



optimize

**Optimizing your existing Material Handling Automation Equipment
with Warehouse Management and Control Systems**

Missing Out?

Systems may be missing out on key benefits their equipment could be optimized to provide.

Companies have been operating mechanized and automated material handling systems for years in manufacturing, warehousing and distribution center environments, yet they may or may not have gained the benefits that optimization offers.

Systems with pallet and case conveyor systems, sortation systems, pick and pack operations, storage systems including automated storage and retrieval and carousels may be missing out on key benefits their equipment could be optimized to provide.

Benefits

Benefits of Optimization:

- *Increased throughput*
- *Greater system uptime*
- *Easier error diagnosis*
- *Quicker response to issues*
- *Improved reliability*
- *Better inventory accuracy*

The benefits of optimization include:

- Increased throughput by optimizing the movement of products throughout the system.
- Greater uptime of the system by having the necessary tools and visibility to monitor the equipment, diagnose errors and thereby respond quicker to issues as they occur.
- Improved reliability by analyzing the weak points in the existing equipment, software, and controls, allowing the ability to update the weakest links.
- Better inventory accuracy by tracking inventory in real time not only in storage but also throughout the material movement in the facility from the receiving dock or production equipment to the products' final destination.

Realization

Analyze existing equipment to realize the benefits of optimization.

To realize the benefits of optimization, an analysis of the existing equipment, software and control systems is needed.

In a collaborative effort with our customers, our material handling and project management team provides an economical, flexible and fast response. We utilize state of the art planning tools and identify optimum solution alternatives required to support the decision making process.

Our well-structured processes enable unique solutions that shorten the project cycle. Our model includes the following:

- Analysis of the current situation***
- Identification of the weakest links in the existing operation***
- Concept development with ROI analysis***
- Recommended improvements***

Available Solutions

One solution is to identify and replace worn out equipment.

Equipment

There may be areas of the equipment that are worn out, or break down frequently. This equipment can be isolated and replacement hardware installed.

Software

Depending on the type of existing inventory system running the existing operation, applications could be added including:

Dedicated Warehouse Management System

Warehouse Management Systems that were designed for conventional warehouses are not always designed to properly optimize automated equipment.

Warehouse Management Systems that were designed for conventional warehouses, typically utilizing radio frequency terminals or even paper, are not generally designed to optimize automated equipment, such as AS/RS or carousels, to allow the remaining operation to run efficiently, particularly if an area of automation is down.

viastore systems has developed a standard, release controlled warehouse management software package called viad@t. The viad@t program can operate independent of the type of business; a production buffer warehouse near the production lines; a work-in-process system; or a complete distribution center.

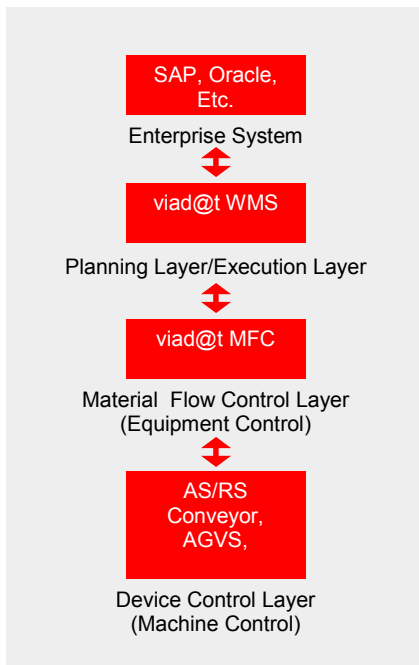
It also blends well with existing software packages. The key to up-time and reliability is preventive maintenance with our IT-supported hotline to ensure that your system continues to operate reliably at all times.

It was designed for automated and mechanized warehouses and distribution centers with many features imbedded for material flow and storage optimization.

viad@t is a high-capacity software package for warehouse management. In its core, the software integrates the following features, among others:

The viad@t software integrates these features:

- viad@t is fully scalable as to function and performance.
- viad@tWMS operates in real-time and without any delaying batch processes. The host order data is stored in databases and processed according to optimized strategies. All information is available to the staff online at any time.
- The handling of viad@tWMS has been customized precisely to warehouse workflows. In regular operation, one-time scans or keystrokes suffice to immediately trigger the subsequent steps. Special functions are easily accessible.
- viad@t offers optimized support for manual storage areas by means of route-optimized pick lists, replenishment slips, and cycle-count documents.



- All essential modules for controlling storage and retrieval machines, the conveyor system or other automation components, and for controlling and visualizing complex material flow systems are integrated into the *viad@tWMS* warehouse management functionality. The system can easily be coupled to third party products, such as specific forwarding software.
- *viad@tWMS* supports lot tracing.
- *viad@tWMS* is release-tested due to the underlying layer model and the object-oriented design.
- *viad@t* is independent from the operating system and available on all established UNIX and Windows platforms. For the purpose of data management, all prevalent systems, such as ORACLE and SQLServer, can be employed. The modern client/server architecture facilitates the distribution of applications and databases to various computers in the network.
- *viad@tWMS* supports several parallel host systems and several clients (with fully separated stocks).
- *viad@tWMS* can be operated with a graphical or an ASCII user interface. Access to the data can be achieved by means of a browser front-end via the Internet as well.
- *viad@tWMS* is multilingual; an individual language can be assigned to each user.
- *viad@tWMS* features a substantial online help on a dialog and field basis.
- In the context of *viad@tACADEMY*, training courses are offered for most diverse target groups, including pickers, control station staff, system administrators, and warehouse supervisors.

Material Flow Control

Older flow control solutions for conveyor and sorting systems often lack good documentation, can be cryptic, and the source code or the people to support it are seldom available. Coding is often in an outdated programming language or old operating system.

In order to use warehouse strategies for optimized material flow, the interaction of complex systems and their components is depicted, including conveyors, Storage/Retrieval machines, carousels, automatic guided vehicles and robots. In addition, inventory location management of simple automatic systems is possible when interfaced directly to the host or existing warehouse management system.

Common Problems with Old Flow Control Solutions:

- *They lack good documentation*
- *They can be cryptic*
- *The source code (and people to support it) can be unavailable*
- *The programming language or operating system can be outdated*

Visualization has historically been a weak point in material handling systems.

Visualization

Visualization of the material handling systems has been, historically, either non-existent, or quite cryptic and not user friendly.

A sophisticated diagnostic system provides a comprehensive overview of the operation graphically displayed, and provides rapid error detection and correction. This enables downtime to be significantly reduced and comprehensive system statistics to be generated.

Controls

Existing controls can be a challenge to support, so consider updating actuators and sensors controlled by a PLC that can be networked with a Field bus.

Existing controls can be a challenge to support, particularly if they were written without adequate documentation and if the source code is not available. Many times the people who had written the code and previously supported the system, are no longer available.

Updated actuators and sensors for your conveyor system controlled by a PLC can be networked together using a Field bus. Storage and retrieval machines are efficiently controlled by means of an industrial PC or PLC. Connections using network, serial interfaces and bus systems, modem connection and program downloads are also possible.

Could your Material Handling Automation Equipment be better optimized?

viastore systems is a leading global supplier of integrated material handling systems. We develop automated solutions based on project specific ROI requirements. This is followed by efficient project implementation and life time support. Our competent 24/7 hotline, comprehensive services and reliable spare parts delivery are all intended to optimize our clients life cycle costs.

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With over 350 employees, **viastore systems**, in business for over 100 years, has built an impeccable worldwide reputation for customer service, maintenance and repair of our diverse product line.

viastore systems solutions include high speed order picking systems, automated storage/retrieval systems (AS/RS), dynamic automated picking, conveyor systems and robotic systems. All of these subsystems are integrated and controlled with our in-house warehouse management software (viad@t WMS) and material flow control software.

This allows for system optimization and real time visualization. viastore systems strives to assist our clients from the early planning stages of a new or modified facility through implementation and ongoing operational support.