INTRALOGISTICS - Visibility, Accuracy and Productivity

Hop on the wave of digitalization with assistance of Comtrade Digital Services intralogistics software development experts
Entire world is going digital - logistics too

With the boom of e-commerce and a push for shorter delivery times, logistics companies face a major challenge: how to improve their efficiency and productivity while supply chains are becoming ever more complex. Following the emergence of digital platforms, which are tightly connected to logistics, the entire industry is faced with the inevitable - its digital transformation.

Digitization, automation and innovative use of technology are key in speeding up this process. At the same time, leveraging data and its metrics offers useful transparency. In the context of digital transformation, all of this together is the groundwork for new business models.

In order to optimize, integrate, automate and manage the logistical flow of information and goods within a warehouse, companies need sophisticated technology and systems, powered by logistics automation software.
With the boom of e-commerce and a push for shorter delivery times, logistics companies face a major challenge: how to improve their efficiency and productivity while supply chains are becoming ever more complex. Following the emergence of digital platforms, which are tightly connected to logistics, the entire industry is faced with the inevitable – its digital transformation. Digitization, automation and innovative use of technology are key in speeding up this process. At the same time, leveraging data and its metrics offers useful transparency. In the context of digital transformation, all of this together is the groundwork for new business models.

In order to optimize, integrate, automate and manage the logistical flow of information and goods within a warehouse, companies need sophisticated technology and systems, powered by logistics automation software.

As they adopt these trends, distribution centers and warehouses face several challenges, namely:

- Lack of standardized communication protocols
- High complexity of integration of solutions from different vendors
- Balancing higher productivity with increased complexity in the supply chain, as new business models focus on end-users’ demands
- Accuracy of inventory - the operation and the efficiency of any warehouse are only as good as the data that underpins it
Turn risks into advantages with us

Comtrade Digital Services helps clients streamline their warehouse operations to run faster, easier and more reliably. We develop advanced software and deliver innovative intralogistics, distribution center and warehouse solutions.

**Intralogistics software**
- Project management
- System architecture
- SW architecture
- Implementation
- Quality assurance
- Onsite commissioning
- IFT
- IHT

**Automated warehouse**
- Warehouse management system
- Warehouse control system
- Parcel and postal
- Material handling HLC

**IoT and predictive analytics**

"Comtrade was able to rapidly accelerate innovation of a customer’s strategic and enterprise scale intralogistics program.”
Why Comtrade Digital Services is the right partner for your next step into digital world. What you gain are:

Visibility  Accuracy  Productivity

We are experts in logistics software development
We specialize in delivery of reliable, scalable and configurable intralogistics software solutions. Our experience and expertise enable us to assess your operations, develop a solution tailored to your needs and merge it seamlessly with your systems.

We engage in Open Innovation
When it comes to software development, we don’t just offer traditional outsourcing services. Instead, we establish strategic partnerships based on Open Innovation. We collaborate closely with your team and contribute our knowledge and expertise at every stage of the process, to accelerate innovation and help you generate greater value.

We work with you from start to finish
We take the time to understand and analyze your business and warehouse environment. We assess your operations, determine if your current processes are compatible with the new technology and then develop a software solution based on your unique business needs.

We have all your needs covered
We help you automate and optimize warehouse management and warehouse control processes, from receiving to shipping.
Intralogistics software

With our domain knowledge, use of modern software and proven development methodologies, we design, enhance and consult on the architecture and development of logistics software solutions. Areas of our expertise include:

- ATR - routing pallets/trays through the warehouse using the shortest routes, based on destination orders
- Yard management
- Receiving
- Teaching
- Sortation, including GTW communication for jobs and reporting
- Automated and manual palletizing/de-palletizing stations
- Pallet crane
- HighBay
- Tray storage
- ASR microshuttle
- Teaching station
- SVS
- LFL and scheduling

“Comtrade helped its customer decrease its software product delivery time from several months duration to two week release lifecycle.”
Automated Warehouse

In warehouse automation, most of the "heavy lifting" is done ahead and with fingers only - on keyboards of software developers.

Creating an effective and efficient automated warehouse system is a demanding job that requires advanced domain knowledge and thorough technology expertise. At Comtrade Digital Services, we are fully equipped to help our partners develop and implement various elements of warehouse automation systems.
Selecting the best order-picking solution depends on the requirements of individual operations and products. Our experience and expertise in designing and implementing these systems take into consideration such criteria as volume and item velocity. We support systems development of:

- dock-door management
- unloading, receiving/decanting, quality check and putaway of received goods into their storage locations.

**Inbound**

- dock-door management
- unloading, receiving/decanting, quality check and putaway of received goods into their storage locations.

**Order planning**

- Backward termination (calculation of the latest commissioning start point)
- Order release (selection of to-be-planned orders)
- Stock allocation (allocation from pickup areas, using either housekeeping or one-hit strategy)
- Packaging/volumetrics (calculating the optimal number of resulting units, considering defined mixing restrictions)
- Order start (commissioning start of previously calculated units)

**Outbound**

- dock-door management
- preloading/marshalling area management
- shipment management
- loading

**Replenishment**

(Stock movement from overstock to pickable areas)

- Order-related (executed upon an order)
- Automatic (executed as soon as the stock level in a pickup area falls under a predefined threshold)

**Cycle Count**

- Synchronising WMS data with the reality by checking specific products, units or whole logistic areas

- Increase productivity by up to 1,000 lines per man hour
- Improve picking accuracy by up to 99.99%

**Commissioning**

Automated order-picking systems can:

- Help to deliver higher customer service levels
- Optimize space utilization by up to 40% (compared to conventional warehouses)
Selecting the best order-picking solution depends on the requirements of individual operations and products. Our experience and expertise in designing and implementing these systems take into consideration such criteria as volume and item velocity. We support systems development of:

- dock-door management
- unloading, receiving/decanting,
- quality check and putaway of received goods into their storage locations.

### Inbound Outbound

- Replenishment (stock movement from overstock to pickable areas)
- Backward termination (calculation of the latest commissioning start point)
- Order release (selection of to-be-planned orders)
- Stock allocation (allocation from pickup areas, using either housekeeping or one-hit strategy)
- Packaging/volumetrics (calculating the optimal number of resulting units, considering defined mixing restrictions)
- Order start (commissioning start of previously calculated units)

### Order Planning

- dock-door management
- preloading/marshalling area management
- shipment management

### Order-related (executed upon an order)

- Automatic (executed as soon as the stock level in a pickup area falls under a predefined threshold)

### “Man-to-Goods” principle

- "Man-to-Goods" principle using mobile terminal devices
- using voice (voice recognition)
- using vision (augmented reality)

### “Goods-to-Man” principle

- "Goods-to-Man" principle goods from automated shelves are transported over conveyers to some picking station

### Cycle Count

- Cycle Count synchronising WMS data with the reality by checking specific products, units or whole logistic areas

### Commissioning

**Automated order-picking systems can:**

- increase productivity by up to 1,000 lines per man hour
- improve picking accuracy by up to 99.99%
- help to deliver higher customer service levels
- optimize space utilization by up to 40% (compared to conventional warehouses)

**Selecting the best order-picking solution depends on the requirements of individual operations and products. Our experience and expertise in designing and implementing these systems take into consideration such criteria as volume and item velocity. We support systems development of:**

- "Man-to-Goods" principle using mobile terminal devices
- using voice (voice recognition)
- using vision (augmented reality)
- "Goods-to-Man" principle goods from automated shelves are transported over conveyers to some picking station
- Cycle Count synchronising WMS data with the reality by checking specific products, units or whole logistic areas
IoT and Predictive Analytics

Everyone mines vast IoT data to grasp past and present trends. But do you see the future?

With the digitization of processes, our clients gain access to various data. The different parts of hardware and software devices - assets - connected via IoT, steadily produce immense volume of information. With smart technology, companies can mine value from aggregated data and create a unique business advantage.

Comtrade Digital Services has developed a Predictive Maintenance Platform that leverages IoT data to prevent future failure of mission-critical operations. It allows logistics companies:

1. Collecting and aggregating real-time data on their equipment’s usage (IOT, mobile devices)
2. Analysing data with Machine Learning (ML) / cognitive capabilities enabled systems
3. Taking actions in real-time or create alarms based on predictive analyses
We make innovative technology work for your benefits

Our approach to software development is based on:

Cloud technologies > We offer our Cloud Warehouse Management solutions as Software-as-a-Services

Streamlined Processes > We automate human interaction with new technologies - augmented reality, voice control and more

Big data analytics > We enhance planning, replenishment, and inventory systems with big data analytics

“Comtrade helps customers accelerate innovation through its state of the art Agile Transformation, Innovation Management and Engineering services.”
Comtrade Digital Services provides strategic software solutions. For over 25 years, we have enabled companies from various industries to innovate faster and reinvent their business models digitally, by using agile development technologies, innovative technology and our business acumen.

Creating real innovation fast

25+ years of development work

1.5K+ Employees worldwide

18 offices worldwide

900+ satisfied customers

$330 m in revenues

www.comtradedigital.com