Award-winning architecture: LTW headquarters in Wolfurt

The fully automated document storage

ENGINEERS OF FLOW

THE COMPANY

LTW combines stacker cranes, conveyor systems and software to seamless material flow in the high-bay warehouse.

As a full-service supplier and general contractor LTW develops, manufactures and implements turnkey intralogistics systems worldwide.

With more than three decades of experience and a staff of dedicated employees LTW covers an extremely wide spectrum of requirements – from uncomplicated mid-sized projects to a fully automated logistics center with more than 100,000 pallet spaces, from cold storage to a climate protection certified high-bay warehouse made of wood.

LTW today

- Full-service supplier and general contractor in the intralogistics sector
- More than 900 implemented projects worldwide
- Subsidiaries and consultants in 9 countries
- Export to 33 countries worldwide
- Approx. 230 employees worldwide

Milestones

1981 Foundation of "Lagertechnik Wolfurt" by Artur Doppelmayr and Peter Malin
1986 Patent application LTW rail switch technology
1989 Foundation of the subsidiary in Illerkirchberg/Germany
1991 First cold storage warehouse
1992 LTW shuttle technology
1999 LTW warehouse control system
2002 New company management under Urs Gerber and Konrad Eberle
2004 LTW warehouse management system
2006 Foundation of the subsidiary in Emigsville/Pennsylvania, USA
2006 LTW order picking doors
2006 First high-bay warehouse made of wood
2008 Change of the company name to LTW Intralogistics GmbH
2008 Highest stacker cranes
  Aisle-bound: 44 m
  Aisle-changing: 37 m
2012 LTW stacker crane cabin "Scotty"
2013 LTW floor track system "Carry"
2014 LTW belt technology
2015 LTW fruit dumper

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Doppelmayr plant Hohe Brücke in Wolfurt
Plasma cutting equipment
Welding robot
Assembly of a lifting unit

WITH THE CONSISTENCY OF A GLOBAL MARKET LEADER

THE DOPPELMAYR GROUP

Since its foundation in 1981 LTW has been a member of the Doppelmayr Group. The global market leader in ropeway systems entered the technology of high-bay warehouses in order to compensate seasonal fluctuations in production. Since then LTW has emerged as a pillar of the group.

The manufacturing of stacker cranes according to ropeway standards is one of the outstanding quality features LTW has to offer. It stands out due to minimal manufacturing tolerances, the consistent use of certified material, systematic quality assurance, defined production processes, regular internal and external audits – and not least lives from the individually trained employees.

Doppelmayr today
- Global market leader in ropeway systems
- More than 14,700 projects implemented worldwide
- Subsidiaries and agencies in over 40 countries
- Export to 90 countries around the world (export content 80 %)
- Employees worldwide approx. 2,700

Milestones
1893 Company foundation by Konrad Doppelmayr
1937 First ski lift in Zurs, Austria
1953 First overseas commission
1972 First detachable gondola
1976 First detachable chairlift
1981 LTW foundation
1998 First detachable 8-seater chairlift
1999 First Cable Liner Shuttle in Las Vegas
2002 Merger with Garaventa Seilbahnen AG
2002 First tricable and bicable ropeway
2004 World novelty: first seat heating for chairlifts
2006 World novelty: first ferris wheel funitel, Galzigbahn/St. Anton am Arlberg, Austria
2008 Longest tricable ropeway in the world, Peak 2 Peak Gondola in Whistler Blackcomb, Canada
2010 Innovative recovery concept for ropeways
2012 First open top tram cabin cabriO®
2014 Biggest urban ropeway network in the world: La Paz, Bolivia
Secure Projects – Smooth Operation

Our Services

There is a system behind our development to a full-service supplier. As a customer you profit from this in many different ways.

The avoidance of interfaces drains an expensive swamp of errors and makes things clear – and not only during normal operation but even in the project phase: as a system supplier we are responsible for the smooth, on-schedule start-up and the turnkey handover of the system. This fact predestines us for the role of a general contractor for intralogistics.

Depending on the situation or the customer’s request, we completely take over the project and construction management – or cooperate with local providers for foundations, roof and facade.

With the initial operation a new phase of cooperation starts: the project life cycle. Our customer service team can be seen as a partner that continues to stay in close contact with the customer – and thanks to preventive maintenance keeps the availability on a high and the running costs on a low level in the long term.

Besides ordinary high-bay warehouses we are also able to score with our know-how in innovative business areas such as boat storage, public self storage or document storage.
SEAMLESS MATERIAL FLOW

THE PRODUCTS

We come from stacker cranes – and want to go all out. In harmony with our customers our focus has continually expanded.

Today LTW delivers complete intralogistics for automated or manually controlled high-bay warehouses. A key role, when putting all the system components together to seamless material flow, is played by our own software for warehouse control and management.

Stacker cranes and complex conveyor system components such as vertical lifts or transfer cars come from the Doppelmayr manufacturing. Components, which we do not produce ourselves, are obtained from longtime, well-proven partners and are integrated into the projects by LTW.

Seamless material flow

Stacker cranes, conveyor systems, software

Additional services

Rack, roof and facade, fire protection, air conditioning technology
STACKER CRANES

Our core competence is identical to every heart of a high-bay warehouse: since 1981 LTW has planned and manufactured about 2,000 rail-guided stacker cranes worldwide.

Automated high-bay warehouses are an interesting option starting at a height of 4 meters. Where the air gets thinner – beyond the 30 meter mark – LTW presents itself in top form. Ingenious construction and the highest quality of manufacturing with extremely fine tolerances guarantee exact material handling, even at heights of over 40 m.

Thanks to our self-developed aisle-changing mechanism we are able to build derailment-proof aisle-changing stacker cranes – without transfer mechanisms, supervision equipment or costly and time-consuming maintenance.

We calculate the optimum in the area of tension between cycle time, cost and energy consumption – plus reasonable reserves for future performance enhancement. Driving speeds of more than 300 m/min and lifting speeds of more than 100 m/min are possible.

Meanwhile our stacker cranes, including corresponding intralogistics, are in service in various sectors – whether bulky, heavy or sensitive: we take on almost all storage goods.

**CONSTRUCTION HEIGHT**
- Up to 45 m

**PAYLOAD**
- 50 kg to more than 8 tons

**TEMPERATURE RANGE**
- –30°C to +60°C

**MODE OF OPERATION**
- manual
- semi-automated
- fully-automated

**APPLICATION**
- aisle-bound
- aisle-changing

**CONSTRUCTION**
- Single-mast construction
- Double-mast construction

Open to all sectors
General contractor
Aisle-bound stacker crane
Aisle-changing stacker crane
STACKER CRANES

Basically all four types of stacker cranes can be operated manually as well as fully-automated, depending on project-specific requirements.

SINGLE-MAST CONSTRUCTION
- Mainly used for manual operation because there is no visual obstruction caused by a stacker crane mast
- Very good front runout, thus also interesting for automated operation for special spatial requirements

DOUBLE-MAST CONSTRUCTION
- Symmetrical mast and chassis design
- Ideally suited for the use of two load handling devices or long loads
- Reduced upper and lower runout

AISLE-BOUND
- High performance per aisle
- Low maintenance
- External control (stationary PLC)

AISLE-CHANGING
- Covering of large storage areas with a small number of stacker cranes
- Redundant system operation by using several stacker cranes
- Derailment-proof, maintenance-free aisle-changing system

CONTROL SYSTEM
Our products are equipped with proven, modularly constructed control technology. Robust and dirt-resistant implementation, easy expandability and long product life cycles thereby ensure secure and maintenance-free operation for years.

ENERGY EFFICIENCY
Due to weight-optimized constructions and shifted acceleration of the drive axles for driving and lifting we are able to reach up to 50% reduced transient current peaks. Excessive energy during operation is stored temporarily or, if desired, fed back into the in-house power supply.

AISLE-CHANGING TECHNOLOGY
Our self-developed aisle-changing mechanism does without transfer mechanisms, supervision equipment or costly and time-consuming maintenance. Many weighty arguments can be put forward for the use of aisle-changing stacker cranes. Large storage areas can be covered by using fewer stacker cranes, redundant system operation by using several stacker cranes on the same rail provides full ability to deliver. For improved performance in the high-bay warehouse additional stacker cranes can be easily integrated into the aisle-changing system.

ORDER PICKING DOORS
The patented solution for a secure and smooth order picking process directly at stacker crane aisle. Horizontally adjustable doors securely separate the stacker crane aisle and the order picking area. The system was developed in cooperation with the responsible authority on the basis of the EN 12543 – thereby the focus was on the implementation of high pick performance without needing expensive conveyor systems. Except for the doors with the corresponding rails no additional rack installations are needed. Furthermore this solution requires very little maintenance, because the opening and closing mechanism for the doors is installed on the stacker crane only.

STACKER CRANE CABIN
Beam me up, Scotty – our powered stacker crane cabin for maintenance and troubleshooting on the stacker crane ensures secure and ergonomic work, also in the upper area of the stacker crane. Enhancement of comfort and ease of work are enabled without losing any approach dimension – the cabin can be implemented in new installations as well as upgraded in existing installations. Safety requirements are implemented according to EN528, for convenient control a radio remote control is used.
From the receipt of goods to the high-bay warehouse, from stock to production or dispatch, LTW delivers conveyor systems including controls to integrate the stacker cranes into the material flow. Thereby we implement individual complete solutions from roller conveyors to order picking systems.

The technology is designed to be robust and equipped with helpful functions for handling a breakdown.

**PAYLOAD**
- 50 kg to more than 8 tons

**TEMPERATURE RANGE**
- –30°C to +60°C

**MECHANICAL COMPONENTS**
- Continuous conveyor systems
- Transfer cars
- Vertical lifts
- Additional components

**GOODS IDENTIFICATION**
- Pallet check
- Goods check
- Weight calculation
- Identification (RFID, Barcode, Aviso, manual)
CLOSELY KNIT TO THE INSTALLATION
Uncomplicated, user-friendly and perfectly adjusted to every installation: we have developed our software “bottom-up” out of the exact knowledge of all components.

With this we guarantee a continuously coordinated material flow without any interfaces.

The warehouse control system controls, coordinates and manages smooth interaction of all logistic elements.

The warehouse management system is the long-term memory of the high-bay warehouse. It ensures the steady and ideal efficiency of the whole intralogistics.

WAREHOUSE CONTROL SYSTEM
- Optimizes the efficiency of the various conveyor system lines between storage and retrieval
- Gives foresighted driving instructions and prevents stacker crane collisions
- Determines alternative routes for partial failures in the system
- Connection to any external warehouse control systems possible

WAREHOUSE MANAGEMENT SYSTEM
- Versatile improvement routines, e.g. different retrieval strategies
- Implementation of product-specific constraints
- Connection to the customer’s host system via open interfaces – FTP, XML, ODBC etc.

SOFTWARE
The LTW scope of supply not only includes dynamic intralogistics components, but also associated works: rack, roof, facade, fire protection, air conditioning technology.

We rely on well-proven partners who meet our own high standards for quality assurance and who use only fully certified materials.

During the construction phase all matters end up with LTW – we take care of perfect coordination and finishing of all work stages on time.
WHEN YOUR SYSTEM DOESN’T WORK, WE WORK

LTW CUSTOMER SERVICE

Your personal contact partner for every occasion: the LTW customer service team consists of experienced practitioners. They know the installation and react immediately and competently. Many problems can already be solved by telephone or via online support. If our customers need support on site our employees from our service subsidiaries are ready and with you as soon as possible.

Even with continuous maintenance and ideal service it can happen that the system doesn’t run as it should. In this case our service hotline or the LTW on-call service is available for our customers – if desired around the clock on 365 days a year.

In modern high-bay warehouses there are only a few people working, but they are important. We provide them with the necessary know-how – with individual training, at the customer’s option on site or in our training center in Wolfurt.

CUSTOMER SERVICE
• Customer support via telephone
• Individual maintenance offers
• Software service

AFTER SALES
• Procurement of spare parts for our own and external systems
• Stocking of LTW standard components
• Individual and tailored spare parts offers

TRAINING (IN-HOUSE/ON-SITE)
• Operator training
• Technical training of the customer’s maintenance and service staff
• Individual, tailored training offers

Customer support via telephone
Maintenance work on the lifting device
Adjustment work on conveyor system
Trouble-shooting with latest technology
MODERN SYSTEM; MODERATE OUTLAY

RETROFIT

LTW installations – as well as our whole company – are designed for a long lifetime. The increasing demand for modernization projects is the best proof of that. It is worth investing in installations which have been doing their job for years or even decades.

For a modernization push it is often enough to update individual components. The control unit is often the first candidate for replacement.

At the beginning of every retrofit project is the careful analysis of the installation, based on our in-house documentation. During the offer and concept phase it is important to find the ideal balance between cost and benefit for every task – a question of experience.

Our greatest strength is the perfect timing of the implementation phase: prior simulations, tests and parallel construction, commissioning with minimal disruption time.

SERVICE RANGE
- Replacement of components
- Complete restoration
- Our own and external systems

PROJECT MANAGEMENT
- One contact partner for all needs
- Tailor-made, budget-oriented solutions
- Minimum disruptions to operation

PERFORMANCE
- Increased installation availability
- Adjustment of functions to current needs
- New safety standards

COST/EFFECTIVENESS
- Sinking operational costs, in short ROI
- Remote diagnosis for reducing assignments on site

Replacement of control unit
Replacement of drive unit
Renewal of mechanical components
Complete restoration
MORE THAN 900 PROJECTS SPEAK FOR US – IN 25 LANGUAGES

REFERENCES

OFFSETDRUCKEREI SCHWARZACH
Headquarters: Schwarzach/AT
Sector: Packaging printer
Total projects realized: 2 (since 1984)
Number of stacker cranes: 4
Temperature range: +5 to +35 °C
General contractor Intralogistics
Stacker cranes
Wooden rack
Conveyor system
Software

FRESENIUS MEDICAL CARE DEUTSCHLAND GMBH
Headquarters: Bad Homburg/DE
Sector: Medical technology
Total projects realized: 2 (since 2007)
Number of stacker cranes: 10
Temperature range: +15 to +25 °C
General contractor Intralogistics
Stacker cranes
Rack
Conveyor system
Software

COOPERATIVE OF FRUITS MIVOR
Headquarters: Laces/IT
Sector: Food (fruit)
Total projects realized: 3 (since 2010)
Number of stacker cranes: 7
Temperature range: –40 °C
General contractor Intralogistics
Stacker cranes
Rack, roof/wall
Conveyor system
Software

ZF FRIDRICHSHAFEN AG ZF SERVICES
Headquarters: Schweinfurt/DE
Sector: Automotive
Total projects realized: 2 (since 2008)
Number of stacker cranes: 14
Temperature range: +5 to +35 °C
LTW scope of supply
Stacker cranes
Conveyor system
Software (interface SAP)

BACK SHOP
Headquarters: Hamburg/DE
Sector: Frozen bakery products
Total projects realized: 1 (since 2012)
Number of stacker cranes: 21
Temperature range: –27 °C
General contractor Intralogistics
Stacker cranes
Rack, roof/wall
Conveyor system
Software

Number of LTW stacker cranes installed – Status 01/2017