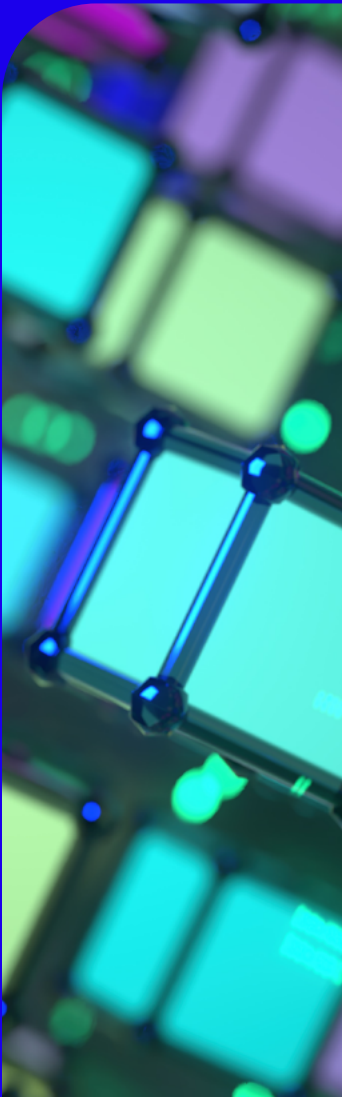


The logistics behind emerging tech

A tactical guide for airlines and freight forwarders



Imagine transforming your logistics operations so that your airline never experiences a half-empty air cargo hold again. Or you increase how many freight forwarding routes you could book a day tenfold.

Emerging technologies can help achieve these dreams. These innovations address key industry challenges including optimizing cargo load plans, improving security protocols and forecasting customer demand.

As the supply chain becomes increasingly digital, your data holds the key to staying competitive and expanding market share. But to do so often requires mastering a variety of technologies and systems. While the allure of adopting these new solutions is strong, it's crucial not to overlook the detailed planning necessary for effective digitization.

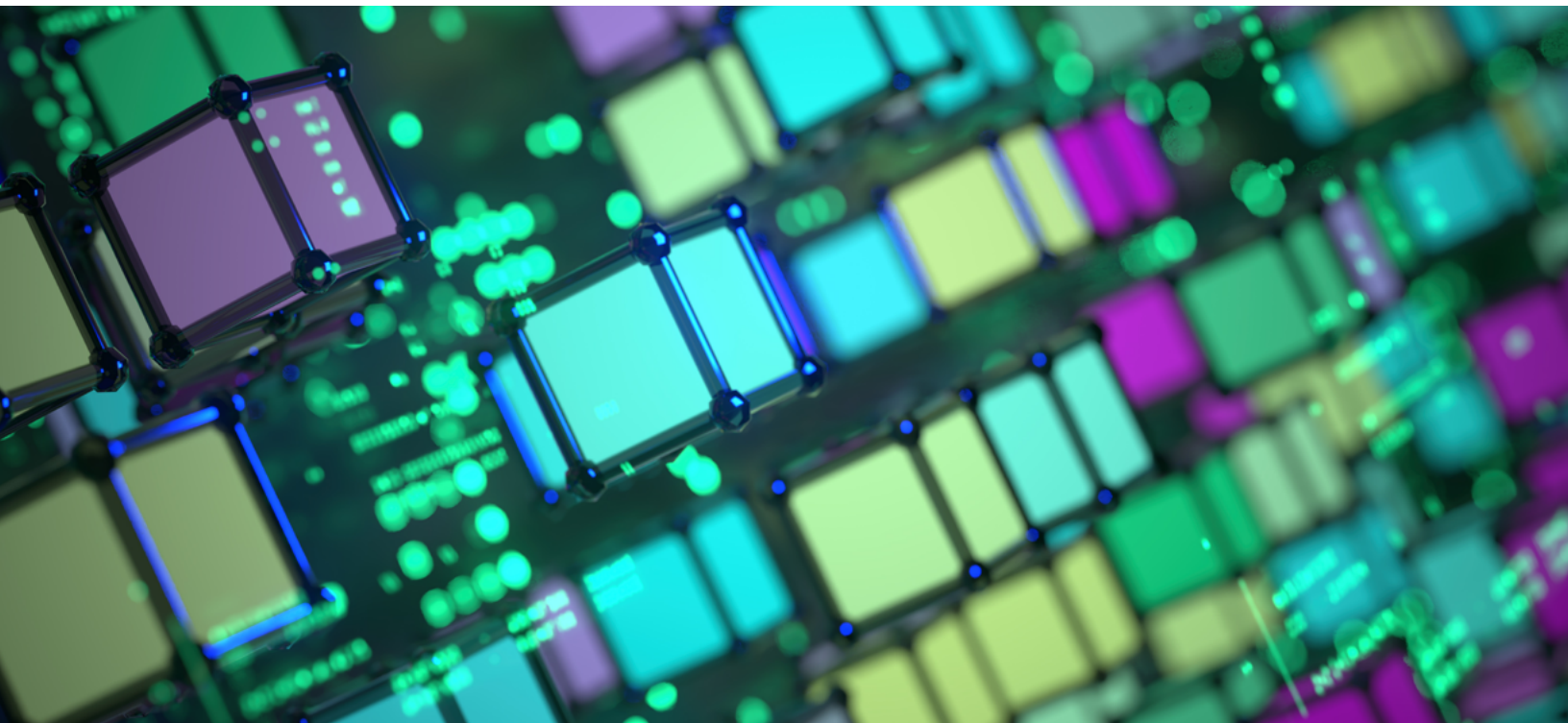
This guide is your roadmap to leveraging emerging technologies effectively. It will show you how to critically assess your current operations, establish concrete goals and identify key areas primed for enhancement. Learn how to integrate these technologies seamlessly into your supply chain, optimizing your processes while keeping them straightforward and efficient.

Booking your journey: Embracing the future of logistics

Emerging technologies offer airlines and freight forwarders a distinct advantage over competitors. Innovations such as AI, machine learning and advanced analytics empower you to make sense of your data, streamline your operations by automating routine tasks and effectively use historical data to predict the best business action.

However, no single technology can address all logistics issues. Success lies in synergizing multiple technologies to fulfill your current and future needs. By developing a robust technology strategy, you can target specific pain points and effectively coordinate your planning and implementation to scale operations with these advanced technologies.

Explore how these technologies can mitigate distinct challenges airlines and freight forwarders face. Gain expert advice on implementation and an understanding of the necessary prerequisites for effective integration.



How emerging technologies can help airlines

Pain Point	How Emerging Tech Can Help
<p>Building load plans with a diverse range of shipments with varying dimensions, compliance regulations and structured product labeling (SPL) codes is risky and time-consuming.</p> <hr/>	<p>➔ AI generates cargo loading and unloading plans by considering cargo dimensions, stacking rules, custom regulations and storage capacity. This can help fill space more efficiently and support your team on the ground to make informed decisions.</p> <hr/>
<p>Exceptions happen — but having too many is slowing down your operations. Rebuilding pallets and reloading planes due to exceptions can be time-consuming, affecting asset utilization and on-time departure metrics.</p> <hr/>	<p>➔ High-performance and quantum computing can help you recover quickly from these exceptions. These technologies can crunch all the factors needed to replan, rebuild and reload cargo quickly so you can keep your operations moving.</p> <hr/>
<p>Communication and information retrieval between air cargo operators and freight forwarders can be time-consuming and error-prone, leading to delays and misunderstandings in shipment processing.</p>	<p>➔ Conversational AI streamlines customer interactions. An AI chatbot on an air cargo operator's website can engage with customers, answer FAQs and provide shipment updates, offering quick and accurate responses.</p>

How emerging technologies can help freight forwarders

Pain Point	How Emerging Tech Can Help
<p>Manual operational tasks, such as rate shopping and document generation, take time and hinder employee efficiency.</p> <hr/>	<p>➔ Automating simple tasks with a booking and shipment management platform helps your team book shipments and monitor active bookings from one place. Consider integrating your transportation management systems with these tools to simplify your technology stack.</p> <hr/>
<p>You're struggling to meet on-time performance metrics due to carrier issues and unforeseen weather conditions.</p> <hr/>	<p>➔ Having access to advanced analytics and reporting capabilities helps you measure carrier performance to find common root causes for delays, helping inform carrier strategy and improve on-time performance.</p> <hr/>
<p>Pallet-build planning is difficult, manual and time-consuming because you must consider all the inputs of your shipments — product type, dimensions, durability, compliance risks and more.</p>	<p>➔ AI generates cargo loading and unloading plans by considering cargo dimensions, stacking rules, custom regulations and storage capacity, reducing congestion and minimizing handling errors. Need to make these plans in seconds? Power your build processes with high-performance and quantum computing.</p>

Start your groundwork

Emerging technologies offer airlines and freight forwarders significant opportunities to increase margins and improve on-time performance. Yet, it's vital to lay a robust foundation before embracing these next-generation technologies. The following step-by-step approach can help you build a solid foundation to add emerging technology to your operations.

Move forward carefully when implementing these advanced solutions. Key considerations include:

- Addressing your data debt. Start with reducing duplicate data to streamline processes, improve overall data quality to enhance decision-making, identify dark data sources, centralize your master data for easy access and resolve data security issues. Talk with your suppliers and partners to explore how to integrate with their systems for real-time data access and sharing.
- Exploring the necessary computing resources to handle large datasets and run complex algorithms.
- Utilizing feedback mechanisms like surveys or reinforced learning models to refine technology accuracy and efficiency.



Pre-boarding: Your blueprint to digitization

Emerging technology can significantly boost your operations, but it's important to lay the groundwork before taking flight. With the inspiration to elevate your processes using next-generation technology, let's focus on the essential preliminary steps:



STEP 01

Assess your current state

- **Examine your baseline:** Audit your current technological and operational ecosystems, including all systems, processes and technologies.

For example:

- **Airlines** can review sales, operations and accounting functions to ensure seamless integration. Additionally, airlines should verify that their connectivity with external stakeholders is in place to avoid manual intervention.
- **Freight forwarders** can look at their existing transportation management systems, tracking systems, warehouse management solutions and communication channels with carriers.
- **Identify technology gaps:** Detect areas where existing systems are slow, hard to use or fall short of meeting current and future needs.
- **Assess digital maturity:** Determine your organization's current digital maturity level to set realistic goals and guide technology adoption.



STEP 02

Define your goals

- **Articulate your objectives:** State your primary goals, whether they are reducing costs, improving employee efficiency, enhancing customer experience or maintaining competitiveness.
- **Pinpoint pain points:** Identify tasks or areas causing significant issues or excessive costs indicative of bottlenecks or dissatisfaction with vendors or customers.

For example:

- **Airlines** can analyze their under-utilized flights and look for improvement in capacity utilization.
- **Freight forwarders** can analyze late shipments and look for common root causes of these "problem" shipments, such as carriers, sources and dimensions.
- **Identify immediate actions:** Recognize initiatives you can implement swiftly to begin your digital transformation journey.

Pre-boarding: Your blueprint to digitization - continued.



STEP 03

Assess the feasibility

- **Estimate resource impact:** Calculate the costs, time and potential impacts to gauge your organization's capacity for embracing change.
- **Develop a business case:** Craft a detailed business case that outlines benefits, costs and expected ROI, serving as a strategic guide for your transformation.
- **Check your data hygiene:** Scope out ways to structure your data and train AI models so you're ready to further develop your technology stack.
- **Ensure data quality:** Focus on data quality, collection and organization of all data sources to enhance decision-making and efficiency.



STEP 04

Choose your technology arsenal

- **Select digitization areas:** Choose which parts of your operations to digitize first, focusing on those that align with your optimization goals and strategic plan.
- **Research technologies:** Explore the capabilities of various emerging technologies to find the best fit for your needs — or collaborate with a partner who can handle this for you.



STEP 05

Scale your operations with advanced technologies

- **Determine integration timing:** Decide the right moments and reasons for incorporating emerging technologies into your operations, focusing on the most valuable use cases.
- **Differentiate between versions:** Understand the prerequisites for adopting innovative technologies, including a robust data management and IT infrastructure foundation.
- **Gain insights from examples:** Learn from other organizations' experiences in optimization and digitization, even those with limited resources, and apply these insights to your strategy.
- **Plan integration steps:** Develop a detailed plan for incorporating innovative technologies into your operations, considering training, scalability and system compatibility.

Takeoff: En route to your digitization destination

As you integrate next-gen technologies, bear in mind that total digitization is an ongoing process, and optimization is a dynamic target. It's essential to identify the specific areas of your business requiring enhancement and digital integration.

These areas will evolve but should always address the critical challenges hindering your progress toward goals and targets. Having outlined your digital strategy and witnessed the capabilities of emerging technologies, the next step is to devise a plan for creating optimized ecosystems.

Here are our actionable recommendations.



For Airlines

- **Optimize ULD load plans:** Enhance revenue per flight and ensure efficient cargo handling by optimizing unit load device (ULD) plans. Utilize Unisys Logistics Optimization™ for real-time optimal ULD planning, leveraging 3D visualizations and AI algorithms for efficient cargo loading.
- **Enhance global connectivity:** Use Unisys Cargo Portal Services™ to connect with carriers globally, reducing distribution costs, increasing cargo operation visibility and streamlining booking processes.



For Freight Forwarders

- **Maximize margins:** Focus on reducing cost-to-serve metrics and achieving on-time performance by automating quoting and routing processes. Implement pre-trained AI models from Unisys Logistics Optimization to enhance decision-making and optimize shipment routing, balancing cost-efficiency and timely delivery.
- **Automate booking processes:** Integrate Unisys Cargo Portal Services into your system to automate bookings, reducing manual coordination efforts and saving time.



Climb: Build your digital future

The logistics field is a complex network teeming with constant movement and evolving technologies. Successfully navigating this landscape necessitates a strategic plan that recognizes the fluid nature of optimization and the potential of new technologies.

In your digital transformation journey, focus on strategic digitization not total digital overhaul. The aim is to select the most effective digital elements that align with your goals, whether to boost revenue in the airline industry or to cut costs in freight forwarding.

Eager to guide your logistics operations toward greater efficiency, cost reduction, improved customer experiences and sustained competitiveness? Discover more about [Unisys Logistics Optimization](#) and [Unisys Cargo Portal Services](#), or [reach out to us](#) for further information.



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