



Excellent Transport
Management





The **iFD GmbH** plans, develops and implements software systems for automated and manual fields of intralogistics worldwide. The range of products and services consists of:

- › **Warehouse Management System**
- › **Material Flow Control System**
- › **Forklift Control System**
- › **Picking Solutions**
- › **Simulation**
- › **Individual Software Solutions**
- › **Service and Support**

iFD GmbH owns an independent research and development department. This is an important requirement to guarantee a permanent innovation and advancement process for all software systems and add-on components.

Since the founding of the company in 1990 iFD realized over 300 cross-industry projects.

A continuous development and active research projects, as well as an ongoing improvement of concepts and products are a guarantee for success for adapted software systems. These software systems represent the perfect logistic solution for multiple national and international customers.



CONTENTS

Intelligent Transport Coordination	> 04
Excellent Usability	> 05
Easy Integration and Flexible Interfaces	> 06
Excellent Transparency and Visualization	> 07
Maximum Availability and Reliability	> 08
Professional Modernization	> 09
Add-Ons	> 10
Customer Opinions	> 11





INTELLIGENT TRANSPORT COORDINATION

- › Time and capacity-oriented routing strategies to increase throughput and delivery on time
- › Pre executed plant emulation enables optimal strategy and plant design
- › Monitoring of buffer areas
- › Extremely quick response for real-time applications
- › Smart sequencing strategies with integrated emergency concepts



WarehousePilot controls intelligently!

There are many ways to reach the destination – WarehousePilot finds the perfect way. The route optimization is the core of the material flow control system. The iFD-WarehousePilot has an intelligent routing-engine, which processes all aspects of a transportation order in real-time and always finds the best route. According to capacity, availability, interferences or in dependence of certain rules, the best route will be selected.

WarehousePilot does sequencing!

Perfect sequencing according to JIT and JIS is a basic requirement for material flow control systems in sectors like automotive industry or manufacturing. The system contains prefabricated JIT- and JIS-concepts. Our extensive experience in the field of automation assists our customers to make the right decision of where and how sequencing will achieve the best effects.

WarehousePilot works efficiently!

The control of fast sorting and delivery systems requires quick decisions. Only a few milliseconds remain from initial reading, to routing to the point of discharging at the outbound location. By using strategies to keep line sections clear or using priority rules on crossovers an optimal routing is guaranteed. Additionally, the system works very resource-saving and is therefore able to operate with fastest response times using standard servers.



EXCELLENT USABILITY

- › Short training period and efficient processing with integrated emulators
- › Simple and fast handling using a sophisticated dialogue concept
- › Intuitive and repetitive design for an easy operation
- › Complete browser-based user interface – no proprietary plug-ins

WarehousePilot adapts!

The system offers numerous variants simply by using setting changes for customization. WarehousePilot combines a high-quality standard solution with individual concepts and tailored dialogues. It enables a role-based administration and monitoring of the logistic plant. With PDF or Excel export, data can be exported at any time to all common Office applications.

WarehousePilot is easy to use!

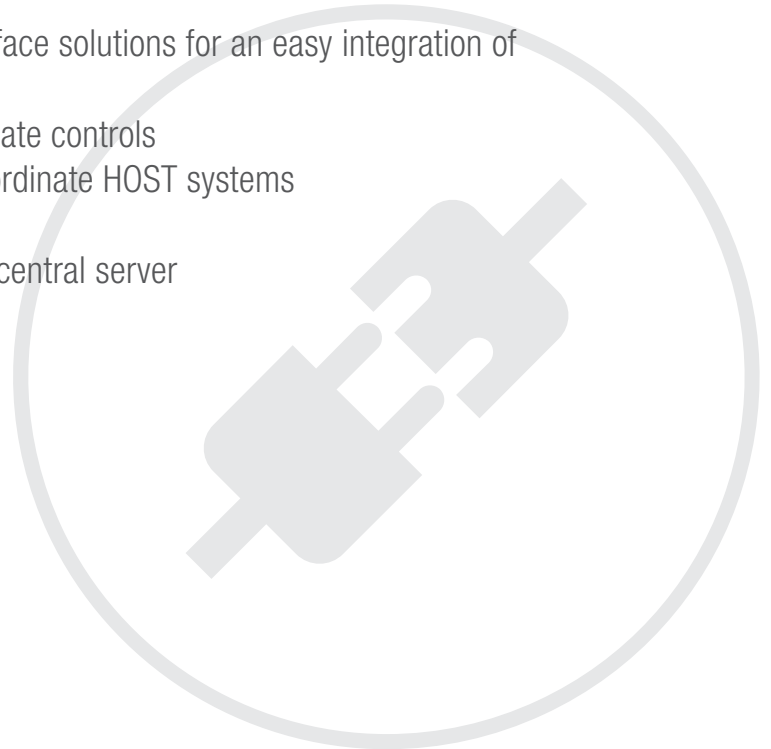
The system captivates by its simple und fast usability. The user-friendly front-end design ensures that any important data can be comprehend at a glance. Colored markings contributes to a maximum clarity. The development of the user interface is based on the latest HTML and CSS standards. The look and feel is no longer distinguishable from a native desktop program. Due to the use of a completely browser-based user interface, full access to the data and functions of the material flow control system is guaranteed from any computer worldwide.





EASY INTEGRATION AND FLEXIBLE INTERFACES

- > Manufacturer- and technology-independent solution ensures the use in every environment
- > Flexible interface solutions for an easy integration of
 - any subordinate controls
 - various superordinate HOST systems
- > Installation on just one central server



WarehousePilot is independent!

iFD WarehousePilot is based on an object-oriented component technology and has been developed completely in Java. Thereby, the system is ready for cross platform use, highly scalable and efficient. The application can be operated on almost any common database system. To run the WarehousePilot on a client, no additional database drivers are required.

WarehousePilot is individual!

Every company is unique. This also effects the use of superordinated systems. The material flow control offers standard interfaces to any common HOST systems. The connection to SAP modules as a partner system is a common mode of integration.

WarehousePilot is communicative!

The flexible interface module connects easily to any subordinate systems. It allows direct access to subordinated controllers for reading and writing of data blocks which adds additional benefits for the plant visualization. Standard interfaces exist for Kanban systems, storage and retrieval units, electrical monorail systems, electronic scale, labeler, volume measuring devices, cardboard box erector or pallet wrappers to name only a few elements.



EXCELLENT TRANSPARENCY AND VISUALIZATION

- › Plant visualization directly browser-integrated
- › Modification of occupancy data and transport orders directly at the visualization
- › Maximum transparency thanks to a personalized dashboard
- › Gapless monitoring through extensive statistics



WarehousePilot visualizes!

The integrated plant visualization monitors the entire system without the need for an additional SCADA software. It contains extensive information on the current system occupancy, active transport requests or circle states of individual conveyor stations. The standard version includes a scaling of the visualization from a complete overview to detailed information of individual places or storage bins. Graphic elements provide additional information such as LU number, source or destination. The system alerts in case of malfunction by colored markings. Error messages help to detect and localize incidents immediately.

WarehousePilot informs!

Standardized reports in the areas of plant availability, transport movements and disruptions enable a complete monitoring and evaluation of internal warehouse processes.

A customized dashboard completes the monitoring system. It displays all important information about the current conditions and capacity of the automated plant.

WarehousePilot can do better!

The adjustment of occupancy status and transport orders as well as locking and unlocking of certain areas can be executed right from the visualization without opening additional tabs. Through integration of further visualization elements such as status displays, data variables or progress displays any relevant plant parameters are indicated at a glance.



MAXIMUM AVAILABILITY AND RELIABILITY

- › Stability and guaranteed availability of over 99.8%
- › Proving of operating scenarios by integrated plant simulation
- › Fast and smooth commissioning due to emulation of interfaces
- › 24/7 – around the clock support by our experienced service team



WarehousePilot thinks beyond!

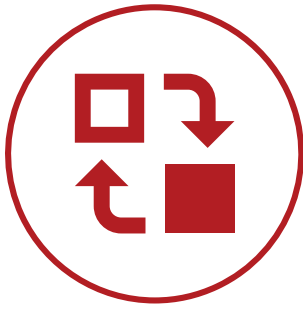
The integrated emulation validates various strategies and plant designs without physical attachments to the plant. Emulator settings are fully automatic since every system information will be adopted directly from the design of the original system.

WarehousePilot qualifies!

The system allows staff training of different operation scenarios. Furthermore, testing business processes with interaction of superordinate HOST systems in a realistic environment without referring to the real plant is included at the system.

WarehousePilot runs stable!

The iFD WarehousePilot meets availability requirements of more than 99.8%. The plant's entire disposability categorized by components such as automated storage and retrieval systems or conveyor systems is calculated through plant monitoring.



PROFESSIONAL MODERNIZATION

- › Replacement of legacy systems and emulation of interfaces by proven migration concepts
- › Update of existing systems during ongoing operation based on deliberated step-by-step concepts
- › Cost cutting due to reuse of existing elements instead of new purchase
- › Increase of conveyor capacity due to improved strategies and homogenous load distribution

WarehousePilot improves!

Due to perfectly proven migration concepts as well as long time partnerships in the field of automation iFD is your best partner if legacy systems need to be replaced. Perfected step-by-step concepts for test and commissioning periods make a modification at non-operation times like weekends possible. While this is progressing a fallback to the former system is guaranteed.

WarehousePilot is tested!

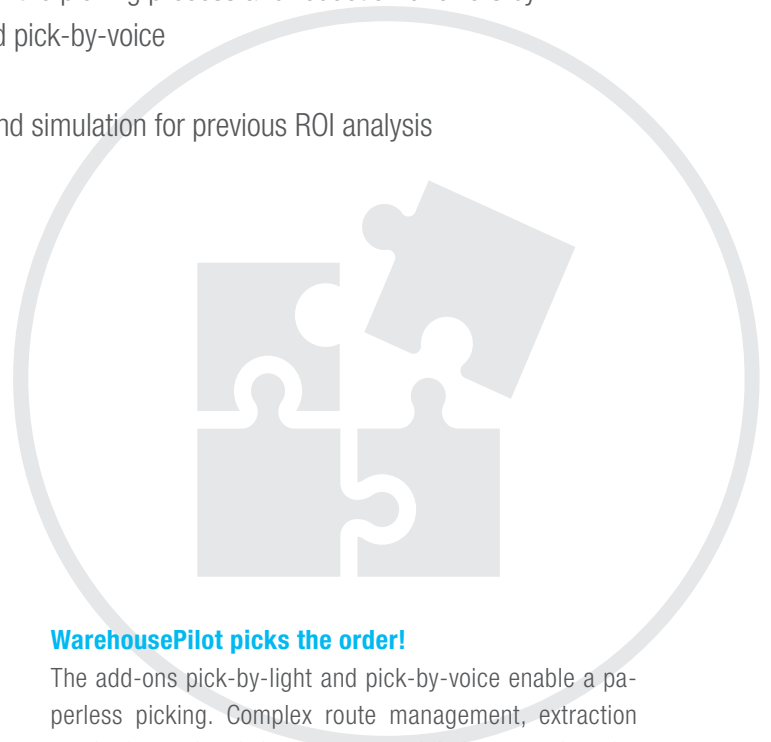
Extensive test and examination procedures contribute to test the correct functionality and steadiness of the software already during development. This guarantees that the software runs stable, safe and furthermore communicates proper with existing systems. This method allows to implement upgrades during operation.





ADD-ONS

- > Warehouse management add-on enables ideal utilization of storage capacity
- > Acceleration of the picking process and reduction of errors by pick-by-light and pick-by-voice
- > Logistics consulting and simulation for previous ROI analysis



WarehousePilot can do more!

The WMS add-on offers integrated warehouse management services in interaction with ERP systems. The WarehousePilot takes responsibility for stock management at the level of storage locations and can carry inventory information of the load units. Additionally, the add-on carries out the automatic search for a proper storage compartment, allows the setup of prohibitions of storage locations, regular storage locations or zoning the storage by corresponding features of stored goods. The add-on also covers different storage strategies such as FIFO or LIFO. In addition to inventory management, the incoming goods process and picking can be executed with the add-on.

WarehousePilot picks the order!

The add-ons pick-by-light and pick-by-voice enable a paperless picking. Complex route management, extraction monitoring and real-time response minimize errors in order picking and accelerate the overall process. In addition, it is possible to organize the replenishment and inventory with this add-on.

WarehousePilot supports!

A comprehensive analysis of existing processes considering desired goals is an essential matter to our company. Our comprehensive logistics know-how as well as analytical and mathematical knowledge contribute to find the best solutions. Defined goals will be validated by 3D-simulation ahead of project realization and enable statements about ROI and future investment decisions.



CUSTOMER OPINIONS

„Based on a capable consulting in the planning period and the advantage that iFD has already delivered the material flow control system for TOPSTAR, the existing excellent relationship has been confirmed. During WarehousePilot' planning and introduction period iFD's programmers were captivating due to their expertise, determination, incredibly quick comprehension and tireless commitment to get the job done within the given time frame. Furthermore, iFD convinces with a well-organized change process granting total transparency for the contractor. As one of the biggest advantages I consider the simplified handling of our highly complex conveyor and storage technology as well as the WarehousePilot giving us the possibility to simplify our data handling in only one system and involve connected PLC systems.”

Wolfgang Leiß
Head of Technical Service,
Topstar GmbH

“With the iFD as our partner, we have modernized S5 control of the conveyor system as well as two automated storage and retrieval units with its transfer bridge. Moreover, we have migrated our material flow control system. The trusting cooperation of Exide Technologies Operations GmbH & Co. KG and iFD GmbH has been acknowledged and successfully continued by this project. As a result, we have accomplished a throughput increase by over 6% with a simultaneous elimination of extra work. Our improvement is accompanied by lots of advantages, namely: 24hrs availability, excellent usability because of the new material flow control system, a performance increase and a future proof spare parts supply.”

Jan Zimmermann
Warehouse Manager,
Exide Technologies
Operations GmbH & Co. KG

“Material flow control and warehouse management for an eleven-aisled automatic small part warehouse: We have been working together with iFD successfully for twenty years. During this period, we were able to improve our WarehousePilot permanently. The iFD company reliably perceives our logistic challenges and offers practice-oriented solutions for them.”

Andreas Gottwald
Logistics planning,
Schnellecke Logistics Sachsen GmbH





iFD GmbH Chemnitz
Schulstraße 38 | D-09125 Chemnitz
+49 371/53 88 0-0 | www.ifd-gmbh.com