

# DELIVERING THE POST-DIGITAL HUMAN EXPERIENCE

Accenture Technology Vision 2020  
**Freight & Logistics**

**Accenture's Technology Vision 2020 confirmed that the technological landscape for Freight & Logistics (F&L) companies is being upended. Part of this is due to people's unconditional love for everything digital is starting to wane. What just a few years ago was new and exciting is now common and expected.**

Simply being digital is not the answer. To stand out now, F&L companies need to ensure that the technologies they employ are more human, completely in sync with employee and customers' needs and even their values. To their credit, many F&L companies have started rethinking core assumptions about the intersection between their people, their customers and technology. They're assessing their digital use cases for more than cost savings or efficiency gains and asking:

**"Is this solution solving a problem for our people or customers? Is it aligned to their needs? Is it creating a better human experience?"**

With the global COVID-19 pandemic, such questions are more important than ever. A new path forward—built on new models of engagement and resilience that apply a decidedly human focus—is necessary to help companies make it through the current crisis and emerge stronger than before.



# On a collision course

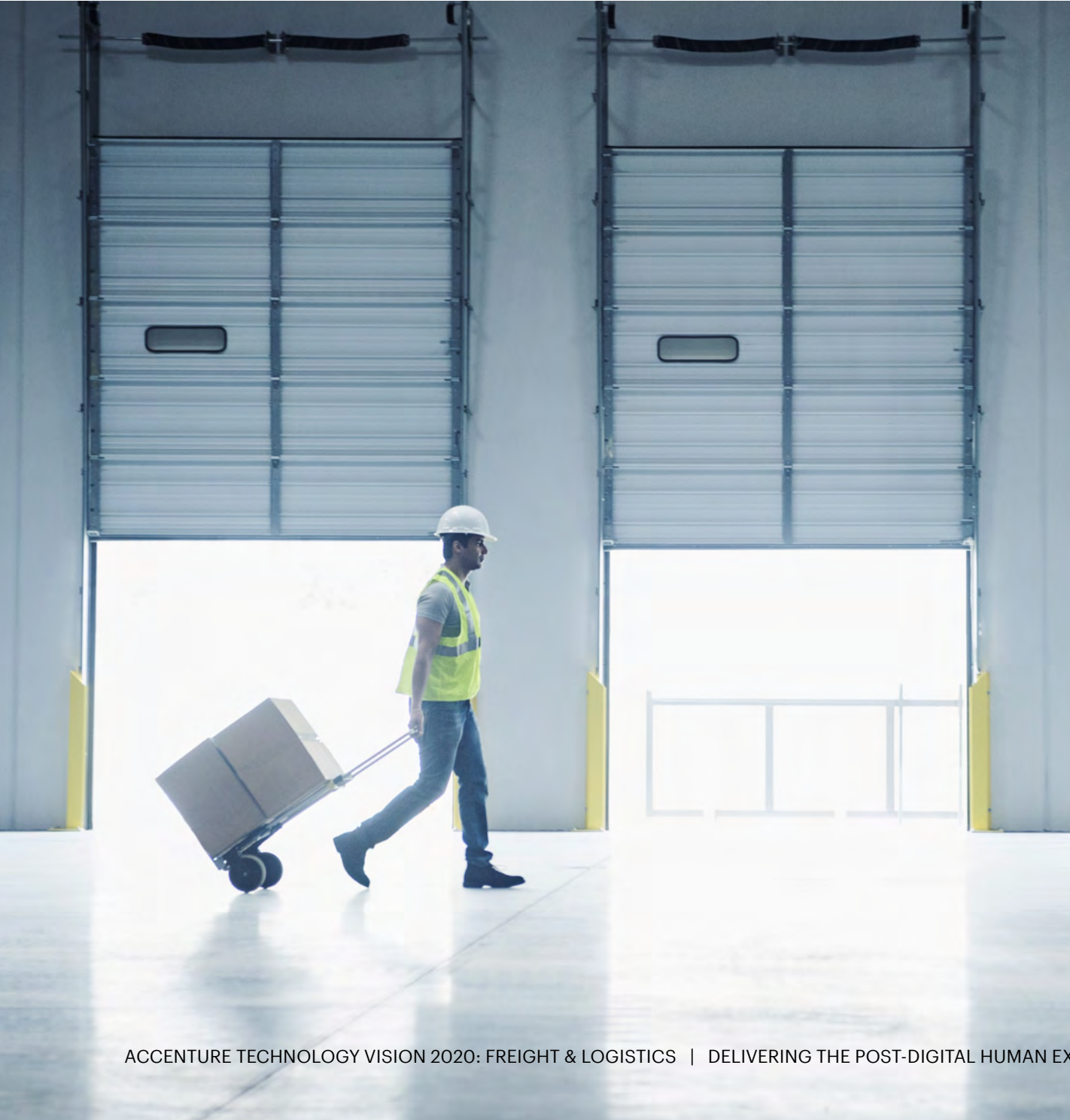
Over the past decade, F&L companies have embraced digital transformation and embedded new technologies in all aspects of their operations. Dynamic routing, smart container sensors, enhanced GPS systems, chatbots and cloud platforms, for example, are now common in the industry. They're still critically important. But they no longer offer a competitive advantage.

The industry's rush to everything digital mimicked what was happening in consumers' personal lives. People have adopted technologies at an astounding pace. Today, 52 percent of consumers say that technology plays a prominent role or is ingrained in almost all aspects of their day-to-day lives. An additional 19 percent say that technology is so intertwined in their lives that they view it as an extension of themselves.

The personal relationship that people have with technology is not lost on F&L executives. More than four in five (85 percent) acknowledge that tech has become an inextricable part of the human experience. Yet, many leaders fail to grasp that people's perceptions of and relationships with technology haven't plateaued. Their expectations for technology are growing. And changing. People no longer want to plug into a digital experience. They want digital technologies to plug into—and elevate—their own human experience.

Unfortunately, many companies are failing to keep up with today's demand for human-centered solutions. The result is not a rejection of technology. Rather, it's a rejection of companies that don't align technology with their employees' or consumers' evolving expectations for a fuller human experience.





## Freight & Logistics in a post-digital world

F&L companies are not immune to this conflict, which we've termed "tech-clash." No industry is. F&L employees and customers like everyone else, no longer distinguish between their "digital" lives and their "real" lives. They don't see why a B2B experience should be any less convenient, relevant or human-centered than what they get in a B2C environment. And they have little patience for an employer or an F&L service provider that fails to acknowledge the convergence.

To resolve the tech-clash, F&L companies need to reconcile the business and technology models that have driven value for years with their customers' and workforces' evolving expectations. Accenture's Technology Vision 2020 revealed four trends that can help them do just that.



## The “I” in Experience

Our research suggests that F&L companies have the opportunity to turn passive customers into engaged participants by transforming one-way experiences into true collaborations. This means redesigning digital experiences with new models that amplify personal agency. Contract logistics, carriers and freight forwarding companies can, for example, bundle and expose their offerings to create a new and interactive cloud experience for their clients. Or they can demonstrate that they share their customers’ passion for things such as environmental sustainability and conscious consumption. Accenture’s most recent Global Consumer Pulse reach confirmed that aligning corporate purpose to consumers’ values can have a profound effect. Consider this: For consumers who pursue opportunities to be personally relevant, 62 percent believe that engaging with companies that share their values brings them closer to their own personal goals.<sup>1</sup>

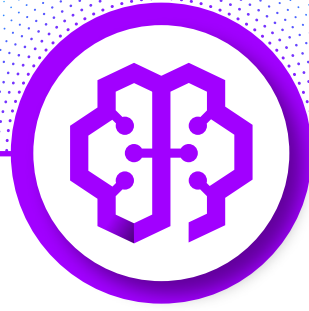


of F&L executives believe they need to elevate their relationships with customers as partners



of F&L executives agree they need to reengineer the experiences that bring technology and people together in a more human-centric manner





## AI and Me

This trend highlights the emerging uses of Artificial Intelligence (AI) to reimagine all aspects of the organization. It's about more than deploying AI for automation. It's about adopting new approaches to human-AI collaboration that bring out the full power of people. Freight forwarding is an area that is well positioned to take advantage of AI in this way. Historically managed only by brokers via telephone, freight forwarders can now use digital platforms to change the game. As the functionality of these platforms becomes more automated and digitally enhanced, F&L companies will be better able to match capacity and demand—and be better able to meet customers' expectations for digital solutions that make their lives better.





## Robots in the Wild

Another opportunity for F&L companies lies in extending the use of robots from ports and warehouses to environments in which they interact with more employees and customers.

**Nearly three-quarters (74 percent) of F&L executives believe robotics will enable the next generation of services in the physical world.**

Some leaders are already applying robotics to meet people's demand for efficient delivery solutions. UPS, for example, is using TuSimple, an autonomous trucking company whose vehicles share the roads with human drivers to shuttle cargo between Phoenix and Tucson, Arizona.<sup>2</sup> And FedEx is sending Roxo the Robot out for "last-mile" deliveries. While still in the testing phase (and still shadowed by human engineers), Roxo navigates sidewalks, dodges traffic and even respects pedestrian rights of way.<sup>3</sup>







## Innovation DNA

F&L companies can build on their foundation of digital and disruptive technologies to take innovation to the next level to put the human first. This means looking for new opportunities to use **D**istributed ledgers, **A**rtificial intelligence, extended **R**eality and **Q**uantum Computing (DARQ) and building ecosystem partnerships to bring a broader set of innovative, technology-enabled capabilities to bear for customers and employees. Quantum computing for scheduling, digital twins for warehousing optimization, and extended reality for training port workers are now within reach and are good examples of how companies can instill innovative change in the work environment.

## Nippon Express

is a leader when it comes to building a differentiated innovation capability. It is working with Intel and Accenture to develop a blockchain-based pharmaceutical transportation network to eliminate counterfeit drugs from the pharmaceutical supply chain. The network, scheduled to be launched in 2021, uses sensors, RFID tags and Internet of Things (IoT) devices\* to manage tracking, ensure temperature control during transportation, and automatically update the blockchain.<sup>4</sup>

\*The devices are part of the Intel® Connected Logistics Platform (ICLP), a cost-effective IoT solution enabling users to monitor the condition and location of assets in any environment throughout the supply chain. The blockchain platform itself is performance-optimized to take full advantage of the Intel® Xeon processor, and data security and confidentiality are enhanced with the hardware based protections of Intel® Software Guard eXtensions.





## Then came COVID-19...

The worldwide coronavirus pandemic has completely upended every type of business—and most of them are customers of Freight & Logistics providers. The epic disruption has made F&L's critical role in global economic development clear to all. That's because it's the F&L companies that are tasked with keeping the flow of goods moving, uninterrupted, for all industries.

While we can't yet be sure of the pandemic's ultimate impact on supply chains or how and when F&L services will be normalized again, it's safe to assume that F&L companies that adapt fast will be able to successfully ride this wave of disruption. Fortunately, many F&L companies had already embarked on digital programs to serve customers more effectively, with more agile operations. COVID-19 has now accelerated those programs. F&L companies are moving at speed to complete their transformations, positioning themselves for service continuity for their customers and an agile workplace for their employees.

But digital transformation and new-found agility won't be enough. F&L companies will need a disruption mindset that challenges the status quo and a plan to navigate change. They will need purposeful actions that resonate with employees and clients. And they will need a vision that will guide them to what they must do in the near term to help build business resilience and over the longer term to pursue new opportunities for growth and differentiation.

## The Disruption Navigator

Accenture has developed a proven four-step process to help F&L companies turn disruption into opportunity.



**Harvest disruption from within and design a purposeful vision that helps turn fears into dreams—for customers and employees.**



**Gain a clear and granular understanding of the disruption at hand.**



**Explore opportunities, develop concepts, and assess the technical feasibility of each. Prioritize the winning ideas and connect them to purpose.**



**Prepare the business case and implementation roadmap.**

The Disruption Navigator provides a foundation to tackle disruption head on and a framework for meaningful action.



# From short-term recovery to long-term growth

The aim for F&L companies in the short-term is to outmaneuver uncertainty. Over the longer term, they need to move into recovery and growth. That means re-imagining what they do and how they do it. According to the Accenture Technology Vision, positioning for short-term survival and long-term success requires a new focus on human-centered initiatives and, specifically, using new technologies to serve customers, manage operations and assist employees in new ways.

**We believe five opportunities hold particular potential.**



## OPPORTUNITY 1

# Use AI and Me thinking to empower the post-digital employee



COVID-19 has made the safety of the frontline workforce a top priority for F&L leaders. But that doesn't mean F&L companies can't also rethink their physical/manual processes and, specifically, pivot to using technology to augment new ways of working. The main opportunity lies in using AI tools to manage the transactional tasks that employees have traditionally been charged with carrying out. Once machines assume responsibility for those repetitive tasks, the human workforce is free to focusing on higher-value tasks and delivering quality outcomes for the business and its customers.

There's plenty of room for leaders to stand out. Only 62 percent of F&L organizations are currently piloting or adopting AI (versus 73 percent of survey respondents from other industries). But 46 percent of F&L companies (versus just 37 percent of others) already have the inclusive design principles in place to support human-machine collaboration. In other words, F&L companies are ready to take action. They just need the use cases to ensure whatever action they take will be worthwhile.

There are several areas of F&L operations that are ripe for AI-enabled transformation. AI-enabled video analytics, for example, can be used to identify container, pallet or

**62%** of F&L organizations  
are **piloting or  
adopting AI**

**46%** use **inclusive design**  
to **develop human +  
machine solutions**

package damage. AI-enabled chatbots can respond to customer quote requests. And connected railcar or port solutions can bundle various AI-enabled components such as sensors, natural language processing (NLP) technologies and big data analytics to achieve unprecedented operational visibility, optimize predictive maintenance and asset utilization, and boost workforce efficiency. A leading European freight rail operator implemented a connected rail solution and increased car uptime by 10 percent and decreased maintenance costs by 15 percent.<sup>5</sup> Those savings can be reinvested in developing better, more relevant customer experiences.



## OPPORTUNITY 2

# Engage with the post-digital customer by putting the "I" in Experience



When it comes to serving customers more effectively, there are a number of strategies F&L companies might pursue. Moving processes such as inventory management or shipment documentation processing to the cloud, deploying digital platforms to manage storage and transport capacity, and automating processes to help improve service quality are all important to drive efficiency and customer experience.

Using new technologies to make better use of data will also be key. For example, there's no reason F&L companies can't monetize data—such as sea temperatures—that can be used by other industries. Data-enabled routing is also possible. Accenture has developed an end-to-end logistics platform that optimizes routes for package delivery via a proprietary algorithm and dedicated mobile app. Such solutions enable a smoother delivery process by providing drivers with point-to-point delivery instructions, delivery details by order, and delivery recording capabilities.

Logistics Demand Forecasting holds particular potential for meeting customer demand. Carriers and logistics services providers are perpetually challenged to predict the number of transportation assets and personnel that will be needed to adequately address shipping requirements, especially during peak seasons. An AI-enabled demand forecasting solution that pulls and analyzes data from multiple sources—and detects signals in the data that are correlated with future purchasing events—can help improve forecasting accuracy by up to 20 percent. That means F&L companies will have the capacity to meet fluctuating needs and employees ready to serve the customers, wherever and whenever.



Serving customers more effectively with new technologies is one thing. Collaborating with them is another. According to the Accenture Technology Vision 2020, cooperative experiences represent the next generation of business offerings. F&L companies need to become collaborative partners in the creation of the customer experience, not just providers of it.

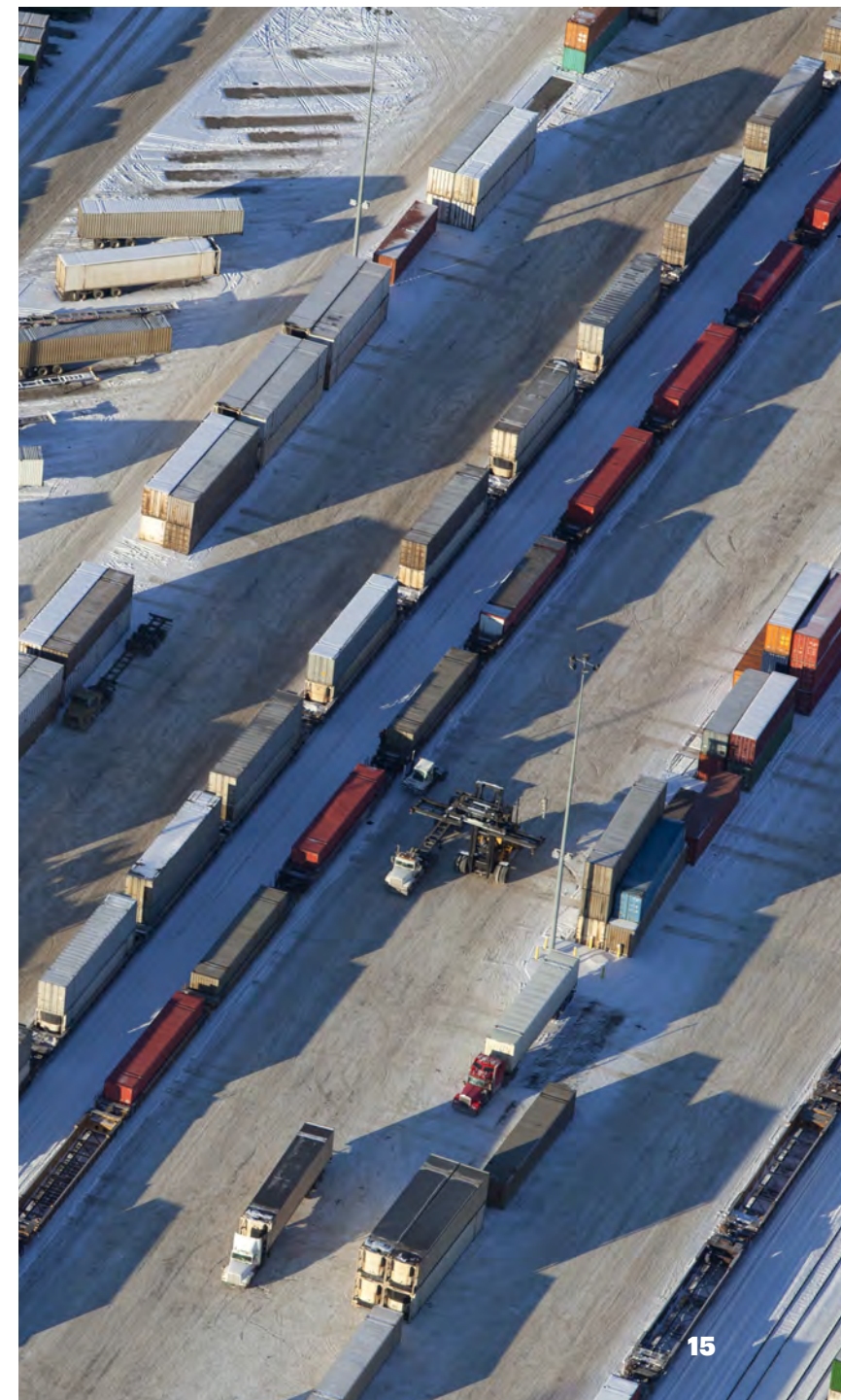
Automated cloud-based solutions that integrate logistics with port functions such as duty collections and blockchain contracts are examples of technology-enabled solutions that have the potential to transform relationships with customers. In the area of international trade, smart contracts enabled by blockchain make it possible for all parties to engage in highly secure, automated peer-to-peer transactions and tracking. Alibaba has recently joined forces with the International Port Community Systems Association's (IPCSA) to pursue blockchain bill of lading, which provides logistics status of cargo, as well as immutable proof as to which party holds the electronic Bill of Lading at any time.<sup>6</sup> Solutions such as this build trust between F&L companies and their customers and creates a real-time track-and-trace audit trail to keep customers informed of their shipments.



Engaging with post-digital customers also means aligning a company's purpose to consumer values. Those values now include environmental stewardship. According to Accenture's most recent Global Consumer Pulse Survey, 61 percent of consumers believe it is important for companies to take measures to improve the environment. The COVID-19 crisis is amplifying consumers' interest in sustainability. An Accenture survey of 3,000 global consumers in April 2020 found that 45 percent of them are making more sustainable choices when shopping and will likely continue to do so once the pandemic is over.<sup>8</sup>

Retailers and other B2C businesses are taking notice, which means there's an opportunity for F&L companies to work with their customers to ship only products that are needed and optimize transport routes, thereby reducing environmental impact. Green transportation and logistics are other areas in which F&L companies can work with customers to make a meaningful difference in environmental sustainability. Global shipping company Maersk has created an ECO Delivery division that powers selected vessels with sustainable biofuels. Retail giant H&M is teaming with Maersk ECO Delivery to reduce its carbon footprint in transportation.<sup>9</sup>

There are other ways F&L companies can optimize their fleets. "Intelligent" vehicles that use onboard sensors, advanced GPS systems and environmental data can automatically adjust their operations to maximize fuel efficiency, precisely predict when maintenance is needed, and determine more efficient routes on the fly.



### OPPORTUNITY 3

## Extend Robots in the Wild, to uncontrolled environments



As with AI solutions that augment human skills, F&L companies are well positioned to use robotics to address customer needs and employee safety during crisis and deliver better human experiences. Logistics giant DHL has announced plans to invest \$300 million in robotics and automation across 350 US facilities.<sup>10</sup> Part of that investment will go towards deploying 1,000 autonomous mobile robots (AMRs) that will make their human counterparts' jobs easier by locating and transporting items in fulfillment centers.<sup>11</sup>

Today, even greater opportunities for improving human experiences involve integrating various robotic solutions—such as connecting autonomous vehicles delivering goods to a warehouse with robots that can unload, unpack, sort and reload products with minimal human intervention—and building new models of interaction that move robots into “uncontrolled” environments, beyond the walls of the enterprise. UPS is showing how it’s done. It created a subsidiary, UPS Flight Forward™, to oversee its drone delivery operations. The drone airline is the first to fly commercial drone deliveries outside visual sight lines—a distinction that will make it possible for UPS to deliver speed, convenience and better customer experiences.<sup>12</sup>

**11%**

of F&L companies are using robots **outside of controlled environments** today, but...

**79%**

expect to be doing so in the **next three years**

**62%**

of F&L executives (versus **57%** of respondents from other industries) believe their employees will **accept the use of robotics** in the next three years



## **OPPORTUNITY 4** **Ensure that data and services are secure**



The first half of 2020 has seen major ransomware and cyber-attacks directed at international transportation and logistics companies. The truth is the industry is increasingly under assault by bad actors. In response, F&L businesses must invest significantly in cyber-risk management practices and solutions. Cyber dashboards, for example, can use AI and machine learning to monitor the threat landscape in real-time. Augmented reality simulations of attacks can help determine a company's resiliency and identify specific vulnerabilities that could harm the company and its employees or customers.



## OPPORTUNITY 5

# Strengthen the innovation DNA



Teaming with new partners is a critical element of innovation DNA. The EU's LOGISTAR consortium provides an example. Comprising 15 logistics, research, IT and consulting organizations from eight European countries, the program takes advantage of horizontal collaborations to optimize supply chain transport operations. Underpinning the group's efforts are real-time decision-making and visualization tools based on shared data and AI prediction models. With these tools, it is expected that the various agents involved in the logistic supply chain—from freight transport operators and their customers to warehouse and infrastructure managers—can come together to produce transformative results, including improving load factors by 10 percent and shortening delivery routes by 10 percent.<sup>13</sup>

Collaboration with industry peers is also becoming more important in the area of green shipping. More than 65 shippers, carriers and freight forwarders have joined forces under the Clean Cargo banner to share experiences, expertise and knowledge. The organization has developed what has become the global standard methodology for calculating carbon dioxide emissions in the ocean container shipping sector. Other industry ecosystems

that have emerged to fight climate change include Global Maritime Energy Efficiency Partnership and the North American Marine Environment Protection Association.

Companies looking to build their innovation capabilities will also look for new, out-of-the-box opportunities to leverage emerging technologies such as virtual reality for things like workforce training. Equally important, innovation leaders will exhibit an uncanny ability to manage disruptions of any magnitude and kind. They will assume a disruptor attitude and become proactive agents of change. They will navigate disruption in a systematic way. And they will industrialize their innovation capability in a digital innovation factory.

# 74%

**of F&L executives believe the stakes for innovation have never been higher and getting it right will require new ways of innovating with ecosystem partners**



# Where do we go from here?

There are a number of actions F&L companies can take to leverage the power of human-technology interactions. These actions will not only help companies rebuild during the industry's recovery, but also set a foundation for long-term growth and emerge stronger.

- Take advantage of emerging technologies such as distributed ledgers and extended reality to increase customer engagement, business resiliency and flexibility.
- Respond to people's concern about data privacy by enhancing system and data security with exception-based processes, expanded zero trust network access, and automated endpoint management detection and response.
- Implement talent acquisition and training strategies to attract and engage workers with the technical skills that will be needed in the years ahead.
- Assume a disruptor attitude. Industrialize a new and collaborative approach to innovation based on new partnerships and a shared commitment to enhancing the human experience.





# FULL STEAM AHEAD

In the freight and logistics industry, many business assumptions and entrenched approaches are up for review and reinvention toward human-centric models. Companies must reengineer the experiences that bring people and technology together.

This reimagination offers tremendous opportunity to those F&L companies that take the lead. When leaders successfully rebuild their technology models to deliver a decidedly human focus, they will do far more than meet expectations. They'll set the new standard that every competitor will be forced to try to meet.





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## About the research

Each year, the Accenture Technology Vision team partners with Accenture Research to pinpoint the emerging IT developments that will have the greatest impact on companies, government agencies, and other organizations in the coming years. In 2020, the process included a global survey of 6,000 business and IT executives from around the world. Survey respondents included 101 leaders in the freight and logistics sector from 10 countries. This report's findings are based on analyses of their responses.

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