Making the Best Use of the Available Space

Cargo Handling Systems

Airport Logistics
As a cargo handling system operator, you’re always looking for the optimal balance between efficiency and higher profitability. At the same time, you cannot afford to make any compromises in security. Successfully meeting all these demands means using the right equipment: First class hardware and software that ensure the highest possible levels of reliability and availability. With our solutions and products, you can achieve the balance you seek. Siemens Industrial Solutions and Services is the world's leading supplier of material handling solutions. Our knowledge comes from having implemented more than 6,000 logistics systems worldwide – over 300 of them airport systems.

Thirty years of experience and over 100 reference projects throughout the world provide convincing proof of our accomplishments in the field of cargo handling systems. We supply fully-integrated solutions from a single source. And we comply with all international regulations and standards, whether you ask us to integrate individual components, expand an existing system or install a complex and fully-automated system. The systematic exchange of knowledge within our global network provides innovative and reliable solutions.
Complex engineering does not have to be complicated. We rely on standardization and modularization to install your cargo handling system. The unique Siemens control technology Totally Integrated Automation (TIA) has long become standard. It minimizes engineering expenditures, commissioning times and service costs. As a result, you profit from significantly lower life-cycle costs. At the end of the day, you get the highest productivity at a reasonable cost, strengthening your competitive position.

As your partner, we customize our solutions to meet your needs. This might involve integrating individual components into an existing system or extending a system with any degree of automation, as well as supplying very large and highly complex systems as a general contractor.

Our commitment to you does not end with the completion of your project. We also offer tailor-made maintenance and service solutions to ensure, that your system will continue to perform at a high standard throughout its entire life.
In recent years, security requirements have been continually increasing in the air cargo industry. In contrast to baggage, air freight relies on the "known shipper principle." Freight has to be declared. The contents, weight and the consignor and consignee data have to be known and correct. However, checking this data is just the first stage in the security process. Increasing security requirements makes it imperative to check freight for hazardous elements. These additional checks require innovative systems, such as devices for X-raying pre-packed ULDs and low-pressure chambers for simulating flight conditions before cargo is loaded into the airplane. These security systems are integrated into your system right from the planning stage in order to save space and money. We have also developed time and cost-saving solutions for integrating security improvements into existing systems.

Additional security checks can have a considerable impact on the workflow in a terminal. At the same time, improving the security screening process also offers an opportunity to optimize throughput and lower costs.

Security starts when cargo is delivered on the ground as bulk freight or pre-packed ULDs. It is essential to identify, weigh and check the delivered cargo reliably. We offer you efficient solutions for these tasks, covering all security aspects from fixed elevators on the loading ramp to mobile solutions, such as weighing facilities.

Security also involves tracking freight continually by means of data records. Fast and reliable access is only possible if the location of an item of cargo can be traced in the system at all times. We ensure that your system can run cost-effectively and save time by using tried and tested software, such as our Cargo Compact or Cargo Warehouse.

No shortcuts are taken with safety. We make sure that all safety-related aspects and regulations are taken into account.
In addition to X-raying pre-packed ULDs, we also offer you another innovative option to minimize the risk of dangerous freight getting on board. Our flight simulation chambers detect explosives reliably by means of low pressure, ultrasound and time-controlled sensors. They also detect suspicious audio signals.

Specially developed simulation programs imitate the changing external conditions that occur during a flight, allowing controlled explosions of any dangerous objects in the cargo and thereby protecting both people and machines. We supply flight simulation chambers of various sizes to meet your specific requirements.
Maximizing Throughput

Throughput is as important as security. Unnecessary routes take up space. Slow access to data and cargo costs money. For these reasons, we ensure short routes and quick access by optimizing the use of space during the planning and simulation process and by using proven, standardized components.

Optimizing Availability

We offer systems with high availability that will be easy to maintain and operate. Starting at the planning phase, we make sure, that your system can handle peaks without difficulty and that only those parts of the system, which are needed for forthcoming tasks, remain in operation during periods of low utilization.

Of course, building in redundancy is also part of the planning phase. With our tried and tested products there are no compromises when it comes to ease of maintenance and operation.
We are your partner through all phases of your system’s life cycle – from planning and construction to operation. You also profit from our cross-project synergies. This results in substantially reduced operating costs, minimized risks and optimized system productivity.

If appropriate, we start by making an analysis – in close consultation with you. We use the analysis to derive your requirement specifications and design the initial layout of your project for simulation. We test all load conditions on a virtual model in order to reveal any bottlenecks, so that we can eliminate these long before we start building your actual system. With our clearly structured project management, nothing is left to chance when it comes to the success of your cargo handling system.
Higher Efficiency – Loading Ramps

Efficient ramp handling is essential for cost-effective cargo handling. It demands efficient and safe facilities. We offer a wide product range of truck dock systems – from stationary dock lifts to complex movable machines with on-board weighing equipment and ULD contour checking devices.

Higher Productivity – Build-Up/Break-Down Area

Build-up and break-down areas are the centers of productivity in every cargo terminal. Freight is picked and consolidated by destination, time zone, flight number and other criteria at the workstations in the build-up and break-down area. Siemens Industrial Solutions and Services offers you a broad product portfolio for these areas, including elevating transfer vehicles (ETVs), transfer vehicles (TVs), turntables and drive-on conveyors – all with a high level of automated support. When designing our systems, we rigorously comply with all safety-related aspects and regional regulations – for example those concerning working height. When it comes to handling bulk freight, we pay particular attention to making the automated solution as easy to operate as possible by providing an ergonomic human machine interface (HMI).
Efficient freight storage in your cargo terminal is extremely important, both for airplane containers (ULDs) and for loose freight on pallets (BSS). With our comprehensive range of products – which includes ETVs and CSS and BSS stacker cranes – we offer solutions to meet every storage requirement, from half-size units to 10/15-feet or 20-feet ULDs to full or empty ULDs to pallets. Our ULD storage systems, which may be up to four levels high, are loaded by special elevating transfer vehicles (ETVs). When required, we can even build high-bay warehouses that are up to eleven levels high (about 36 meters). Rail-guided elevating transfer vehicles are used in such cases to keep within the tolerances needed for storage and retrieval (CSS stackers).

We supply these systems with a range of storage space sizes: 10, 15 and 20 feet. Our solutions provide excellent throughput, achieving up to 120 meters per minute when traversing and up to 60 meters per minute for lifting and lowering. Siemens Industrial Solutions and Services offers you the right solution for every requirement, from ULD storage to complex systems with pallet positions for a dependable 24/7 operation.

More Options – ULD Transport

No matter how varied cargo handling systems may be, they are always based on robust and reliable material handling equipment which links all the operative processes. This equipment has to fulfill all kinds of specific freight processing requirements. Whether you need cold rooms or deep-freeze chambers, transit zones for easily perishable goods or open apron zones, we work together with you and the architects to tailor our solution to your individual needs. Our range of mechanical handling equipment includes all the components needed for a safe and secure material flow, such as transport rollerdecks, right-angle rollerdecks and turntables for ULDs. And it’s not a problem if you want to keep as much space as possible clear for the operative area. We offer special solutions with cross-over options for such cases.

Greater Possibilities – Storage Systems and High-Bay Warehouses
You expect your cargo terminal to fulfill its main tasks reliably at all times, for freight acceptance and transfer (import, export) on the ground as well as transfer and acceptance (inbound, outbound) by air. The connecting material handling equipment takes care of the internal transport. Our integrated control and monitoring software fulfills all your specific requirements. IT solutions, such as our Cargo Compact and Cargo Warehouse Management ensure seamless freight management throughout the entire material flow process for both manual and automated cargo handling systems. They also ensure, that freight items are handled according to their individual needs, which is especially important for e.g. perishable, valuable and radioactive goods.

Cargo Compact controls the entire material flow, makes all relevant data available to the warehouse management and allows visualization through the HMI. Integrated functionalities optimize the workflow throughout the system. Defined interfaces ensure uninterrupted communication with lower-level machine controls and higher-level host systems.

Cargo Warehouse Management is our IT solution for warehouse management. It has been specially developed for freight processing and is suitable for all types of material handling systems. You can run an inventory at any time using the integrated functions “Storage Area Management”, “Item Management” and “Total Inventory Management”. It also supports the management of all processes. Defined interfaces to higher-level host systems provide smooth communication.

Our efficient service and maintenance tool (Maintenance Management System) supplies you with all your system status information. This keeps you aware of the functionality of all components at all times – so you can be sure, that everything is running according to schedule.

To continually optimize the whole material flow a high degree of transparency is required. This is where MOBY R comes in – our high-performance location system, that gives you a continuous and accurate real time overview of the current positions of ULDs. Our solution has also proven itself in daily use in other industrial sectors, where it is essential to use resources with maximum efficiency.
Good service is crucial to the long-term reliability of cargo handling systems. Our comprehensive range of innovative services gives your system the highest possible level of reliability throughout its entire life cycle. Our concept guarantees the availability and optimizes the productivity of your system. We support you through all phases of your system’s life cycle – from its planning and construction right through to its operation. This results in reduced operating costs, minimized risks as a result of networked construction and service competence, as well as optimized system productivity.

To meet your individual needs we put together a package from our range of innovative services.

Many options are available: from the training and instruction of your employees, both before and after commissioning, to regular preventive maintenance with appropriate service intervals, hotline and on-call services with defined response times, as well as the supply of spare parts. The range also includes e.g. our reliability services. Our experts review your maintenance strategies and plans and apply reliability centered maintenance (RCM) approaches and root cause failure analysis to ensure optimum reliability and continual improvement, whilst keeping maintenance costs well under control.

Upon request, we can place a separate team at your disposal to handle all operating and maintenance services – round the clock, 365 days per year.

We are also happy to discuss the option of setting up a service company with the sole purpose of securing your investment.

With us as your partner for all or a selection of operations and maintenance services, you will achieve the ideal balance between costs and reliability, as well as customer satisfaction.
For further information, please contact:

Headquarter Europe
Siemens AG
Industrial Solutions and Services
Infrastructure Logistics
Colmberger Strasse 2
D-90451 Nuremberg
Tel. +49 (911) 145-7763
airportlogistics.industry@siemens.com
www.siemens.com/airportlogistics

North America
Siemens Energy & Automation, Inc.
Airport Logistics
2700 Esters Blvd. Suite 2008
P.O. Box 613209
DFW Airport, TX 75261
Tel: +1 972 947 7100
Fax: +1 972 947 7530

Center of Competence, Middle East
Siemens AG
Industrial Solutions and Services
Airport Logistics
SD (Middle East) LLC
Al Moosa Business Center
Umm Hurair Road, P.O. Box 33734
Dubai, UAE
Tel: +9 71 (4) 3 34 40 45
Fax: +9 71 (4) 3 34 66 76

Center of Competence, Asia Pacific
Siemens Pte. Ltd.
Industrial Solutions and Services
Airport Logistics
The Siemens Center
60 McPherson Road
348615 Singapore
Tel: +65 (6) 490 6000
Fax: +65 (6) 490 6019

Center of Competence, China
Siemens Ltd., China
Industrial Solutions and Services
Airport Logistics
9th floor, Building D, YeQing Plaza No. 9
Wangjing Beilu, Chaoyang District
Beijing 100102, P. R. China
Tel: +86 10 6476 - 2701
Fax: +86 10 6476 - 4714

The information provided in this brochure contains merely general descriptions or characteristics of performance which in actual case of use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

Order-No.: E10001-ALCL-A1-V1-7600
Printed in Germany
Dispo-No.: 12212 K-No.: 28108
At28 C-ALCLS207M03 W5 08073.
Subject to change without prior notice

©Siemens AG 2007.
All rights reserved.

www.siemens.com/airport-logistics