhausted all other choices.”





PRESIDENT AND CEO  
SHIFTBOARD, INC.  
SEATTLE, WA

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Today's workforce expects a better work-life balance and more control over their schedules. Labor shortages will continue to pose a challenge. Manual methods are no longer practical at scale.

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We see three trends companies should be aware of and address to stay competitive in 2023. These trends began to take shape before the pandemic and will continue to gain momentum as we move further into the year.

#### CONTINUED HIGH TURNOVER AND ABSENTEEISM FOR HOURLY AND SHIFT-BASED OPERATIONS

Today's workforce expects a better work-life balance and more control over their schedules. To address this, HR leaders and workforce managers must embrace intelligent automation technologies to help them accommodate worker preferences and better manage scheduling, overtime assignments and training, among other things.

#### THE GROWING NEED FOR ADAPTIVE OPERATIONS IN INDUSTRIES THAT RELY ON SHIFT WORKERS

Labor shortages will continue to pose a challenge. Companies must find ways to adapt their operations to address ongoing coverage gaps. Those that can integrate the production planning and labor scheduling to respond to changes in operating plans will have a competitive advantage.

#### THE INCREASE IN COMPLEXITY OF WORKFORCE SCHEDULING

Manual methods like phone trees, Excel spreadsheets, and email are no longer practical at scale, especially in complex industries. Intelligent scheduling automation is gaining wider implementation because it can adapt to site-specific procedures, labor law and industry rules while continuously optimizing labor resources.

Hiring and retaining good employees is vital to the success of every business. Investing resources to ensure labor law compliance is key to continued success. The repercussions of non-compliance can be devastating.

As the labor market cools, employer compliance with labor laws becomes increasingly important, particularly in jurisdictions with more onerous labor laws (e.g., California). A review and audit of employment policies and records are critical to mitigate risk and potential costs associated with employment-based disputes.

At the end of the day, the relatively minor cost of auditing employment policies and records can increase an employer's confidence in their employment practices and mitigate or reduce litigation, a distraction from the business.

### EMPLOYEE HANDBOOKS

We encourage our business clients to maintain current employee handbooks. Handbooks communicate employer expectations to employees and provide supervisors with guidance for navigating difficult employment circumstances. Employers should take the handbook seriously, adhere to the pre-established company policies and conduct routine audits to ensure continued compliance with ever-evolving labor laws. Audits also allow employers to refine aspects of policies that do not work for the employment environment.

### WAGES AND COMPENSATION

Routine audits of wage and hour records should be conducted to reduce the risk of potential litigation and ultimate employer liability for violating wage and hour laws. Class action lawsuits can arise from errors in calculating wages or failing to comply with technical requirements. We frequently recommend a thorough review of employee time systems and records and the overall compensation records to ensure employees receive the benefits of paid and unpaid leave, insurance, bonuses, etc. The upfront cost of routine audits may very well reduce an employer's cost to defend even the most minor infractions later.

### INDEPENDENT CONTRACTORS

Using independent contractors is often vital to the success of a business. Yet, there is an increasing push from a regulatory perspective to change the classification of a contractor to that of an employee. For jurisdictions, particularly California, businesses must closely adhere to new laws and regulations related to independent contractors to avoid regulatory violations and the ensuing penalties associated with such violations.

“*Hiring and retaining good employees is vital to the success of every business. Investing resources to ensure labor law compliance is key to continued success. The repercussions of non-compliance can be devastating.*”



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The inability to hire candidates with the skills and experience needed will cause delays and disruptions to production levels and become even more of a focus point in 2023.

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Manufacturing and distribution operations face many challenges, especially the need for more talent. The inability to hire candidates with the skills and experience needed will cause delays and disruptions to production levels and become even more of a focus point in 2023.

### THE EFFECTS OF ONSHOREING, RESHOREING, NEARSHOREING

We have grown accustomed to outsourcing our manufacturing needs. This will no longer be the operational norm as companies continue to do more onshoring, reshoring or nearshoring to alleviate production and supply chain disruptions that shocked the industry over the last three years. This, in turn, will create new demand for core technical talent such as Plant Electricians, Automation Technicians, Engineering and experienced Operational Management candidates.

### THE TALENT POOL

Attracting talent will remain a hot button within the manufacturing sectors as existing talent draws closer to retirement. While immigration policy reform could be an option, it is not immediate. Establishing mentoring and apprentice-type programs to develop “homegrown” talent will be an investment that companies must make to thrive and grow. Being forward-thinking by offering opportunities to follow a path that plays into interests and talents could be a way to retain existing employees and attract new ones.

On the flip side, this heightened demand for talent will offer many opportunities for candidates to rethink their current career choices. For example, occupational pathways for those who prefer to work with their hands or those who are mechanically inclined could be a creative way to attract or retain talent.

Regardless, it is a new day that requires a new approach to retaining and attracting the right talent.

Bad things happen. Whether an accident, a natural disaster, theft or lawsuit, commercial insurance is an important investment for every business. Smart companies are taking a comprehensive look at their business to determine the type and level of safety net they want to put in place to ensure the financial stability and longevity of the company. They work with professionals who can ask the right questions, help consider the risk and provide advice on insurance options available.

PROPERTY INSURANCE

The market is tightening (hardening) because fewer insurance carriers are in the business. And exacerbating this, carriers are exiting certain types of business insurance (older buildings, fire hazards).

- Be proactive in maintaining your property to ensure that it is insurable. This can influence whether your property can be insured and sometimes can result in discounts of up to 25% on insurance rates.
- Make the appropriate roof updates, electrical upgrades and plumbing systems checks. And maintain proof of those expenses.
  - Invest in a sprinkler system that is adequate for your property (especially if you have converted a building where water pressure may not be adequate) and get it tested annually.
  - These maintenance details and having a functioning sprinkler system should result in a discount of up to 25% on property rates.

VEHICLE INSURANCE

Vehicle insurance premiums are skyrocketing. For example, one of our clients has one (1) truck. In 2022, the premium was \$ 3,000. For 2023, the renewal came in at \$ 9,000.

- Presenting facts and information to insurance carriers can help influence rates.
- Provide the telematics of the vehicle (information on maintenance, braking, average speed, maintenance schedule)
  - Provide routine maintenance (check tires, brakes, etc.)
  - Keep records of maintenance, fleet manual and other appropriate records while respecting privacy laws

Fewer carriers are offering stand-alone commercial auto policies. Rather, they now require the auto coverage to be tied to another piece of business such as property and/or liability insurance.

CYBER INSURANCE

Cybercrime continues to increase. Consequently, acquiring cyber insurance has become more difficult. Small companies as well as large firms, have been affected. Companies must have cybersecurity in place:

- Make sure you have a firewall
- Have your data backed-up (cloud)
- Invest in system redundancy
- Ensure that your systems require dual authentication

“  
*Bad things happen. Whether an accident, a natural disaster, theft or lawsuit, commercial insurance is an important investment for every business.*  
”



**JERMAINE BROWN**  
COMMERCIAL INSURANCE BROKER  
& RISK ADVISOR  
**INSURICA**  
LOS ANGELES, CA



**EMPLOYMENT PRACTICE LIABILITY INSURANCE (EPLI)**

Protect your firm with a human resource policy that protects against sexual harassment, discrimination, hostile work environment, etc. This insurance provides for a defense attorney and HR services. And it covers wage and hourly defense costs up to \$100k. Make sure to include third-party coverage for suppliers, customers, etc. This is especially important if a firm is in California. And above all, use good record-keeping to mitigate issues if any event occurs.

**WORKERS’ COMPENSATION INSURANCE**

This insurance covers injuries and illnesses in the workplace. While rates have been pretty steady, the forecast is for rate increases.

Be proactive in preventing injuries. Implement safety programs and practices to minimize these losses. Proactive follow-up also helps if you have a claim.

**GENERAL LIABILITY INSURANCE**

Provide your firm with a safety net. And when securing contracts with suppliers, insist that their certificates of insurance extend to the manufacturer (transfer risk), test products, etc.





CEO  
SAN BERNARDINO AIRPORT (SBD)  
SAN BERNARDINO, CA

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Our transportation heritage is built on and around  
our air, rail, surface and port connectivity.

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Our transportation heritage is built on and around our air, rail, surface and port connectivity.

### RESHAPING TO SUCCEED IN 2023...

Inland So. California (also called the Inland Empire) is the 12th largest MSA in the U.S. (bigger than Detroit, Seattle, Tampa Bay, Denver and Baltimore). Year after year, we continue to be one of the fastest-growing areas in our nation.

What's not unique is that all regions need goods and services. But the goods must have a way. The stronger our systems become, the more modern we make them, the more important the connections between them need to be. In Inland Southern California, we are a region known for being “Good at Goods Movement.” We have been for centuries. But like any athlete, we can be better. It takes: Commitment. Investment. Time. Courage. Innovation. As we continue to coordinate more, I see us becoming a region that's not only good at goods movement – but good at moving everything.

### AIR CARGO

We took the training wheels off at San Bernardino in 2017. And after a few years, the country's top three air cargo airlines fly into SBD daily. Not too long ago, out of roughly 140 air cargo airports in the nation, SBD was almost dead last. Thanks to hard work and strong partners, SBD was ranked in the top 30 in 2022.

### PASSENGER SERVICE

After 30 years of waiting, San Bernardino finally got passenger service in 2022. I'd like to think this is possible because, in the Inland Empire, we can learn from one another. Our cousins to the west in Ontario continued to grow cargo as many did during the pandemic. They have continued their resurgence of consecutively adding passengers and destinations around the country and worldwide. This is a good thing, not just a goods thing. After all, they're connected.

The two most impactful things affecting freight are the TEU (Twenty-foot Equivalent Unit) migration away from the POLA/LB (Port of Los Angeles and Long Beach) and the business migration from California to other western states.

CARGO SHIFTS TO GULF AND EASTERN SEABOARD

Discretionary cargo has meaningfully moved to the gulf and eastern seaports by shippers over the last 6 – 12 months. The lack of a contract with the International Longshore & Warehouse Union (ILWU) and the continued focus on new impact fees have caused many shippers to diversify their strategies away from Southern California. It takes a long time to recover business volume once it settles into a new port of call. And the longer the contract negotiations continue, the more probable that further diversion will occur.

This directly correlates to the health of Southern California’s logistics and transportation businesses, which services that cargo volume. Maintaining a large logistics presence in Southern California will always be important. Goods that move through the Ports of Los Angeles and Long Beach serve the local consumption base as well as several other U.S. markets. However, the ongoing labor contract negotiations are pushing some logistics users to explore expansion opportunities in other port markets.

COMPANY RELOCATION FROM CALIFORNIA TO BUSINESS-FRIENDLY STATES

On migration, we have seen many businesses and their employees seek refuge from taxes, operating friction and reporting requirements associated with doing business in California by expanding or even departing the state for more business-friendly states like Nevada, Arizona and Texas. This migration is particularly true for companies with manufacturing and finishing components within their buildings and who often need help with approvals, permits and zoning issues that seem less restrictive in alternate locations outside the state. We are tracking these trends using our proprietary data and data from colleagues in commercial real estate brokerage operations.

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**KIM SNYDER**  
PRESIDENT, WESTERN REGION  
PROLOGIS  
CERRITOS, CA



CEO  
WORLD CLASS LOGISTICS CONSULTING, INC.  
SEAL BEACH, CA

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The thirst for goods continues to stress the global supply chain. Often, the handling of goods post-production can wreak havoc in the system.

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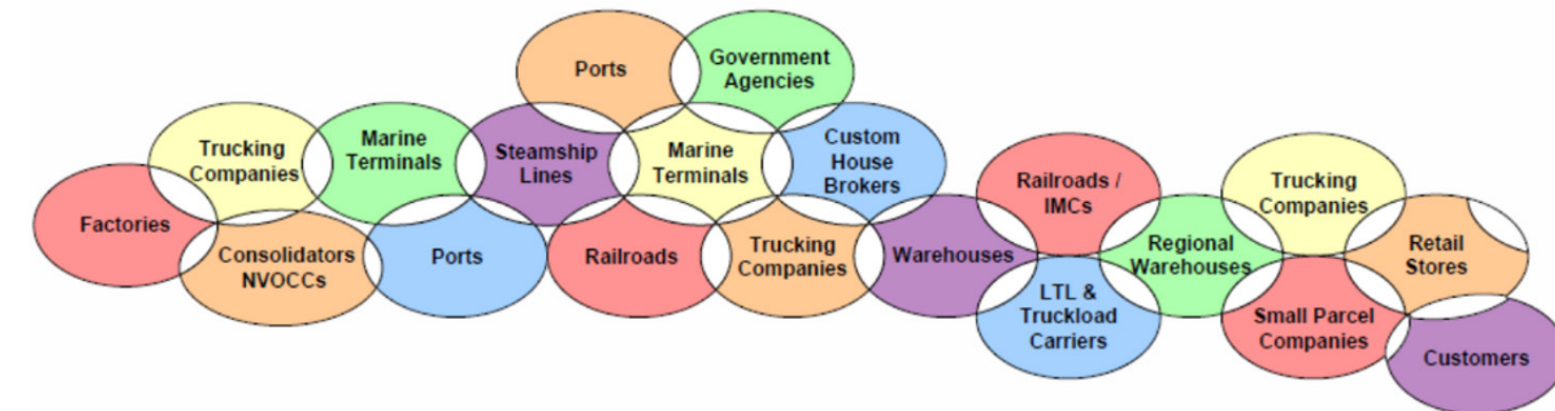
11

The thirst for goods continues to stress the global supply chain. Often, the handling of goods post-production can wreak havoc in the system.

Research has shown that 11 to 15 different goods movement industries often handle an import item. While these stakeholders operate and strategize independently of stakeholders upstream and downstream in the supply chain, they are significantly impacted by other stakeholder strategies (e.g., introduction of megavessels, e-commerce evolution, etc.).

The graphic below represents the various goods movement stakeholder industries that move goods from overseas factories to retail stores and consumer homes in the U.S.

#### GLOBAL SUPPLY CHAIN STAKEHOLDERS DELIVERING THE GOODS



To address global supply chain disruptions and mitigate risk, these industry stakeholders must have a basic understanding of what makes the global supply chain work. Each industry touching the supply chain must understand the importance and value of the other stakeholders involved in moving goods – those upstream and downstream. This is the missing piece to working the puzzle of goods movement in the global supply chain. This understanding will enable each stakeholder’s operational interface to achieve much more efficiency and reliability.

## SO. CALIFORNIA CHALLENGES THE SUPPLY CHAIN

### MARINE TERMINALS

The So. California ports are working to maintain their top position despite a shift to the Gulf and Eastern U.S. ports.

*So. California Ports (Los Angeles & Long Beach) Reported 2nd Busiest Year in Container Traffic in 2022*

The two ports processed 19,044,816 TEUs in 2022, down 5% from 2021.

#### *Port of Los Angeles*

Plans are underway to increase digitalization to improve container flow velocity, implement a port-wide reservation system for marine terminal appointments, add ‘flex space’ with a new 80-acre maritime support facility, zero-emissions by 2035, build a green hydrogen hub on port property and launch a workforce initiative to support training and job placements in addition to being actively involved in community outreach programs—lofty goals, for sure.

#### *Port of Long Beach*

The port is committed to being the first zero-emission seaport, supporting state and federation efforts to increase renewable energy resources, supporting offshore wind turbines, investing in rail improvements that will improve efficiency, truck trips, and lessen environmental impacts amid cargo volume increases.

### OCEAN CARRIERS

*One of the largest Ocean Carriers, Maersk, reported record profits in 2022 despite a reduction in load volume—and forecasts weak growth in 2023.* Maersk and MSC recently announced plans to discontinue a vessel-sharing agreement in 2025, opening them to pursue individual strategies.

### SO. CALIFORNIA FREEWAYS AMONG NATION’S TOP TRUCK BOTTLENECKS

American Transportation Research Institute (ATRI) reports 3 of the nation’s top 10 truck bottlenecks is in So. California.

### SO. CALIFORNIA INDUSTRIAL REAL ESTATE

Despite being overheated, the So. California industrial market is forecasted to have high construction demand over the next three years. Developers have responded to demand levels that have pushed vacancy rates below 1% in both Los Angeles and the Inland Empire. Despite the possibility of a near-term recession resulting in a demand by financiers for higher equity participation and a higher rate of return hurdle rates, there is a projected continuation of low vacancy rates and increasing rents.



Artificial Intelligence (AI) will be the game changer of the year. It is already having a huge impact on many aspects of a business.

ChatGPT and other language models are intricate datasets that support AI applications like language modeling, computer vision and more. From automating mundane tasks, forecasting everything from weather, sales, financial markets and customer demand, and language translation to creating content, image captioning and being embedded into existing software, AI is causing disruption.

ADVANCING THE CUSTOMER EXPERIENCE

Ultimately, businesses want their customers to have a great experience so that they will return and refer others to the business. AI can help take the customer experience to a new level.

24/7 customer support through conversational chatbots has allowed companies to provide instant support for questions, education, information and transactions meeting customers when they want, not during ‘business hours.’

CUSTOMER ENGAGEMENT

Whether your customer is external or internal, staying connected can be challenging. Everyone has a different way of engaging or accepting information (email, internet, social media, reports, etc.). Today, that means having brand tentacles where customers and prospective customers may be looking, which means in multiple mediums.

CREATING CONTENT

Using AI to assist in creating content to be repurposed across mediums can be a huge times savings. The idea, perspective, viewpoint and voice must come from the brand or author. There is no shortcut to creativity. But it is so much easier to edit than it is to author.

CONVERSATION AT LIGHTNING SPEED

Because information and news are at our fingertips, it is important to respond almost instantaneously, especially when something goes wrong.

For as long as it takes to build a brand, it can only take one negative event to bring it down. So, when things go wrong, own up to it!

Take the Southwest Airlines debacle last December. It took a pilot to explain the system meltdown on Facebook to the public. And while Southwest has still not owned up to that incident, they treated the temporary halt in operations in April with another bland explanation. Not a great brand experience. It will take years to recover from their silence.

Another example is the SVB tripwire that rippled through our banking institutions. Many banks had preemptive plans, with sound communications strategies that proactively addressed customers and the public. They controlled their own narratives to mitigate risk and, in some cases, grow their business.

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”



KATHLEEN McENTEE

PRESIDENT, MARKETING EXPERT  
KATHLEEN MCENTEE AND  
ASSOCIATES, LTD.  
LA QUINTA, CA



JOB SECURITY

Today’s business environment is immediate. For marketers, AI platforms provide a wealth of information that can be easily tapped. Give it an idea or ask a question; an answer is almost instantaneous. Suggest an article or blog post; it starts almost before you are finished typing. It provides a good basis from which to get started. For some, it can be intimidating. And if ‘ok is ok,’ you are in trouble. Because if you are not leveraging technology to advance your skills, you will be left behind. AI can produce some pretty astounding things. What it can’t produce is creativity, an original idea, points and counterpoints, perspective, spin...I can go on.

The next year promises to be exciting, threatening, overwhelming and lightyears ahead of where we are today. The challenge is hanging on for the ride.





MANAGING DIRECTOR  
COYOL FREE ZONE  
COSTA RICA

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Costa Rica has become one of the leading nearshoring destinations in the Americas due to its strategic location, favorable business climate and skilled workforce.

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Costa Rica has become one of the leading nearshoring destinations in the Americas due to its strategic location, favorable business climate and skilled workforce. More than 40 new multinational companies started operations in Costa Rica last year. And 60% of the multinationals already established in Costa Rica reinvested in the country.

A viable option, Coast Rica is a preferred choice due to its highly skilled workforce, competitive labor costs, geographic proximity to the U.S., stable democracy and political stability, cultural compatibility and strong commitment to ESG. And the cost of doing business in Costa Rica is relatively low compared to other countries in the region, such as Brazil and Mexico.

The country is home to several startup incubators and accelerators, which provide resources and support to early-stage companies. This culture of innovation has led to the development of a vibrant tech ecosystem, which drives economic growth and creates new opportunities for nearshore companies.

Medical devices have become the leading export product of Costa Rica, amounting to \$5.2B in 2022. This represented a 24% increase from the previous year.

Incentives promoting investment in the country have prompted medical device suppliers to consider Costa Rica an important opportunity for growth. The country has become a leading nearshoring destination for several industries and is poised to grow further in the coming years.

While nearshoring and friendshoring have been taking place for years in the regions, recent geopolitical issues between the U.S. and China and the war in Russia-Ukraine have put a spotlight and turned the focus on the Dominican Republic and other nearby countries.

FREE TRADE ZONES

The region is an ideal platform for U.S. manufacturers looking to bring production back home. Both have much to gain. The Inter-American Development Bank (IDB) estimates the short- to mid-term gain for Latin America and the Caribbean to be \$78B in exports of goods and services, especially in the medical device, automotive, textile, services, pharmaceutical and renewal energy industries.

Eighty-seven new companies were approved to operate in the free zones in 2022. This is in addition to the expansion of already-existing businesses like Fresenius Kabi, Medtronic, BBraun, Nypro DR (Jabil), BD and Cosmed.

The National Free Zones Council (regulator) and others have coalesced a five-pillar strategy to strengthen and improve the conditions for doing business in the region: promotion of investment, ease of doing business, education, infrastructure and industrial linkages.

DOMINICAN REPUBLIC

Located in the heart of the Caribbean, the Dominican Republic is well-positioned geographically to serve as a nearshoring destination for companies in the U.S. The country has a stable political and economic environment, making it a low-risk destination for foreign investors. It shares a time zone with the eastern coast of the U.S., making it easier to conduct business in real time. The country has a solid infrastructure (ports, roads, airports) and robust logistic centers. Moreover, the country’s modern and reliable telecommunications infrastructure supports high-speed internet connectivity and facilitates seamless communication with clients and customers abroad.

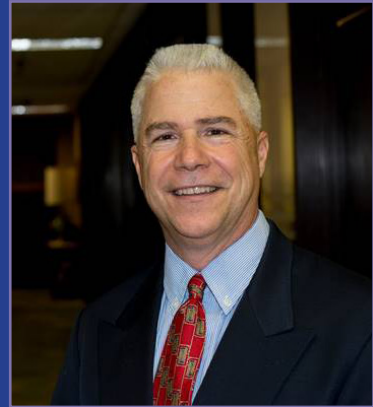
One of the biggest advantages of nearshoring to the Dominican Republic is its highly educated and multilingual workforce. The country’s robust education system produces a large pool of talented and skilled workers. Many Dominicans are fluent in English and Spanish, making it easy to communicate with clients and customers worldwide. This helps bridge the language barrier and enhances the customer experience, leading to greater customer satisfaction.

The Dominican Republic scored 405 on The Maritime Connectivity Index, which measures a country’s connection to global marine transport networks, earning 38th place in the world. Each week 90 ships depart from Dominican Republic ports. Over 280 daily flights leave Dominican Republic airports with direct routes to over 40 countries and 150 cities worldwide.

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**YARISOL LOPEZ**  
DEPUTY EXECUTIVE DIRECTOR  
NATIONAL FREE ZONES COUNCIL OF  
THE DOMINICAN REPUBLIC  
DOMINICAN REPUBLIC



FOUNDER AND CEO  
LATAM FDI  
TUCSON, AZ

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Latin America and the Caribbean offer options for U.S. manufacturers. There are 33 countries in Latin America and the Caribbean, many of which can offer solutions to improve operations, reduce costs and increase economic efficiencies.

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Latin America and the Caribbean offer options for U.S. manufacturers. There are 33 countries in Latin America and the Caribbean, many of which can offer solutions to improve operations, reduce costs and increase economic efficiencies.

#### PROXIMITY AND TIME ZONE

Nearshoring allows companies to work with teams in the same or similar time zone, improving communication and collaboration, making them readily accessible by company management. In addition, traveling between countries is often more convenient and cost-effective than traveling to other regions.

#### COST SAVINGS

Nearshoring work to developing countries provides access to wage structures that are economically advantageous while maintaining high-quality standards.

#### COMPETENT WORKFORCE

Latin America has a highly skilled and educated workforce with many professionals trained in technical and specialized fields. The region also has many universities and technical institutions that provide quality education and training. Over the last several decades, popular nearshore locations such as Costa Rica and Mexico have worked hard to train and educate their workforce.

#### CULTURAL SIMILARITY

Nearshoring allows companies to partner with companies and individuals with similar cultures, languages, and work practices.

#### FASTER RESPONSE TIMES

Companies working in a nearshore location can respond to their customers quickly and reduce lead times.

#### REDUCED RISK

Nearshoring reduces supply chain risk.

#### BUSINESS-FRIENDLY ENVIRONMENT

Many Latin American countries offer incentives and policies that promote foreign investment and economic growth. This creates a stable business environment and ensures the outsourcing industry thrives in the region.

Mexico is the new China, even for the Chinese! As part of a larger change in global trade, businesses worldwide are relocating production and equipment to Mexico to establish a manufacturing hub closer to the United States.

DOING BUSINESS IN MEXICO

3PLs, electric vehicles and suppliers (i.e., Tesla), and light manufacturers are among the many industries flocking to Mexico. Yet, Mexico’s manufacturing is complex and requires a good understanding of the rules of transformation to meet USMCA qualifications, as well as Mexico’s own supply and demand challenges.

Industrial real estate is in high demand, especially in the border regions and Monterrey. The Shelter Program is the quickest way to set up manufacturing operations in Mexico. Setting up independently in Mexico is a minimum 2-year wait.

Find the right partner to help navigate the nuances of doing business in Mexico. Going at it alone can cost a company millions of dollars.

WORKFORCE

Mexico has a large pool of highly skilled professionals, particularly in the areas of engineering, software development and Mexico customer support. This makes it an attractive option for companies looking to outsource these services. And depending on the skills required can cost as little as \$4.50/hour.

CULTURAL AFFINITY

Mexico shares cultural and linguistic ties with the U.S. making it easier for companies to communicate and collaborate with their nearshore teams.

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*Mexico is the new China, even for the Chinese! As part of a larger change in global trade, businesses worldwide are relocating production and equipment to Mexico to establish a manufacturing hub closer to the United States.*

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VERONICA M. CONTRERAS

PRESIDENT  
ZAVERO CONSULTING, INC.  
SAN DIEGO, CA



DIRECTOR AND PRINCIPAL  
ALBA CONSULTING  
DUBLIN, IRELAND

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One of the big trends that has been unfolding for some years now is the emergence of a multipolar world in the geopolitical sense. This has been exemplified in recent weeks by the ambivalent response of many large developing countries, such as China, India, Brazil, Indonesia and Turkey, to the West’s sanctions on Russia over the war in Ukraine.

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One of the big trends that has been unfolding for some years now is the emergence of a multipolar world in the geopolitical sense. This has been exemplified in recent weeks by the ambivalent response of many large developing countries, such as China, India, Brazil, Indonesia, and Turkey, to the West’s sanctions on Russia over the war in Ukraine.

### NEARSHORING, RESHORING, FRIENDSHORING

A multipolar world has serious implications for both economic strategies at the country level and business strategies at the corporate level because it increases unpredictability and the potential for conflict and supply chain interruption. We see many big corporations accelerating actions to reshore, nearshore and friendshore critical elements of their supply chains. One response we are seeing is the US, Netherlands and other Western countries imposing restrictions on China regarding chip technology.

### REGIONAL SUPPLY CHAIN CONFIGURATIONS

The future of supply chain configurations will be more regional than global. Consequently, I am urging my SME clients located in the developed economies of Europe and North America to aggressively seek new opportunities to leverage their location, know-how, and technological capability to take advantage of these reconfigurations of their customers’ supply chains.

This process will take several years to balance itself out, so there is much opportunity for businesses in these regions. However, it won’t be there for too long, so the time to act on this is now!”



India is emerging as an interesting option as the world is decoupling from China and looking for alternative suppliers. If you are not looking at India to expand your manufacturing and grow your market, you should look again.

SIZE AND ECONOMY

India is the most populous country in the world, with 1.4B people (India took over China this year) with a very large, young population. It is the fastest-growing major economy in the world (7-8 % growth per year), the world’s fifth-largest economy by nominal GDP, the third-largest by purchasing power parity and expected to bypass Germany and Japan by 2035.

MANUFACTURING CAPABILITIES

India is emerging as a major electronics manufacturer. Foxconn, a manufacturer of 70% of the world’s cell phones (including Apple) and 40% of consumer electronics, has started manufacturing cell phones in India. Multi-million dollar mega factories are being built to employ 100,000+ employees. Vedanta and Foxconn are purported to invest \$20B in the semiconductor business in India.

AIRLINES

The airline business is booming in India, with the government planning to build more than 50 new airports over the next five years. Air India ordered 470 planes from Boeing and Air Bus, a \$100 B+ investment. President Biden said that the Air India order would create 1MM jobs in the US, many of which will not require a college degree. Aerospace and defense contractors plan to collaborate and expand business in India.

INFRASTRUCTURE

The Indian government is committed to expanding infrastructure projects, spending \$1.5T over the next five years emphasizing transportation (roads, highways, railroads, airports and ports), energy, urban and social infrastructure.

ECONOMY

With India’s GDP growth from \$3.5T - \$7T by the end of the decade, this could be India’s decade. India is set to more than double its GDP with offshoring and manufacturing, energy transformation and advanced digital infrastructure. A recent report from Morgan Stanley states that one-fifth of global growth through the end of the decade will come from India. It will not just be the office of the world but the factory of the globe.

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*India is emerging as an interesting option as the world is decoupling from China and looking for alternative suppliers. If you are not looking at India to expand your manufacturing and grow your market, you should look again.*

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**KASH GOKLI**  
PROFESSOR  
HARVEY MUDD COLLEGE  
CLAREMONT, CA



PRESIDENT  
ELECTROFAB SALES  
HEMET, CA

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Americans had a wake-up call during the COVID-19 pandemic when we realized that we had become vulnerable because of our dependency on suppliers from other countries, particularly China. Our national security and the health of Americans became at risk because of the supply chain disruptions of the goods we needed.

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Americans had a wake-up call during the COVID-19 pandemic when we realized that we had become vulnerable because of our dependency on suppliers from other countries, particularly China. Our national security and the health of Americans became at risk because of the supply chain disruptions of the goods we needed.

I predict that the reshoring data for 2022 will show a continued trend. With today's heightened need for national security, sustainability and self-reliance, reshoring of U.S. manufacturing has become a matter of survival. American manufacturers are poised to enjoy vibrant opportunities in 2023 after nearly three years of economic turmoil and supply chain disruptions.

#### RESHORING IN PROCESS

The Reshoring Initiative reported that manufacturing added 1.3MM jobs to the economy between 2010 and 2019. “For the second year in a row, reshoring exceeded FDI (Foreign Direct Investment) by 100%... Additionally, the number of companies reporting new reshoring and FDI set a new record of over 1,800 companies.”

#### INITIATIVES TO REVITALIZE AND SCALE U.S. MANUFACTURING

Industry Reimagined 2030 is an initiative focused on collaborating to revitalize and scale U. S. manufacturing, making it globally competitive and advancing societal interests by 2030. The vision includes 50,000 world-class domestic manufacturers (10x increase), adding 2+MM to the manufacturing-related, middle-income workforce (30%), reducing the environmental footprint to supply U.S. goods by 30% and increasing consumer purchases of US-made goods by \$500MM. This will all require a sea-change in the national narrative of the U.S. manufacturing industry to transform the prevailing worldview from “inevitable decline” to “vibrant opportunity.”

#### BENEFITS OF RESHORING

The benefits of reshoring are huge. Domestic manufacturing should be considered a matter of national security. Companies that source key components within the U.S. and close to assembly plants will mitigate unpredictable policymaking and inflationary pressures. And localizing manufacturing near customers will reduce economic and environmental costs.

Many companies have been caught off guard and unprepared. In the future, there will be further disruptions for businesses. Vibrant opportunities await companies acting with foresight and preparedness. Distress awaits those companies caught reacting.

Today’s workforce has changed. There are at least three if not four, generations in the workplace, and they all see the world differently. From the use of technology to understanding their role and contributions, each generation is different. What is not different is the need to accomplish company goals and objectives. How we get there largely depends on how we, as managers, understand, communicate and engage with our workforce.

Here are some thoughts for success in 2023:

STRATEGY

Be better than yesterday. Invest in a strategy.

CELEBRATE SUCCESS

Recognize that small immediate successes are important (more beneficial than drawn-out improvements).

CORE COMPETENCIES

Focus on core competencies and responsibilities.

TALENT

Talent is at a premium. Weathering the storm will pay off because it’s critical to have the right players in the right place on the bus. That’s a controversial but important team discussion, as is considering that someone on Team B can better support Team A.

A team is a team when there is teamwork. Facilitate an understanding of personalities and generations.

TECHNOLOGY

Leverage technology to communicate. Technology alone will not solve bad processes in place. Those need to be addressed prior to implementing supporting technology.

LEAN

LEAN is a critical function of manufacturing excellence. It is a process that takes time. LEAN leadership must drive the culture and principles of the entire process, and it must be part of our daily lives. To be successful, LEAN needs to be driven from the top down and not middle out.

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*How we get there largely depends on how we, as managers, understand, communicate and engage with our workforce.*

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DWIGHT EDELMAN

EXECUTIVE DIRECTOR OF OPERATIONS  
SCHENCK PROCESS, LLC  
SABETHA, KS



EVP, SALES & MARKETING  
ADEXA  
MINNEAPOLIS, MN

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Artificial Intelligence has been around long enough that it should no longer be a concept but something visible and in practice with today's systems.

### AI IN PRACTICAL APPLICATION

With artificial Intelligence, systems should be able to plan autonomously. The playbook should be automated, whereas companies create optimized plans without the need for the intervention of planners responding to endless alerts, emails, and messages. The planners can control the level of autonomy to decide how much of the decisions are made by the system and when planner intervention is needed. Thus, planners focus on improving the plan, not creating or fixing it.

Take Control Towers as an example. Having a Control Tower that is simply a collection point of events is no longer acceptable. It's not good enough to manually alert someone to go and fix the plan manually. Control Towers need to be Intelligent Control Towers. The system should be smart enough to comprehend and take action based on a learned history of how a planner reacts to given situations – that's artificial intelligence and machine learning in action.

### SIOP - THE PROCESSES TO DRIVE OUTCOMES

Sales and Operations Planning (S&OP) and Sales and Operations Execution (S&OE) go hand in hand. S&OP is the easy part as it is based upon a longer time horizon, and there is much room to move demand around, such as to maximize whatever metrics are prioritized. Yet, bottlenecks in the manufacturing process move as the product mix changes.

Planning (S&OP) typically assumes a bottleneck based upon a standard created as an average or a theoretical. It gets difficult in the execution as there is less time horizon in which to operate.

Systems must be flexible, based upon realistic, accurate standards and account for varying cycle times. Artificial Intelligence can play a huge role in optimizing plans as it can evaluate thousands of scenarios. In contrast, the human mind manually creating scenarios can only evaluate a handful at most.



Sourcing exercises are driven by new requirements and changing circumstances – product redesigns, supplier’s business changes and evaluating supply chain architectures. In 2023, there are three focus areas to consider when conducting strategic sourcing activities.

SUPPLY CHAIN ARCHITECTURES

Where are your key suppliers? Where do you want them to be? And what are your options?

Many supply chain professionals are talking about Asian and especially China sourcing risks. There are risks to using Asian suppliers, but the companies also benefit from that low-cost region through access to large market spaces. The value a supplier can add to an organization comes from various sources, not just lower labor and fixed costs, so many facets need to be examined. Considering all risks, benefits and putting these in the context of where the company expects to be in 3-5 years can help determine the best location for suppliers.

SUPPLIER RELATIONSHIPS

Another key area to remember is supplier relationships - knowing which suppliers have critical or potentially critical connections to a company. Many companies conduct a spend analysis, and several good third-party companies are providing spend analysis services. Yet, too many organizations don’t dig deeper to identify those suppliers with a lower spend that may be critical in other areas. Consider those suppliers involved with intellectual property (supplier or customer-owned) or single sources, where most or all of certain parts or part families are sourced through a single supplier. Even with low spend, if multiple parts are used across product lines or produced in high quantity for a company and that supplier has financial issues, is bought out, or if a small business closes for any unexpected reason, there can be significant ramifications.

Knowing which suppliers have critical content is as important as large amounts of spend. Once those suppliers are identified, proactively manage the relationships, ensuring business alignment, executive support, mutual goals, and regular, collaborative business discussions.

SKILL BUILDING

Skill building and enhancement is the final key for 2023 supply chain management. Through the pandemic, companies needed employee skills to find parts, manage inventories and place orders quickly. Moving out of that chaotic sourcing environment, more emphasis should

be placed on managing supplier performance, setting and re-setting expectations with critical suppliers, and using more analytics to set up the company for success.

Strong problem solvers who seek and find innovative and creative options to manage challenges are needed now more than ever. The ability to think strategically, consider various risk aspects and develop mitigation strategies is increasingly valuable. Because many of these “soft” skills are difficult to define and even harder to teach, finding employees with these abilities is no quick and easy task. One way to enhance a talent pool is by diversifying backgrounds and experience. Backgrounds in purchasing, planning and logistics (traditional supply chain areas) are augmented by financial, engineering, production and statistical expertise.

All these areas can and should work together to build stronger teams and produce better results for companies. To get a good idea, start getting lots of ideas. In 2023, we can all use a few more good ideas.

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*Sourcing exercises are driven by new requirements and changing circumstances - product redesigns, supplier’s business changes and evaluating supply chain architectures.*

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JANE TIERNEY

PRESIDENT  
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SUPPLY CHAIN MANAGER  
CRKT (COLUMBIA RIVER KNIFE & TOOL)  
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Volatility in supply chains continues. While different than during the pandemic, the issues result from continued chaos along the supply chain from suppliers through customer delivery.

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### INVENTORY

Inventories are intentionally high to buffer supply risk. Some companies are also feeling the bullwhip effect from retailers and distributors who also increased their holding inventory when demand suddenly dropped. This was worth doing when money was cheap to borrow. But with interest rates climbing, there are pressures to reduce/optimize the inventory.

### SUPPLIERS

Because of the high cost of qualifying suppliers and developing these relationships, there are many sole-source situations. Even though the cost to qualify for alternates is high and the time to do this is long, there is much more interest in having alternate sources.

We must look further into the supply chain for potential risk and disruption.

CRKT has shifted a portion of our product development to allow countries such as the U.S. and Italy to be more competitive than some low-cost countries. We've started an ultra-premium line of products that will allow us to diversify our suppliers and lessen some of our potential geopolitical risks.

We have also inexpensively onboarded additional backup providers for less critical components. Packaging and printing suppliers for example are everywhere. For our company, it was easy to qualify and create a relationship with backup providers. It has helped us get through some supply challenges when our primary vendor ran out of raw materials or capacity.

### RAW MATERIALS

Suppliers are having trouble getting raw materials and have extended lead times and labor shortages. Some of our suppliers ran out of a particular steel. In turn, we've had to substitute a higher quality, higher cost steel for the customer at no extra charge. With long lead times and currency risks, some steel suppliers won't commit to a final price until the material is shipped in 12-18 months. Companies have to keep their suppliers up to date on forecasts because they need to pass the forecast to their suppliers.



We see dramatic price increases in certain commodities. While we absorb as much as we can, it is squeezing profitability and will push up sales prices.

INBOUND FREIGHT

Inbound transportation has a lot of freight damage. I believe it is due to the labor shortage and new employees being trained with unbelievable freight volumes. New forklift and truck drivers have had to move massive volumes as quickly as possible.

LABOR SHORTAGE

There is a lot of local competition for trained labor. Competitors are willing to pay a premium for people with strong technical backgrounds. And employees are listening. They seem much less loyal – especially if there are flexible options offered.

Companies are also holding onto lower-skilled employees longer than they normally would because they know it might be difficult to hire a replacement down the road.

FINISHED GOODS

The problems securing ocean containers to ship finished goods seem less, but most of our customers who arrange their freight have found that, while more expensive, air freight options shorten the lead time.

Our product is small, heavy and has a high value, so air is almost always the way to go for our customers. But many of our customers use consolidation points to air freight their product to save on entry fees and door-to-door service.



2023 will require patience, refinement and thoughtful action. Your supply chain cannot afford delays, lack of visibility or inadequate tools.

PROCESSES

Your customer experience should be exceptional. That is driven by every department being in sync with customer demand and the ability of the organization to get the right product, to the right place, at the right time. Profit depends on it.

Many manufacturers have adopted the Sales Inventory & Operations Planning Process (SIOP). It aligns key stakeholders, invites transparency and provides a means to manage disruption. Design & implement a Sales, Inventory & Operations Planning (SIOP) process. SIOP will help companies:

- Ensure they are on the same page and going in the right direction
- Struggling with high levels of past due
- Prioritize customer orders
- Tackle excess inventories
- Strategize among departments while supporting significant growth
- Balance work center capacity
- Start the conversations around how, when and where to develop the required skillsets

THE NEED FOR TALENT

The talent shortage is real and manufacturers need people now! From welders and machinists to planners and engineering support, opportunities abound for skilled labor. Focus on attracting this skilled workforce or outsource to suppliers who can help supplement where needed.

Talent and developing talent continue to be an important priority for my clients. Companies are competing in a much different labor pool these days. With shifting priorities from future generations (“I’m building my TikTok following”), the labor shortages will only worsen. Making the right investments to attract talent to the supply chain and manufacturing is critical. Younger generations see the workplace differently. Engage with them to better understand and develop your future strategy.

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Mainstream awareness of Artificial Intelligence (AI) capabilities and associated hype and hyperbole exploded in 2022. While still in the early stages of exploration and leverage, expect AI tools and capabilities to evolve rapidly in 2023.

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#### TAKING ADVANTAGE OF AI TOOLS

Organizations can best position themselves to exploit these capabilities, starting with augmentation versus replacement and recognizing that Prompt Engineering is a core skill in this domain.

The broad and continued uptake of Low/No code and automation tools will likely accelerate in 2023. These tools promise rapid development and deployment of application, data, integration and automation capabilities, even for non-technical staff.

#### ALIGNING AI WITH BUSINESS OBJECTIVES

The reality is and will be quite different...power tools are useless if they don't enable clear business objectives. Organizations can maximize success with these tools by aligning their use with clear rationale, objectives and metrics, and foundational principles of security, customer experience and benefits realization.

#### SECURITY, RISK AND AI

An already volatile security threat landscape was exacerbated in 2022 by a myriad of factors, including geopolitical tensions, commoditized access to vulnerabilities and exploited frameworks, and even simply getting better at security testing.

Organizations must cultivate a pragmatic and appropriate security posture considering customers, suppliers, partners, employees, regulatory and other entities. Critical areas of vigilance include security awareness, hygiene and exercises, as well as an ongoing sensitivity to general and industry-specific security threats.

#### PRAGMATIC SECURITY IS INTER-RELATED

Finally, realize that pragmatic security requires that reputational risk receives consideration commensurate with financial, safety, operational and other traditional risk domains.

Technology should be a strategy as well as a tool. Artificial Intelligence (AI) brings benefits in select areas while still trying to find its value add in others.

ENTERPRISE RESOURCE PLANNING (ERP)

Subscription costs for cloud-based ERP software will skyrocket, forcing executives to rethink ERP replacement projects, making the business case harder to justify. ERP Restorations will become the norm rather than replacements. It will be more cost-effective to renovate your ERP back to what it could have been than to replace it.

Failure rates will continue to be high because the root cause is not being addressed as software vendors continue with cliched terms that have no substance. Best of Breed solutions will start to have a bigger presence in a company’s solution maps, meaning integrations will become key.

The much-predicted looming recession will provide executives with the space to deploy technology solutions aimed at helping them become more productive. However, only the brave ones will execute this.

SUPPLY CHAIN

The cost of holding inventory will become an issue for many companies soon. They will find their knee-jerk reaction to the supply chain disruptions, what I call “The Comfort Factor” didn’t solve the problem. It simply covered the symptom.

Capital utilization will become a major focus soon. And because supply chains are a system of systems, many will not be able to handle it well.

A return to business fundamentals will make a comeback, and businesses will stop looking for the next big thing.

Deployment of productivity improvement projects will deliver significant benefits for companies that invest in such tools, robotic machinery and other technology deployments.

There is a great opportunity for executives to understand the real “cost to serve” a customer. As the recession hits and the pressure to

compete on price rather than value increases, understanding who your profitable and unprofitable customers are will become a huge competitive advantage. Just imagine being able to offload your unprofitable customers to your competitors in difficult times, helping them go broke quicker.

OTHER TECHNOLOGY

AI will continue to bring benefits in the health diagnosis arena but will continue to struggle to find a genuine value add to business operations.

Blockchain will continue to be a solution looking for a problem. There is little value added here yet.

Low-code tools will allow businesses to supplement core business systems with easy-to-develop apps, potentially by utilizing their own staff to support additional functionality rather than spending on expensive modifications to core code in the ERP. Low-code tools also increase the risk of having an unplanned or poorly planned solution design as solutions are developed ad hoc without any overall strategic direction.

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Buyers in 2023 will be far more pragmatic in their approach to innovation, being more likely to focus their efforts on enhancing the business processes through innovation, supply chain and employee experience.

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### THE CUSTOMER EXPERIENCE (CX)

80% of companies will pivot from creativity to resilience. They will continue to innovate but aren't necessarily always getting the CX benefits they seek.

### CHATGPT

ChatGPT will disrupt almost all business processes. Not necessarily as a means to replace work, but to augment work initially, be more a part of the business process, the brainstorming, the QA processes, the innovation cycles.

With 100M users in 2 months, ChatGPT is the fastest-growing app of all time. Every day, users are interacting with AI and understanding its use more than ever, which will accelerate generative AI into the mainstream rapidly. Significant releases from major Business Application providers will embed GPT into core processes starting with the simple scenarios of customer service, sales, marketing, development and collaboration by Q2. Then it will be pushed into less traditional applications such as the office of the CFO, Supply Chain and more by Q4.

### MANAGED SERVICES FOR IT

Managed Services is ripe for disruption in 2023. Healthcare, Financial Services and Utilities will outspend predicted IT investments from last year. Solving the CIO's skill gaps is increasingly a technology services providers' problem. Yet, we are crossing a new chasm of buyers in 2023. With the critical skilled IT employee shortage, there is an opportunity to fill the gaps, manage projects and support IT initiatives.

### DIGITAL CAPABILITIES AND THE CFO

A recent (2022) survey of CFOs reported increased investment in key financial technology areas and people and skills to support them. CFOs recognize that technology can be used to assess the market position and make decisions more effectively and efficiently by relying on the data, analytics, reporting and automation of processes to help them digest their financial challenges.





LMA Consulting specializes in manufacturing strategy and end-to-end supply chain transformation that maximizes the customer experience and enables profitable, scalable, dramatic business growth.

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