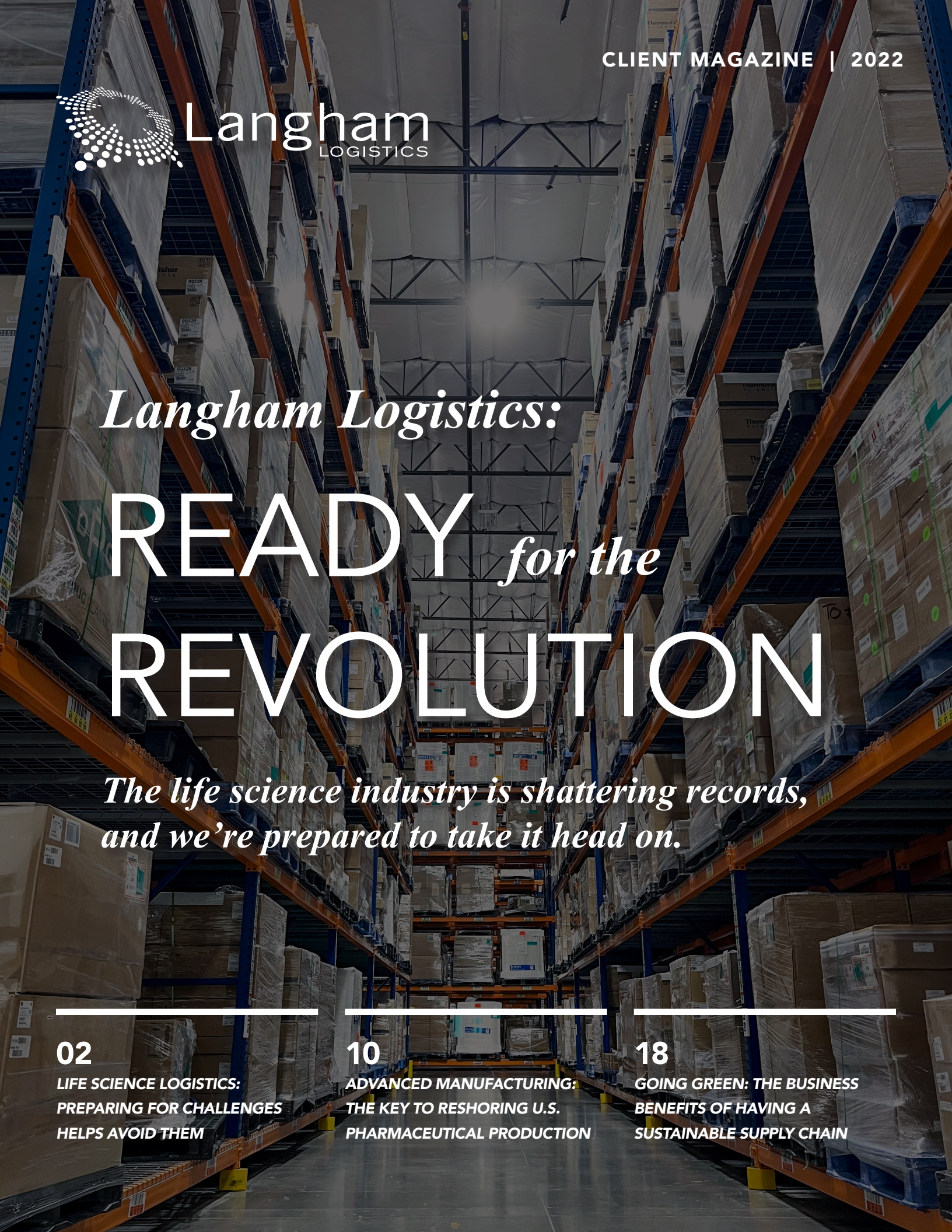
Langham LOGISTICS



Langham Logistics:

READY *for the* REVOLUTION

The life science industry is shattering records, and we're prepared to take it head on.

Press Release

LANGHAM LOGISTICS ANNOUNCES NEW LIFE SCIENCE FACILITY IN WHITESTOWN, IN

INDIANAPOLIS (April 2022) – Langham Logistics, a third-party logistics, warehousing and distribution service provider to the life sciences industry, today announced plans to open a 151,000 sq. ft. distribution center in Whitestown, IN. The new facility will be dedicated to serving Langham's pharmaceutical, vaccine and biologics manufacturing and distribution clients with world-class GMP warehousing and storage including over 60,000 sq. ft. of validated cold storage (refrigerated and frozen), 60,000 sq. ft. of CRT (22°C) and ample ultra-low temperature storage in a 100% GMP compliant environment.

The facility, located at 4995 Perry Worth Road in Lebanon, IN, will be strategically positioned to serve Langham's Life Science clients seeking qualified storage and distribution expertise that enables delivery of life-saving medicines to patients and partners anywhere in the US in under 24 hours. As part of Langham's expanding network of life science 3PL services, the Company's new location will be specially designed to manage a wide range of investigational materials, finished goods, API's, drug products and samples storage.

"We are excited about the expanded capabilities our new facility in Whitestown, IN will provide to both our existing and future life science clients including an expanded focus on business continuity planning for pharmaceutical supply chains and a focus on enabling the success of cell and gene therapy research pipelines", CEO of Langham Logistics Cathy Langham said.

Langham's newest addition to their GMP services will include pick, pack and ship capabilities in both CRT and 2°-8°C environments, dry vapor shipper (LN2) filling and distribution, and an expansive ultra-low temperature storage facility for materials requiring environments of less than -40°C.

Cathy Langham went on to say, "The Whitestown facility truly complements our existing capabilities in Phoenix, AZ and Plainfield, IN as we continue to execute on our strategic priorities for providing world class life science 3PL services for our clients across the country. We are looking forward to the positive impact the facility will have in ensuring drug supplies and providing economic opportunities for our business partners in the Midwest".

For more information on this new warehousing and fulfillment opportunity or to request a tour of the location, please reach out to CEO Cathy Langham or visit us at www.elangham.com.

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LIFE SCIENCE LOGISTICS: PREPARING FOR CHALLENGES HELPS AVOID THEM

The life science industry is shattering records.

For 2020 and into 2021, the North American sector received a 93% increase in investment capital from the previous high in 2018. Pharmaceuticals now make up a $1.3 trillion global market with annual growth exceeding 8%. Life science businesses are posting double-digit job growth and represent one of the biggest demands for real estate. The steep growth curve shows no signs of stopping with on-going demand from an aging population worldwide.

The boom is great for our personal well-being, pet health, and food supply, but the pressures of life science supply chain logistics put companies to the test. With a large portion of materials both time- and temperature-sensitive, companies find themselves balancing consumer demand with product safety. When a few degrees, minutes, or in-transit bumps could mean the difference between saving a life or disposing of thousands of dollars in product, businesses must innovate inside their supply chain. Fortunately, opportunities exist for companies to overcome the common—and costly—challenges of life science logistics.

Automate Paperwork

Drug, vaccine, and medical device components come from across the world. The “ocean timeliness indicator” measures how long a shipment takes from a supplier’s warehouse to the departure gate of the destination

port. For one of the world's biggest lanes—China to the U.S.—the journey took under 50 days three years ago. Today the number consistently exceeds 100. Manual paperwork often creates additional delays due to errors and missing information. Automated paperwork expedites the customs process so shipments can move through ports and between transportation providers as quickly as possible. Automated documents are especially important for hazardous or controlled substances which carry additional regulations. The automation helps ensure all information is present and validated so shipments meet their time-sensitive deadlines.

Leverage Tracking Technology

According to the Institute for Human Data Science, the biopharma industry loses around $35 billion annually to failures in temperature-controlled logistics. When temperature excursions occur, knowing by how many degrees and for how long is critical. Temperature tracking shipments and recording the data is important for pharmaceutical efficacy. When first released, some COVID-19 vaccines required ultra-low temperatures and then refrigeration for thawing prior to usage. This required special transport, storage, timing, and temperature tracking to meet the vaccine's strict requirements from leaving the manufacturing plant to human injection.

Life science products also usually carry strict time requirements. For some, viability is only a matter of days. Delays in the supply chain push against expiration dates that can render entire shipments unusable. In the case of biological therapeutics, shipments may need to be redirected to different medical facilities based on demand. Real-time tracking allows companies and logistics providers to proactively respond to potential delays that could create spoilage or reassign shipments in transit. The 360-degree view automated tracking provided allows logistics teams to stop problems before they occur.

Create Standard Operating Procedures

How should staff handle products? Who is notified when temperature excursions occur? What is the testing protocol for cold storage equipment? A procedural document should answer these questions and many more—including shipping time, temperature ranges, and handling instructions. Standardized procedures should help train staff and provide operational guidelines as products move across the supply chain. They also must outline what happens when things go wrong. SOPs help create continuity across various groups interacting with a shipment to protect and maintain its efficacy.

Test Packaging

Qualified packaging meets temperature requirements throughout transport, as well as other sensitivities like light exposure or vibration tolerances. Packaging evaluations should use controlled conditions replicating real travel. This includes altitudes, road conditions, storage facilities, and transfers outside of temperature-controlled equipment. Shippers should review packaging for allowable excursions. Validated packaging passes the qualification trial and maintains an approved temperature range over time. The packaging must regulate the temperature from the point of departure to opening at the destination. Creating, procuring, and validating the right packaging for life science products takes time and must be part of the pre-planning process. The upfront investment saves money long-term by protecting valuable materials throughout the uncertainties of the supply chain.

Select the Right Partner

Life science shipping requires experience, knowledge, and innovative thinking. While thousands of logistics companies operate in the U.S., only the absolute best serve the life science sector. Langham Logistics partners with clients who demand compliance and accuracy every step of the way. We are one of only a few 3PLs licensed by the Boards of Pharmacy and offer extensive cGDP transportation capabilities. Our GMP storage and distribution facilities specialize in life science products, including pharmaceuticals and biologics. Learn more about our consulting, transportation, and warehousing services to see why many of the world's biggest life science and pharmaceutical companies choose Langham Logistics.

THE IMPORTANCE OF DATA INTEGRITY IN PHARMACEUTICAL LOGISTICS

In its simplest form, the goal of logistics is to move freight and goods from point A to B. While thousands of miles of roadways, flight paths, and ocean shipping routes make that possible, equally as important is what fuels successful freight transport: data.

Collecting and analyzing data has never been more important, especially when it comes to pharmaceutical supply chains. With more than 107 million Americans being fully vaccinated for COVID-19 as of May 4, drug tracking data integrity, quality assurance, and issue detection are keys to safe and effective distribution. Logistics providers serving the global supply chain have a critical job—managing pharmaceutical shipment movements and storage, as well as the thousands of data points that ensure their efficacy.

The Drug Supply Chain Security Act Data Requirements

The Drug Supply Chain Security Act (DSCSA) applies to all pharmaceuticals entering or exiting the United States. The law pertains to drug manufacturers, repackagers, wholesale distributors, dispensers, and third-party logistics providers.

DSCSA outlines the steps for an electronic, interoperable system for identifying and tracing prescription drugs to minimize counterfeit, stolen, contaminated, or harmful products from reaching consumers. The law also establishes national licensure standards for wholesale distributors and logistics providers through the Food and Drug Administration (FDA).

DSCSA includes six major provisions:

- Product identification – manufacturers and repackagers must include a unique identifier on certain prescription drug packages.
- Product tracing – manufacturers, repackagers, distributors, and dispensers must provide information on who handled a drug each time it is sold in the U.S.
- Product verification – establishes a process for verifying the product identifier on prescription drug packages.
- Detection and response – requires parties within the supply chain quarantine and investigate suspicious drugs.
- Notification – creates processes for notifying the FDA and other stakeholders when counterfeit or harmful drugs are found.
- Wholesaler and 3PL licensing – requires distributors and logistics providers obtain and report on state and federal licensure.

While all parties legally hold responsibility for ensuring the safe transport, storage and distribution of pharmaceuticals, logistics providers—and the data they provide—fill a unique role.

Drug Tracing

From the moment a 3PL takes possession of a drug, it must provide data on the past and present locations of the shipment. This means tracking cargo movements by the minute and documenting to the person, vehicle, and storage unit involved in that movement . Drugs manufactured outside the United States may travel by ship, airplane, and truck before reaching their final destination. This creates multiple touchpoints as the cargo changes hands. The 3PL maintains responsibility for tracing the drug throughout the journey.

This level of location intelligence also requires external data integration. Explanations must accompany all route variances to ensure the drug remained safe and uncompromised during transport or storage. Weather data, road conditions and restrictions, and site-specific information proactively mitigate delays that could compromise drug quality. Failure to provide accurate and timely tracing data can lead to opportunities for adulteration in the drug supply chain.

Pharmaceutical Quality

According to the International Air Transportation Association (IATA), drug temperature excursions cost the industry nearly $35 billion annually. This staggering number reflects product losses, replacement costs, wasted logistics costs, and lost labor time. Not included is the toll on human life resulting from delays and shortages. DSCSA mandates reporting on drug quality data because the practice represents the best way for preventing temperature excursions and isolating impacted products when they occur.

Fluctuations of even a few degrees can compromise drug efficacy. Federal regulations require logistics providers track temperatures using digital monitoring devices and daily physical checks. Data is stored for at least three years and should be available for on-demand digital download. Warehouses must supply detailed records of their operating environments. Documentation includes stability data, geographical and climatic zone data, and shipping and storage conditions such as temperature, humidity and light exposure.

Logistics providers also integrate receiver data when planning pharmaceutical shipment schedules. Knowing cold storage availability at destinations is important. Many drugs dictate both temperature and spacing requirements. Shipping to facilities without room or long-term storage equipment like ultra-low temperature freezers could mean drugs go to waste.

Issue Detection and Response

DSCSA mandates that logistics providers have systems in place allowing for the quarantine and investigation of potentially compromised drugs. Standard procedure involves checking for signs of damage, accurate inventory and quantities, expiration dates, and transport temperatures. Drugs get isolated when variances warrant an efficacy analysis.

By tracking shipment data throughout the supply chain, 3PLs can easily identify and remove potentially compromised products, quickly. The law requires that trade partners notify the manufacturer within 24 hours of discovering potentially harmful products. The manufacturer and FDA then determine next steps based on the information provided. Logistics providers represent a powerful weapon in stopping compromised drugs from reaching consumers—all because of the data they manage.

Langham Logistics: Data Delivered

Langham Logistics meets all State Boards of Pharmacy requirements for 3PL's and our processes for managing drug product storage and distribution have been inspected and certified for compliance with DSCSA regulations. We utilize sophisticated technology for tracking drug cargo to the minute for location, temperature, and security. Our transport, storage, and documentation processes ensure every pharmaceutical shipment complies with strict FDA guidelines and reaches consumers safely.

Press Release

LANGHAM LOGISTICS LICENSED BY THE INDIANA BOARD OF PHARMACY

INDIANAPOLIS (May 19, 2021) – Langham Logistics, a third-party logistics, warehousing and distribution service provider to the life sciences industry, this week announced that its Plainfield, Indiana location has officially been licensed as an Indiana Board of Pharmacy 3PL provider. The announcement permits the facility to offer warehousing, distribution, and other logistics services on behalf of drug manufacturers in the state of Indiana.

In order to obtain this licensure, Langham participated in a facility inspection, personnel verification, record keeping evaluation, insurance review and audit of supply streams for reverse logistics and disposal of returned, damaged and expired drugs. According to the IBoP, these standards demonstrate the facility's commitment to protecting patients from contaminated, diverted or counterfeited medication and medical devices.

As part of the licensure by IBoP, the facility located at 650 Perry Road in Plainfield, Indiana has been certified by the National Coalition for Drug Quality and Security to be in compliance with all FDA drug storage, packaging and shipping requirements in accordance with the Drug Supply Chain Security Act.

"We have a high standard of care for all of our clients' inventory," CEO of Langham Logistics Cathy Langham said. "We're glad to be recognized for it by the Board as we continue to grow our life sciences services in the Midwest and Southwest."

When COVID-19, and the development of vaccines to combat the disease, created new challenges to the logistics industry, Langham Logistics engaged its partners to build a new warehouse in Phoenix with ultra-low cold storage solutions to alleviate warehousing and distribution concerns for the southwest and west coast. To learn more about any of Langham's life sciences services logistics solutions, please visit our website at www.elangham.com.

TIFFANY OLSON JOINS LANGHAM LOGISTICS ADVISORY BOARD

INDIANAPOLIS – Langham Logistics, an Indiana based third-party warehousing and transportation logistics company, today announced that Tiffany Olson, former President of Nuclear & Precision Health Solutions at Cardinal Health, has joined the Company's advisory board. As such, she will join the current directors as counsel to the Langham executive team as the Company continues to grow their ambient and cold chain logistics strategies.

Olson comes to Langham with an extensive history of healthcare experience including President of NaviMed, Head of Diagnostics for Eli Lilly, and 11 years at Roche Diagnostics, the last three of those years as President and CEO. Tiffany holds a bachelor's from the University of Minnesota and received her MBA from the University of Saint Thomas. Olson has also received many recognitions for her work in healthcare. She was named one of the 10 Best Women Leaders of 2020 by Industry Era as well as having been the first woman to receive the Life Science Alley Luminary Award.

"We're excited to have Tiffany help guide Langham Logistics as we continue to grow and add value in the life sciences industry," said CEO Cathy Langham. "I am honored to have such a rock star joining our board."

Langham Logistics has made enormous strides in providing logistics services to the life sciences industry in the past few years. Between adding GMP temp-controlled warehousing in Phoenix, being licensed by the Indiana Board of Pharmacy, managing distribution of COVID-19 vaccines from their GMP facility in Plainfield Indiana, and CEO Cathy Langham's appointment to the AZBio board; the team has helped impact the lives of many of their clients and partners.

"Tiffany's appointment to the board reinforces our commitment to this industry now and into the future," said Director of Life Science Services Jeff James. "We are grateful to have someone so experienced on our side."

For more information about Langham's Life Science Services offerings, please reach out to Cathy Langham or Jeff James at the contact information below or visit the Langham Logistics website.

LANGHAM LOGISTICS HIRES FIRST CHIEF OPERATING OFFICER

"I'm looking forward to bringing a player-coach dynamic to the fantastic team Langham has in place," said Landrum. "We're here to support each other and make great plays for our clients."

INDIANAPOLIS – Langham Logistics, a third-party transportation logistics, warehousing, and distribution company based in Indiana, today announced the expansion of the executive team to include their first Chief Operating Officer, Brian Landrum. In the role, Brian will oversee operations to ensure controls, people and processes are poised to meet the Langham Logistics goals of quality, efficiency, profitability, and customer service. This position includes management of transportation and warehouse operations as well as the on-boarding and project management/customer service experience for clients.

Landrum began his career at Weaver Popcorn Company in 2002 where he was VP of North American Sales as part of his career growth over 13 years. He has spent the last several years in Salt Lake City as Chief Revenue Officer for IntegraCore, LLC and, most recently, Executive VP of Sales for Visible Supply Chain Management, where he was responsible for more than 100 sales and customer service associates as well as 35 million fulfilled orders across seven facilities in the U.S.

"Brian Landrum is a fantastic addition to the Langham Logistics team," said CEO Cathy Langham. "In this period of explosive growth for our company, it is imperative we continue to cultivate the best team to provide excellent, personalized services to our clients at an even larger scale. Brian has the experience and vision to help us execute that strategy."

In addition to this historic growth in leadership, Langham Logistics has opened three new warehousing facilities in the past two years in California, Arizona and Indiana. Much of the expansion is to align with the company's life sciences services growth strategy. To learn more about these facilities, please visit the Langham Logistics website.

ADVANCED MANUFACTURING: THE KEY TO RESHORING U.S. PHARMACEUTICAL PRODUCTION

When you think about threats to national security in the United States, does pharmaceutical manufacturing come to mind?

If not, it should.

The United States develops nearly 40% of the world's new molecular entities (NMEs) for drug approval. The U.S. also accounts for more than 40% of the world's prescription drug spending. Despite these massive contributions, that is where its dominance ends. When it comes to drug manufacturing, other countries take the lead. That is a growing challenge affecting the security of the country, and the health and safety of its more than 300 million citizens.

The Challenges of Foreign Drug Manufacturing

72% of active pharmaceutical ingredient (API) manufacturers supplying the U.S. are overseas. China controls 13% of the API market—a number that doubled in the last 10 years. The European Union, currently embroiled in the Russia–Ukraine conflict, offers 26% of the API manufacturing facilities.

The pandemic magnified the challenges of this heavy reliance on foreign pharmaceutical production. Even for U.S.-based manufacturing facilities, the raw materials required for drug-making mostly come from abroad. Drug prices are on the rise with some companies citing raw material cost increases approaching 50%.

Procuring the APIs and raw materials is problematic with historically slow trade routes. Delivery times for shipments from Chinese factories to the West Coast of the U.S. took less than 50 days at the beginning of 2019. As of January 2022, the number hit a record high of 113 days.

Drug quality also presents a major issue. The Food and Drug Administration (FDA) recently analyzed 163 drugs that went into shortage between 2013 and 2017. Quality problems accounted for 62%—many of which originated internationally.

The FDA keeps a digital catalog of drugs currently in short supply in the U.S. Nearly 200 drugs sit on the list as of this writing. They range from simple items like sterile water injections to the life-saving anticoagulant heparin. The lack of so many key drugs is especially worrying as the COVID-19 pandemic persists and the American population ages.

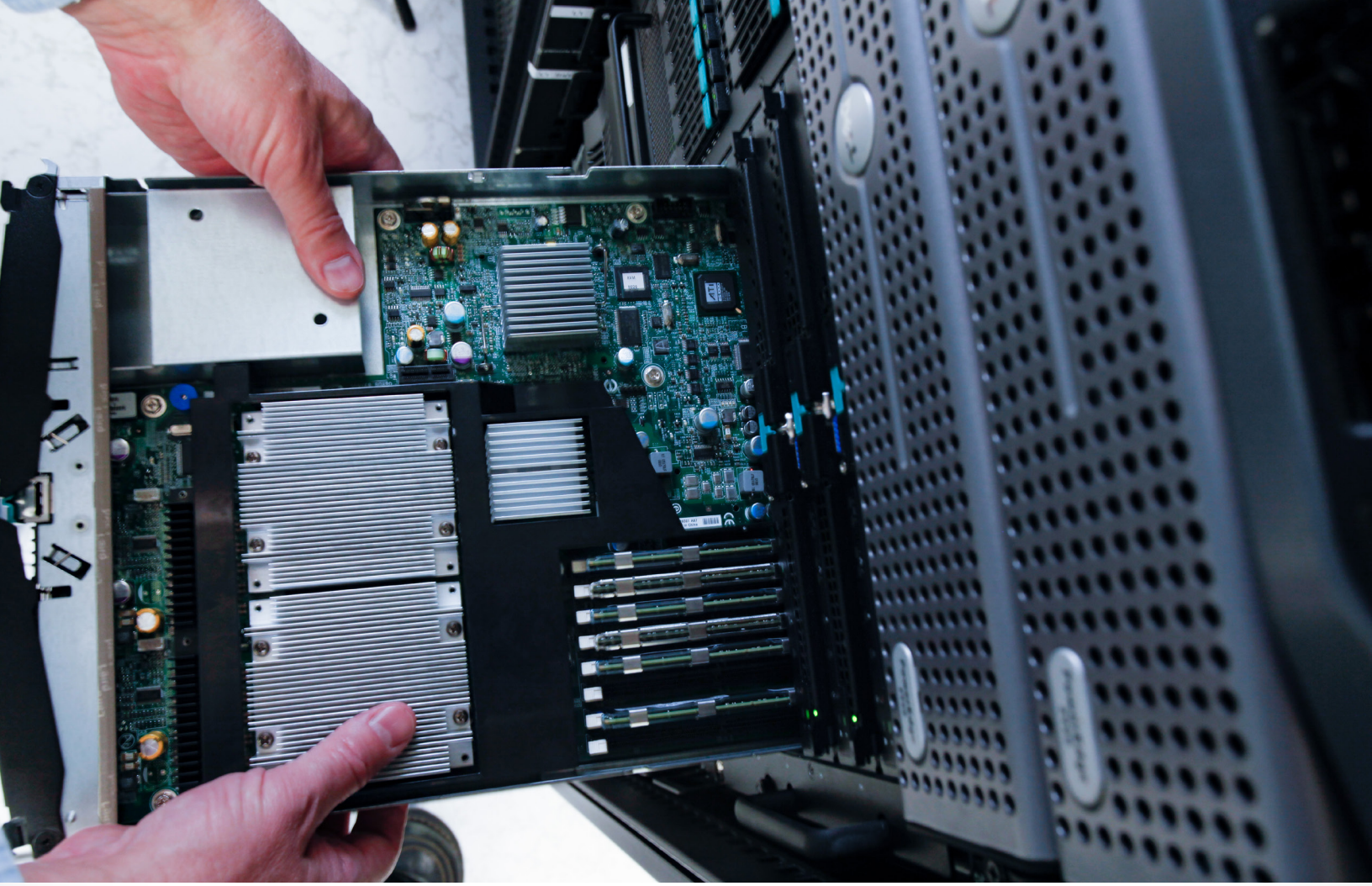
The growing challenges this disproportionate reliance on foreign manufacturing creates has many people calling for U.S. drug companies to near-source materials and reshore production. That is easier said than done.

Understanding the U.S. Manufacturing Move Overseas

The U.S. produced most of the drugs it consumed until the 1980s. This marks the mass transition to overseas manufacturing primarily for cost reasons. Estimates show labor in India and China saves companies up to 40% annually compared to U.S. wages. The price of building new facilities is cheaper and operating the plants comes with fewer environmental regulations. Foreign facilities also benefit from fewer FDA inspections.

Now even the most basic drug manufacturing occurs overseas. The last plant in the U.S. producing key ingredients for antibiotics like penicillin closed in 2004. China and India now almost exclusively make the critical ingredients for antibiotics. The same is true for other medicines treating allergies, diabetes, and high blood pressure. India alone produces 40% of the world's generic drugs.

However, the benefits to the U.S. are not as good as they once were. Wages and regulations are on the rise as China develops its economy. Other countries are following suit. The U.S. government is making a push for more domestic manufacturing with its 2021 "Made in America" legislation. Plus, persistent supply chain delays make this a prime time to reshore.



Reshoring Pharmaceutical Production Through Advanced Manufacturing

The biggest barrier to reshoring is price. For common medications, especially generic drugs, margins are small. Despite national security issues, the price must be right to reinvest in domestic production. Advanced manufacturing offers both the short- and long-term benefits that make reshoring economically viable.

Advanced manufacturing is the collective term for new medical product manufacturing technologies designed to improve drug quality, address shortages, and speed time-to-market. Despite wide use in the automotive and aerospace industries, the application to pharmaceutical production is relatively new. However, its potential to address many of the domestic drug manufacturing challenges is well established:

- Advanced technologies enable continuous manufacturing (CM) to produce a finished drug or chemical compound in a constant stream as opposed to traditional large-scale batching with slower production.

- Quality control improves through real-time, digital analytics limiting the need for post-production tests or discarding entire batches.

- High-technology production facilities can produce multiple dosages in different forms quickly. This makes them better able to respond to demand changes without the equipment scale-up issues associated with traditional drug-making.

- Mechanical and computer system integration is possible within a matter of months. The systems require as few as 1000 sq. ft. and cost as little as $5 million USD per line.

- Advanced manufacturing technologies can be portable allowing them to move easily across geographic locations. Pfizer and GSK already have a portable, continuous, miniature, and modular (PCMM) prototype in use. The manufacturing system accelerates tablet production of drugs from powder in a mobile, autonomous space. It aligns with the healthcare industry's move to more personalized medicine by producing lower volumes more quickly—something not feasible in today's large manufacturing facilities.

Advanced manufacturing offers reduced production and labor costs, which stems reliance on foreign countries. Its agility creates a more resilient domestic manufacturing base and improves drug quality. The portability limits the need for transcontinental shipments and minimizes the environmental footprint. Most importantly, more U.S. manufacturing capacity limits the persistent drug shortages that compromise the safety and security of the country.

An Ultra-Low Temperature (ULT) Freezer, located at our Phoenix, Arizona warehouse.

Good Medicine Deserves a Great Logistics Partner

Langham Logistics operates as a central monitoring hub managing a broad spectrum of services for pharmaceutical and life sciences products. Our state-of-the-art temperature-controlled supply chain network delivers product protection, compliance, and efficacy. Learn more about our transportation and warehousing services to see why many of the world's biggest pharmaceutical companies partner with Langham Logistics.

THE MRNA REVOLUTION: INNOVATION BRINGS BIG CHANGES TO PHARMACEUTICAL LOGISTICS

Coronavirus has ravaged the world for more than a year. Yet one of the greatest inventions bringing the pandemic to an end was created in just 48 hours. Moderna developed its COVID vaccine in two days. The next nine months went toward clinical trials and approvals. The secret to such success: messenger ribonucleic acid (mRNA). The biological innovation has been around for years but remained largely unproven until the urgency of COVID-19 provided the perfect testing ground. Now mRNA is disrupting the last 200 years of vaccinology. That means big changes for the pharmaceutical industry and new pressures in logistics.

Understanding mRNA Technology

Traditional vaccines train the immune system to defend against a virus by exposing the body to a weakened or dead portion of the virus or antigen. The new vaccines introduced mRNA, which is genetic material that teaches the body how to make the proteins found in the virus. When the immune system attacks the proteins, it learns how to fight the real virus.

The mRNA molecules are extremely fragile. Think of them like a single strand of DNA with an additional component called a hydroxyl. If the mRNA bends, the hydroxyl can sever the genetic chain rendering the vaccine useless. Cold temperatures slow down the chemical reactions and molecular movements that cause mRNA to degrade quickly. This is the reason mRNA vaccines require ultra-low sub-zero temperatures, with Pfizer's rivaling the climate of Antarctica.

Implications for mRNA in Fighting Disease

As of May 19, 2021, more than 1.58 billion doses of the COVID-19 vaccine have been administered worldwide, many of which use the mRNA technology. However, fighting coronavirus may end up being the least significant application. Scientists are pursuing mRNA for vaccinating against malaria, the number one cause of deaths globally. Clinical trials are underway for treatments of cystic fibrosis, heart disease, tuberculosis, and HIV. Researchers also believe mRNA can create personalized cancer treatments specific to each patient.

Should mRNA prove valuable in combating these diseases and others, the technology will disrupt the pharmaceutical industry worldwide. In 2019, the global value of mRNA vaccines and therapeutics was about $588 million USD. By 2026, that number is projected in excess of $15.49 billion.

The mRNA Revolution and Logistics

While mRNA technology may solve many of the world's health problems, it will create new challenges in logistics. U.S. cold storage already is in short supply with vacancy at just 10%. That does not leave much room for a surge of mRNA pharmaceuticals. These new drugs also will compete with growing demand for fresh produce, organic ingredients, and grocery delivery services that require cold storage space.

Constructing new cold storage warehouses is expensive at nearly double the cost per square foot of traditional warehouse space. Plus, building takes time. Converting existing spaces into cold storage facilities is often at the expense of ceiling "clear height" and energy efficiency. Also, many of the existing cold storage facilities in the U.S. are outdated. The average age is 42 years with 78% of all cold storage warehouses built before 2000. Without major upgrades, many will not be viable for the mRNA bio revolution.

In addition to the physical building costs, cold storage equipment for pharmaceuticals is costly. Ultra-low temperature freezers can cost tens of thousands of dollars per unit, require advanced monitoring and reporting technology, and warrant highly trained staff. Logistics providers must undergo a rigorous FDA audit just to work with pharmaceuticals. Those specializing in the industry already are in high demand and short supply—a problem compounded as mRNA technology becomes more popular.

Langham Logistics: Getting Ready!

Langham Logistics has temperature and humidity-controlled facilities with quarantine cages and a validated warehouse management system. We have ULT freezers, 2-8C, 15-25C, and -20C storage temperatures and tracking capabilities. Please visit us to see our warehouse drones performing cycle counts, our labor-management system (LMS) and bots, and our RFID procurement area.

RESHORING U.S. MANUFACTURING: BRINGING 'MADE IN AMERICA' BACK

In 1965, manufacturing made up 53% of the U.S. economy. Today that number hovers around 12%. Offshoring over the last 50 years made the iconic "Made in America" label much harder to find. People may soon see it more frequently as U.S. companies reshore their manufacturing facilities. The historically cheap costs of overseas production are changing; so is the mentality that the United States is great for manufacturing ideas, not products.

As of September 2021, the Reshoring Initiative® projected more than 1,300 companies bringing 138,000 jobs back to the U.S. by yearend. When combined with U.S. jobs created through foreign direct investment, the number jumps to nearly 225,000. That is a 38% improvement from an already strong 2020 and makes it the highest rate ever recorded.

The pandemic accelerated the move to bring manufacturing back to America. Rising prices abroad have U.S. companies reevaluating their total landed costs, so the margins aren't what they once were. With price differences less of a barrier, other reshoring benefits are opening the door to a U.S. manufacturing comeback.

#1 Shorter Lead Times

As we all know, the pandemic wreaked havoc on the global supply chain. Shipments from China to the U.S. West Coast now average more than 100 days compared to less than 50 in 2019. Most Americans have experience the results with longer lead times for online orders and empty store shelves. The supply chain delays have billions of dollars tied up in inventory. The monthly inventories-to-sales ratio hit a near five-year low to close out 2021. The inaccessible inventory sitting on ships has companies refinancing and is tripling the amount of working capital needed to run our companies.

Reshoring shortens the supply chain as companies can source materials for production more quickly. Just-in-time

manufacturing allows businesses to minimize their inventory carrying costs and expedite the sales cycle. Reshoring also supports the move for "within market" manufacturing. This puts suppliers and production facilities in the same market as their consumer. Local vendors can better support manufacturing sites, thus minimizing the long wait times and carrying cost of transcontinental sourcing and shipping.

#2 Better Quality and Security

While overseas manufacturing may still cost less, businesses often get what they pay for. Foreign quality issues frequently plague U.S. companies. Product defects can go unnoticed until their arrival in the U.S.—losing companies valuable time and money. Time zone differences and communication barriers make ensuring a product is manufactured to spec difficult. Different standards of quality between overseas manufacturers and U.S. companies can render large batches of products unusable without a good way to recoup the expense. Reshoring improves this by making manufacturing facilities more accessible to their customer. They are better able to produce to the specification, can accommodate more frequent inspections, and must abide by U.S. regulations for safety and quality.

A heavy reliance on foreign manufacturing also is a national security issue. Consider the start of the pandemic. Personal protective equipment (PPE) was in critically short supply. Most PPE came from international facilities. This created long wait times and left the U.S. competing with every other country for materials. As a result, the U.S. government and its corporations have worked together to produce more of this critical equipment domestically. The same is happening in the pharmaceutical industry to keep more drugs closer to home.

#3 A More Skilled Workforce

While labor in China and India historically cost U.S. companies 30-40% less than domestic employees, that is changing. Wages are on the rise internationally, which makes a largely unskilled labor force less beneficial. The U.S. enjoys one of the world's most skilled workforces. As the move toward technology-based advanced manufacturing takes hold, having a highly educated and skilled workforce helps facilities be more specialized and nimble in their product methods and processes. A better labor force also allows companies to invest in automation so they can do more with less.

#4 Customer Responsiveness

In the U.S., the customer is king. Long lead times and a lack of quality control abroad make meeting evolving customer needs difficult. Plus, the "Made in the USA" label carries cachet. A survey of Americans found that 70% prefer products labeled as made in the U.S. and 83% indicated they would pay a 20% premium for them. That cost differential may be just the margin companies need to move production back to the U.S. Domestic laws around environmental protection and labor regulations also align with the macro trend of a more conscious consumer who spends money according to their values.

Unlock More Benefits Through Langham

Manufacturers need a best-in-class logistics provider to help unlock the full benefits of reshoring. At Langham Logistics, our highly skilled team builds efficient warehousing and transportation processes that improve cost and quality. We help manage every aspect of the supply chain from consulting to compliance. Discover why many of the nation's biggest reshoring companies look to Langham for 360-degree logistics support.

GOING GREEN: THE BUSINESS BENEFITS OF A SUSTAINABLE SUPPLY CHAIN

Green logistics is growing in popularity as more companies work to minimize their environmental footprint.

The move makes sense considering that 80% of greenhouse gas emissions and 90% of the average consumer company's impact on air, land, and water resources comes from its supply chain. As a result, some of the world's biggest companies now are leading the way in "going green."

Efforts in this area make for a cleaner, healthier planet for all of us. But they also generate a different kind of green—long-term financial gains that benefit the bottom line.

Research shows that companies highly focused on environmental sustainability outpace peers in a lower cost of capital, better market performance, and accelerated investment growth. Global consumers want sustainable goods too with 66% willing to pay more for them. That number increases to 73% for millennials, the world's largest consumer group.

Opportunities abound to help the planet while improving profits. When it comes to sustainability, even small moves can create big gains.

Eliminating Warehouse Waste

Warehouse location makes a big impact on carbon emissions. Every transportation mile to and from the facility consumes fossil fuels. Relocating warehouses closer to large consumer populations minimizes the daily environmental effects of moving goods while reducing paid transportation miles.

Warehouse configuration also makes a difference. With shovel-ready land in short supply, making the most of the space available is important. Innovations in reducing aisle widths, maximizing vertical space, and reconfiguring racking allow warehouses to improve inventory capacity without physically expanding the size of the building and consuming more natural space.

Reductions in energy consumption provide some of the biggest cost savings and environmental improvements. Making the move from fluorescent to LED lighting can save companies up to 61% in energy costs. That number goes up when adding motion sensors and wireless controls. Warehouse rooftops also provide the perfect location for solar panels. Companies recapture their investment within an average of eight years and benefit from a 75% reduction in energy bills for the remaining lifespan of the panels.

Reducing on the Road

Transportation, which currently relies almost exclusively on fossil fuels, was responsible for about 26% of the world's

CO2 emissions in 2018. That is the equivalent of more than 8 gigatons or operating 37 million trucks for one year. Freight movements alone account for 7% of global GHG emissions.

Fuel represents the second largest cost for transportation providers. Therefore, truckload carriers already have a financial incentive to run their equipment efficiently. SmartWay Carriers voluntarily work to reduce fuel use and emissions through environmentally friendly practices that also save money. Strategies often include installing auxiliary power units (APUs) to eliminate fuel use when not moving. Instituting fuel-efficient equipment designs like trailer tails, wheel covers, and speed governors. And rethinking truck maintenance with improved systems and materials. A 2019 study of nearly 75,000 trucks using various fuel-efficient technologies showed an annual fuel savings of nearly $900 million compared to standard trucks. Average mile per gallon improved nearly 22%. Within the next 10 years, hydrogen and electric-powered trucks will be more common on roadways helping to reduce carbon emissions further.

Shippers can improve these numbers even more by leveraging rail. With railroads up to four times more fuel efficient than trucks, moving freight by rail can lower greenhouse gas emissions by an average of 75%.

Another area for investment is in how companies ship products. Business consumers often prefer drumbeat shipments—smaller quantities of product received more frequently. That can create significant waste in the supply chain from underutilized trailers and containers to additional fuel-consuming miles traveled. Working with buyers to maximize orders can generate up to 50% in transportation cost savings while reducing emissions. Minimizing shipment dunnage and instituting recycling (or reusing) programs for packaged materials offers another area for cost and environmental benefits. For example, one of the world's largest food companies saved $44 million by switching from single-use corrugated material to reusable plastic shipping containers.

Improvements Inside the Office

Pursuing more sustainable supply chain practices need not just happen far from home. Inside the office provides plenty of opportunities for improvement.

Consider energy consumption costs. A groundbreaking study by the Alliance to Save Energy found that companies wasted $2.8 billion annually just by leaving computers on overnight. When it comes to paper use, things are equally as bad. The average person uses 48 sheets of paper per day, more than 70% of which ends up as waste. That means a company of about 175 people is using one tree's worth of paper every day—and throwing away almost all of it. The environmental impact gets worse when considering the energy and water needed to make paper. Moving to digital document systems, turning off technology, and using cloud-based servers can generate thousands in annual savings.

Another benefit companies may overlook is the impact on employee recruitment and retention. The Society for Human Resources Management (SHRM) found that 38% of employees are more loyal to companies that prioritize sustainability. In a time called "The Great Resignation," an environmental focus pays off in talent management.

"Going green" really does have its benefits—to the world and company wallets.

Langham's Green Initiative

When Langham Logistics helps clients create more sustainable supply chains, we speak from experience. That is because we transformed our own company first.

Our energy-efficient warehouses eliminate more than 1,100 metric tons of CO2 emissions annually. Daily recycling programs reduce landfill waste. Sophisticated scheduling limits truck idling during loading/unloading. On the road, we partner with SmartWay-certified carriers to maximize fuel efficiency and do our part in reducing emissions. We leverage rail and help customers craft smart supply chains that reduce transit and fuel usage. Environmentally friendly office management strategies have our team operating 88% more sustainably. Digital document management has us printing 500,000 less sheets of paper per year despite our double-digit annual volume growth.

We see sustainability as more than a feel-good initiative. At Langham, sustainability is a core business strategy. Discover our other improvements and how we help clients protect the planet and their profits.

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