

# INCREASE SUPPLY CHAIN RESILIENCE BY ADOPTING NEW TECHNOLOGIES IN LOGISTICS



# NEW TECHNOLOGIES TO GAIN SIGNIFICANT COMPETITIVE ADVANTAGE

The first two decades of this millennium have been greatly shaped by the tremendous pace of technological innovation. Consequently, new business models have emerged across all industries. Today's logistics industry is not exempt from this dynamic development.

In addition, companies are forced to become more sustainable and, lower energy consumption and emissions, and thus need new technologies and modern processes to comply. But it is hard to decide where to start, which technologies to choose and how to orchestrate the process.

To help our clients make the right decisions and steer their company into the right direction, we provide examples that demonstrate how Capgemini, jointly with our clients, has successfully leveraged a subset of these new technologies or implemented new business processes which significantly improved our clients' market position.





# LOGISTICS 4.0 - TRANSFORMING THE CORE

**End-to-end supply chain visibility is a crucial aspect when making autonomous decisions and applications.**

The COVID-19 pandemic has proven global supply chains are not as robust as initially presumed. Every individual supply chain continuously creates a flood of information, requiring suitable platforms that connect data, systems, and people. Thus, connectivity and collaboration of different actors become the key strategic elements to enable end-to-end visibility. This data mass puts pressure on logistics companies to provide these platforms and create transparency across the entire value chain. Linking logistics processes inside and outside of the company is the key challenge.



**The prerequisite for modernization is an efficient flow of information.**

The interlinking of processes is one factor impacting warehouse logistics, alongside additional factors such as intelligent robots, automation and IoT. Also of importance is transport logistics, in which autonomously driving trucks or ships will increasingly be used. The prerequisite for modernization is an efficient flow of information.



***TMS will no longer be a differentiating asset. Instead, the ability to monetize on innovative data-based business models will become a key success factor for logistics providers."***



**Bastian Thöle**  
Vice President  
#DigitalBusinessModels

The total mass of information available and corresponding handling needs define ever new requirements to be made to the core IT systems and surrounding processes of industry players.

All too often, however, necessary alterations and system renewals for transport management systems (TMS) are postponed due to their complexity, long legacy within the company and significant resource requirements. Yet Capgemini finds these efforts pay off, especially when implementing a modular solution that provides more flexibility.



***The current generation of TMS are highly complex expert systems that often neglect areas of customer interaction. Nowadays, TMS needs to be transformed into an ecosystem of smaller and agile applications that are user-friendly, enable close collaboration with customers and suppliers, and support AI-powered automated exception handling."***



**Ernesto Marin Grez**  
Vice President  
#NextTMSGeneration

We have supported almost all the largest industry players renewing their TMS: We developed individual solutions or implemented off-the-shelf applications.

By creating a core IT system that manages all supply chain data and serves as a platform that provides information internally as well as externally, industry players are ready to apply viable Logistics 4.0 business use cases.

# DIGITAL TWIN - MAKING DATA VALUABLE

**A digital twin underpins the frictionless enterprise to design, visualize, monitor, manage, and maintain its assets more effectively.**

The logistics industry operates international supply chains. Therefore, globally standardized processes are desirable, but often hard to implement. Lack of transparency and difficulties in communicating across global organizations inhibit significant advancements in process efficiency.



*Be ahead of your business operations by using the digital twin to design, simulate and validate virtual scenarios."*



**Lee Beardmore**  
Vice President  
#DigitalTwin

We offer our clients a simple, but very powerful solution: With the help of a digital twin, they can simulate different scenarios and their impacts.

A digital twin is a powerful method to create digital counterparts of physical objects or for mirroring internal processes. To build a digital twin, Capgemini uses a standardized approach that starts with data and business mining to identify and document the status quo. After creating the digital twin, various simulations are run to evaluate their impact. Thus, impact becomes measurable.

For example, our client, an international leading freight forwarder, faced issues when outsourcing its credit-to-cash process. The aim of the outsourcing project was to standardize and optimize processes. However, earlier attempts revealed the complexity of the program.

A cross-regional assessment revealed big discrepancies regarding the process landscape and the lack of standardization had resulted in automation inefficiencies. A global process model was developed to increase efficiency for both the retained and outsourced teams.



Based on the global process model, we built a digital twin. It allowed the team to apply industry best practice procedures and visualize their impact on efficiency and processes instantly. Furthermore, the digital twin proved very powerful by immediately validating and testing the process changes, that had been developed during interactive workshops with regional stakeholders.



*Filling executional gaps with a performance platform enables conformity and removes process friction."*



**Thomas Both**  
Director  
#ProcessExcellence

Eventually, a common framework and a globally standardized new process model was implemented, supported by global buy-in. The client was finally able to capture the impact of the new model and deviations from the standard in each region, enabling a smooth transition.

# DYNAMIC PRICING - RATE MANAGEMENT SYSTEM

**Especially in today's volatile market, forwarders can gain a significant competitive advantage by providing their customers quotations instantly based on dynamic pricing algorithms.**

Freight rates, especially for sea and air shipments, have surged to volatile and often unprecedented levels.

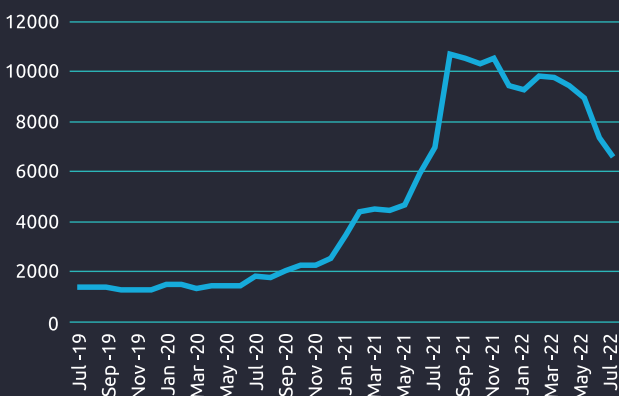
**100%**

**rate accuracy at all times**

While most freight forwarders struggle to systematically maintain their millions of rates under normal market conditions, it becomes even harder in volatile markets. Implementing rate management systems and lean processes that assure a 100% accuracy rate at all times may require tremendous effort from the global organization but results in a significant differentiator compared to the rest of the industry.

For instance, we supported a German logistics freight forwarder in systematically capturing up-to-date market rates for their sea freight and air freight products. Additionally, a rate management system (RMS) was seamlessly integrated with their process landscape from rate procurement to quotation to operations.

**Container freight rate index worldwide - 2019-2022**



Source: Freightos Baltic Index

While capturing data presents the first step only, it serves as a starting point for further innovations regarding direct customer quote-and-book features and eventually dynamic pricing.

Even further down the road, integrating the quote-and-book platform with the core operating system/TMS will provide a huge efficiency lever of more than 25% for operator performance.

However, if you are just about to start from scratch, it's important to "slice the elephant" correctly. Start with MVPs that allow your organization to focus on quick wins. Focus on transport modes, key trade lanes or service levels. Manage expectations within the different organizational units. Define standard pricing models. Celebrate successes, even small ones.



*The current volatility of global freight rates bears a challenge for forwarders - innovative rate management and integration with the quote-and-book process creates the ideal environment for ensuring great customer service with good prices."*



**Dominik Schindler**

Senior Manager  
#DynamicPricing

With broken supply chains, rare shipping capacities and scarce equipment, good rate management is not only a crucial task. It has a direct impact on corporate profitability.

# CO2 - EMISSIONS MANAGEMENT

## You can't control what you can't measure.

Freight transport generates the largest share of CO2 emissions in the transport industry. It is currently estimated to be around 11%. Furthermore, supply chains and the entire logistics sector are highly fragmented, which presents an additional challenge in lowering emissions.

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*The sustainability time bomb is ticking - transport and logistics companies need to embed ambitious sustainability goals into their strategy.”*



**Lars Wilckens**  
Manager  
#SustainableLogistics

Ecologically sustainable value chains provide companies with strategic advantages. Companies are expected by law, society, and the capital market to operate in an ecologically sustainable manner and to actively protect the climate. The reduction of greenhouse gas emissions, such as CO2, plays a decisive role.

Effective CO2 emissions management in the logistics value chain consists of three main components: a suitable key performance indicator system, the timely monitoring of climate gas emissions and the design of supply chains according to climate targets, not only costs, performance and delivery time etc. Therefore, a holistic view of the entire supply chain is essential.



with **32% lower costs per delivery.**

According to the principle “you can't control what you can't measure”, it is necessary to monitor CO2 emissions in everyday supply chain operations. In addition to other supply chain details, the information about CO2 emissions needs to be centrally monitored to identify and record hot spot emission sources. This enables effective climate protection measures to be taken.

As part of a long-term business transformation at a leading French delivery service company, Capgemini spearheaded the client's implementation of a sustainable supply chain, thus aiding in responding better to the rapid increase in e-commerce. Capgemini helped to transform the supply chain to meet the demand of almost half a billion parcels in 2020. Additionally, introducing next day delivery delivery in major cities and redesigning the delivery network ensured carbon neutral deliveries.



We combined digital technologies and data to design and build the target network as well as enhanced best-in-class distribution processes to support the company's service quality and growth ambitions. Doing so has enabled our client to reduce the CO2 emissions of their network by 10% and decrease costs by 32%. Together, we implemented carbon-neutral delivery solutions in a next-generation supply chain.



Achieving **10% reduction in CO2 emission**

# CRM - NEXT GENERATION SELLING

**CRM is the key enabler of logistics champions to ensure customer centric processes and exceptional customer experience!**

The future of logistics is digital - and it is connected to clients. A Customer Relationship Management (CRM) system tailored to the specific requirements of the industry is necessary to become a digital leader. In today's world, always keeping the customers' experience in mind is crucial for everyone in the supply chain who forwards, transports and delivers goods. The example of Amazon demonstrates the impact of maximized customer centricity in terms of market share, revenue and rentability in the B2C market. Customer centricity not only means long-term relationships and repeated transactions, but it also encourages and facilitates sales to new customers and reengagement with existing customers.

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*Customers know what makes them happy. With CRM, companies know, too.”*



**Patrick Schumann**  
Director  
#CustomerCentricity

Holistic customer experience tools help to master the challenge at hand. By enabling an efficient CRM platform, each employee gets exactly the functions that are relevant to them and their daily work. People, data, and processes are connected to put the customer at the centre of a company's sales, marketing and service strategy. A CRM solution of tomorrow does this by leveraging AI to gain predictive insights about prospects and to generate leads. This allows a sales team to focus on the right opportunities, and the marketing team to leverage all available data and insights to organize more compelling campaigns.

The large number of projects that Capgemini has been able to successfully design and implement in this context consistently demonstrate the strategic value of holistic CRM for the business success of global logistic companies.

We support our global logistics partners consistently both in strategically defining their targets and selecting the tools associated, as well as in the design of sales, marketing and service processes, change management and the technical implementation. With best practices, our verified approach and industry examples, we implement successful projects with leading logistics providers. One example is the Capgemini **“Next Gen CRM Wheel”**. It enables us to help you identify your needs and requirements regarding multiple aspects of a CRM platform.



We support our customers end-to-end and thus create a perfectly aligned customer relationship management concept, which can map all the specific logistics processes and can actively support growth.

Capgemini has a broad range of industry experts. This expertise, coupled with our far-reaching technological skillset ensures we remain our clients' preferred consulting partner.



# CAPGEMINI IS THE PREFERRED PARTNER OF LEADING PLAYERS IN THE LOGISTICS INDUSTRY

TMS Transformation | Process Optimization | Accounting & Controlling Technical Innovation | Architecture & Domains



Hellmann launched a digitization program which we supported as a long-term partner. The project transformed operations and modernized the finance solution, simultaneously.



TMS Transformation | Process Optimization | Technical Innovation Architecture & Domains



We support Kuehne+Nagel with the new development of a core transport management system for sea and air logistics.



TMS Transformation | Process Optimization | Architecture & Domains



Lufthansa created with our support a reference architecture for the aviation industry, also submitted for int. standardization, aiming to enhance integration of business processes with partners.



TMS Transformation | Process Optimization | Accounting & Controlling Technical Innovation | Architecture & Domains



Capgemini supports the development and implementation of a Transport Management System called TANGO, which resulted in increased numbers of users across 130 countries, replacing more than 30 legacy systems, resulting in full control of the whole transport process, from order to fulfillment including invoicing.



TMS Transformation | Process Optimization | Technical Innovation



Capgemini successfully implemented a cloud-based customized solution for intermodal transports in an agile project setup for the shipping company Hamburg Süd.





# CLIENT SUCCESS STORIES IN DETAIL



# LEARN WHAT'S NEXT IN LOGISTICS TO SHAPE YOUR FUTURE ENTERPRISE



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## About Capgemini

Capgemini is a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided everyday by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of over 340,000 team members in more than 50 countries. With its strong 55-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms. The Group reported in 2021 global revenues of €18 billion.

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