

# What are Conveyor and Sortation Systems?

## MODULE 1: INTRODUCTION

# CSS: Who We Are

The **Conveyor and Sortation Systems (CSS) Industry Group** members are the industry's leading providers of conveyors, sortation systems, and their components. They design, fabricate, and install conveyor and sortation systems worldwide and in virtually every major manufacturing and distribution sector. CSS prepares and distributes educational and promotional materials regarding the proper application and benefits of conveyor and sortation system solutions. CSS also publishes and promotes materials on the training, inspection, safety and maintenance of conveyors and sortation systems.

The **Vertical Reciprocating Conveyor (VRC) Subcommittee of CSS** is comprised of the industry's leading suppliers of material lifts. They design, manufacture, and install VRCs worldwide for use in a wide variety of industrial, commercial, and institutional operating environments.

## MEMBERS

To meet the current members of the Conveyor and Sortation Systems Group, [click here](#).

# CSS MISSION & VISION STATEMENT

## Mission:

To promote the market growth and effective use of conveyor and sortation systems in manufacturing, warehousing, distribution and other key markets.

## Vision:

To be the recognized independent authority for end users and suppliers on market trends, technology developments, and applications through:

- Education  
On key features, advantages, and benefits
- Key Issues  
Issues affecting our marketplace through user outreach
- Development  
Development and distribution of educational materials
- Collaboration  
Of manufacturers & technology providers
- Promotion  
Promotion of career opportunities within the CSS industry

# VALUE STATEMENT

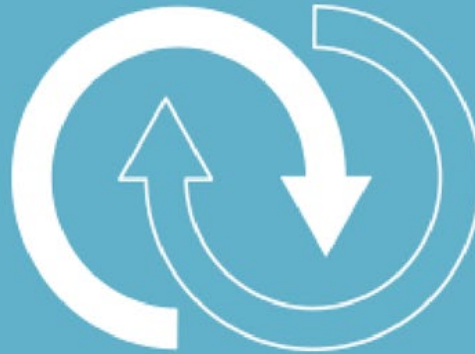
## To CSS Customers

Recognized since 1971 as Leaders in the design, manufacturing, and supply of Conveyor and Sortation Systems Equipment, Components, and Technology.

Invested in the conveyor industry in unique ways over time, including giving back through college scholarships, and end user and manufacturer education.

Can provide end users with access to a wide range of perspectives and solutions, and as a collective of manufacturers, are genuinely invested in customer success.

[LEARN MORE ABOUT CSS MEMBERS >>](#)



## To CSS Members

Unique networking opportunities.

Provide opportunities for industry education, leadership, and increased market presence.

Lend your company the collective credibility of its industry leading members that has been established over its nearly 50 years as an organization.

Provide exposure to end users.

Access to data on industry trends and other market intelligence data.

[JOIN CSS TODAY >>](#)

## 1 Market Intelligence

- Market forecasts and economic indicator monitoring
- Industry commodity forecasts
- Trend monitoring

## 2 Networking & Access to Industry Peers

- Leadership development
- Networking with other subject matter experts throughout the industry
- Peer to peer interaction which promotes collaboration and industry betterment

## 3 CSS Members are recognized as Market Leaders

- Offer collaborative responses to regulatory changes
- Are invested in the promotion, safety, and success of the conveyor and sortation systems industry
- Have been recognized as industry leaders since 1971
- Are Subject Matter Experts

## 4 Increased Exposure to End-Users & Increased Business Opportunities

- Web-based case studies provide potential solutions and increase engagement with end-users
- Blogs for Industry Awareness and Promotion
- End-user Educational Publications

The **Conveyor and Sortation Systems (CSS) Industry Group** of MHI combines the knowledge and experience of thousands of installations. For more information and current members, visit [mhi.org/css](http://mhi.org/css).

# Introduction: What is a Conveyor and Sortation System?

Conveyors and sortation systems allow for more efficient movement of materials within retail, wholesale, distribution, and manufacturing operations.

Because they are engineered to transport and organize large volumes of materials rapidly through a process, conveyors and sortation equipment save labor expense and increase handling productivity.



# Conveyors

Used for movement of materials, products and loads throughout a manufacturing, warehousing or distribution facility, conveyors are horizontal, inclined, or vertical mechanical devices.

They are ideal for movement and accumulation of materials, and for quick, efficient transportation of multiple packages or objects at high speeds.

Conveyors can be powered by gravity, hydraulic, or electric power. Loads ride atop a variety of methods, including rollers, belts, slats, or chains that travel along a fixed path with specific points for loading and discharge.



# Conveyors

Because they enable large volumes of material to be moved rapidly through a process or facility, conveyors reduce labor costs by eliminating non-value-added travel time.

Typical conveyor applications include:

- Movement of cases, totes, or palletized loads
- Transport into and out of a trailer
- Transport to and from static or automated storage systems
- Movement from a picking area to packaging for shipping





# Specialized Conveyors

## VERTICAL RECIPROCATING CONVEYORS (VRCs)

VRCs transport loads up and down to various levels without the space requirements of an incline.



## TOW CONVEYORS

Another specialized system, tow conveyors pull heavy objects across floors.

# How are Conveyors Used?

Conveyors are used in a variety of areas:

- **Assembly:** Moving products through production processes
- **Transportation:** Moving pallets, cases, and totes throughout a facility
- **Staging:** Accumulating and holding items for further processing or packaging
- **Warehousing:** Moving products from receiving to storage
- **Order Picking:** Moving ordered products from storage to picking areas, and completed orders to trailer-loading area for distribution



# What are the Benefits of Conveyors?



## ERGONOMICS

Because they do the work of load movement, conveyors eliminate the chance of operator injury from pushing or pulling a load



## PROCESS FLOW

Conveyors can be used as a part of an assembly or manufacturing process



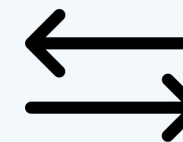
## SAFETY

Because they move loads along a fixed path, conveyors eliminate the chance of collisions associated with forklift or manual product movement



## SPEED

Conveyor speed can be set to accommodate slow and peak demand periods



## TRANSPORTATION

Conveyors facilitate the internal movement of totes, cases or pallet loads throughout a facility with minimal or no labor required

# Sortation Equipment

To separate and route items—such as parcels, boxes, cartons, polybags, or parts—within a facility, a sortation system merges, identifies, inducts, and conveys products to specific destinations.

Working in conjunction with fixed conveyors, automatic identification systems and controls, sortation systems transfer items off main conveyor lines to spur tracks.



# Sortation Equipment

Sortation systems move large volumes of material rapidly through a facility, allowing companies to ship or receive higher volumes with smaller storage space and lower labor costs.

Typical sortation applications include:

- Routing cases, totes, or palletized loads
- Movement of loads to and from static or automated storage systems
- Routing items from the picking area to packaging for shipping



# How is Sortation Equipment Used?

Sortation is used in a variety of areas:

- **Order picking:** Moving products from storage to picking areas, and completed orders to trailer-loading area for distribution
- **Sorting:** Organizing products to deliver them to their final destination
- **Staging:** Routing and holding items for further processing or packaging
- **Transportation:** Moving pallets, cases, and totes throughout a facility
- **Warehousing:** Moving products from receiving to storage



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# What are the Benefits of Sortation?



## ERGONOMICS

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## PROCESS FLOW

Sortation systems can be used as a part of an assembly or manufacturing process



## FLEXIBILITY

Because of their smart and sophisticated software and controls, sortation systems can manage different item mixes and volumes in the most efficient way



# What are the Benefits of Sortation?



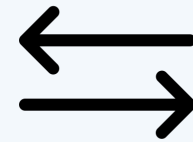
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## SPEED

Sortation system speed can be set to accommodate slow and peak demand periods



## TRANSPORTATION

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# Industries That Can Use Conveyors or Sortation Systems

- Aerospace
- Airport Baggage Handling
- Appliance
- Automotive
- Banking
- Beverage
- Chemicals
- Construction
- Consumer Goods
- Electronics
- E-commerce
- Food
- Hardware
- Hospital
- Manufacturing
- Materials Processing
- Mining
- Paper
- Parcel and Postal Handling
- Pharmaceutical
- Plastics
- Recycling
- Retail
- Transportation
- Warehousing and Distribution
- Waste Management

For More Information  
Contact MHI's Conveyor & Sortation  
Systems (CSS) Group  
[mhi.org/css](https://mhi.org/css)

NEXT UP... MODULE 2: TYPES OF CONVEYOR  
AND SORTATION SYSTEMS