



The Gentle Way to Convey[®]

The Food and Beverage Industry 2023 State of Conveying

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Executive Summary and Key Highlights

This is year two of The State of Conveying and we are excited to share with you trend analysis and new findings regarding the food processing industry and specifically how organizations are conveying food products in their facilities.

In modern food processing plants, the art of conveying foods has evolved into a finely tuned process that prioritizes efficiency, hygiene, and safety. As food processing continually embraces innovation, industry professionals are committed to making the best decisions possible for their specific conveying needs. To make those decisions, the industry needs data. **This report** builds on the data and findings from 2022 to provide you with new and updated data so that you can make the best decisions moving forward.



- Cleaning and maintenance is the number one, top-reported challenge faced in the food-processing industry according to **53%** of those surveyed. **97%** of those surveyed agree that they would benefit from finding a more efficient way to clean their conveying systems. **67% strongly agree.** This study takes a deep dive into this topic and provides actionable next steps for you to consider as you plan the next steps for your facility.
- 61% of those surveyed have shopped for or purchased a new conveyor system in the last year and 82% plan to update or replace parts of their conveying systems in the next 2 years. 98% of those surveyed agree that testing products (nuts, breakfast cereal, etc.) on a new system is a critical step to take before making a buying decision on a new conveying system. We've devoted a section of this study to reviewing the purchase process that food professionals are taking to make the best decision for their organization.

Enjoy the report.

The AHS and Cablevey Teams



Automated Handling Solutions (AHS)

AHS combines the strengths of two market leaders in Cablevey Conveyors and Spiroflow to provide customers with a specialized handling and automation product portfolio for mission-critical applications. Cablevey Conveyors engineers custom-enclosed drag cable and disc tubular conveyors for food and beverage, powders, plastics, and more.



Research Participants

N = 327 Food processing professionals



Methodology

Ascend2 benchmarks the performance of business strategies and the tactics and technology that drive them. With a proprietary research methodology and a custom online questionnaire, this survey was fielded to a panel of 327 Production Managers, Engineers, and Executive Managers who have knowledge of, or responsibility for, conveying equipment for your organization/facility. These individuals work in the food manufacturing and processing industry in the United States, UK, Mexico, and Brazil. The responses were collected during July 2023.



1.0 Industry Outlook and Challenges

The food processing industry faces a dynamic landscape marked by both promising opportunities and significant challenges. The 2nd year of *The State of Conveying* highlights some of the trends so that you can better plan for the future.

Industry Growth Continues

The food processing industry is rapidly growing, with **63%** having grown **10%+** in the past year **(20% grew 20%+).** This mirrors the growth from 2022 and indicates a long-term trend for the industry. As the industry grows, it is now more important than ever for industry decision-makers to ensure their operations are optimized to handle current and future growth.

By approximately how much did your business GROW in the past year? (2022 vs 2023)





This year's data includes the U.S., UK, Mexico, and

Brazil. All areas are growing but at different rates. Here is the breakdown by region of **10%+ growth:**

U.S.	63%	
UK	43%	
Brazil	67%	
Mexico	74%	



1.1 Industry Outlook and Challenges

Budgets Increase to Keep Pace with Growth Projections

Budgets for conveying equipment and maintenance are changing to meet industry growth demands. **81%** of organizations plan to increase budgets in the next 12 months, continuing the trend from 2022.

How is your BUDGET for conveying equipment and maintenance changing in the next 12 months?



2023 State of Conveying

Best-in-Class

Rate your overall SATISFACTION with your current conveying systems.





41% of the professionals who participated in this survey rate they are extremely satisfied with their current conveying systems. This group offers particularly helpful insight as we discuss best practices when evaluating conveyors, what conveyor systems they use most frequently, and how they prepare for the future at their facility. You will see them referenced throughout this report in the "Best in Class" sections.

For example, the Best in Class group budgets more for conveying equipment than those less satisfied **(increasing significantly 38% vs. 13%).** The takeaway is that you must always be investing in your conveying systems if you want to be the best. Those that are "bestin-class" got there for a reason.



1.2 Industry Outlook and Challenges

Top Challenges in the Industry

Supply chain issues **(49%)** continue to be the top challenge in the food processing industry and shifts in consumer demand and preferences **(46%)** are a close second. Shifts in consumer demand and preferences experienced a significant jump from 2022, indicating the need for organizations to be agile with their ability to adjust production lines to meet demand.

What do you consider to be the TOP CHALLENGES facing the food and beverage processing industry?



Industry Challenges by Region

Conveying professionals has different challenges depending on where they are located. This highlights the importance of having partners that have expertise and expertise in your specific region.

Here are the top 3 challenges for each region:

	Supply chain issues	52%
211	Economic disruption	46%
	Shifts in consumer demand and preferences	45%
	Supply chain issues	55%
	Economic disruption	49%
	Changing regulations and compliance	38%
	Market saturation	45%
Rrazil	Supply chain issues	44%
Drazii	Shifts in consumer demand and preferences	38%
	Shifts in consumer demand and preferences	62%
Mexico	Changing regulations and compliance	45%
	Market saturation	42%



1.3 Industry Outlook and Challenges Top Conveying Challenges

Cleaning and maintenance comes in first at **53%** and it isn't even a close race, with energy consumption coming in second at **35%**. Energy consumption and broken materials are also at the top of the list for over one-third of those surveyed.

What are the greatest CHALLENGES with

conveying materials?	2022 2023
54%	Cleaning and maintenance
53%	Cleaning and maintenance
33%	Downsting
28 %	Downtime
33%	
25%	Service
32%	
27%	Layout or space requirements
30%	
32%	Broken materials
24%	
35%	Energy consumption
၁ ,00/	
24%	Volume loss contamination or cross-contamination
20%	
24%	Noise
10%	
13%	Blend consistency
100/	
13%	Dust explosions



Best-in-Class

Cleaning and maintenance is the #1 challenge

(51%) for those most satisfied with their system, showing how important it is to both keep your system clean and minimize the time that it takes to clean your system. To be efficient and effective, cleaning and maintenance time go hand-in-hand. The takeaway from the Best in Class group is that you never stop optimizing the efficiency of your conveying system.



2.0 Cleaning and Maintenance of Systems

Cleaning and maintenance is the primary challenge for food processing professionals, so this section takes an in-depth look at the topic.

Facilities Update Conveying Systems to Improve Maintenance Issues

Maintenance issues are the most commonly reported reason behind updating conveying processes according to those surveyed **(59%)**, above overall cost to operate and energy consumption **(both at 45%)**. This highlights the importance of minimizing maintenance issues as well as the long-term cost of maintenance.



How is your BUDGET for conveying equipment and maintenance changing in the next 12 months?

ncreasing significantly	24%
Increasing moderately	57%
Staying the same	11%
Decreasing moderately	6%
Decreasing significantly	2%



Budgets for Maintenance are Increasing

Budgets reflect the importance of maintenance to food professions, as **81%** of budgets dedicated to conveying equipment and maintenance will be increasing in the coming year. About one-quarter **(24%)** describe this increase as significant.





Budget growth by region

Increasing significantly in order are Brazil 27%, Mexico 25%, U.S. 24%, and UK 15%



2.1 Cleaning and Maintenance of Systems

Maintenance Issues are Top-of-Mind

97% of those surveyed agree that they would benefit from finding a more efficient way to clean their conveying systems. 67% strongly agree.

79% of those surveyed move more than one product through their system that requires it to be cleaned.

Do you move multiple products (e.g., barbecue chips and sour cream chips) through one system that would require the system to be cleaned?



Cleaning a food conveying system is crucial to maintaining food safely and preventing contamination.

Here are the primary considerations when reviewing systems when it comes to cleaning a system:

Hygienic Design:

The conveying system should be designed with hygienic principles in mind.

Accessibility:

Ensure that all parts of the conveying system are easily accessible.

CIP (Clean-in-Place) Capability:

Is the system designed with CIP capabilities, allowing cleaning solutions to be circulated through the system without disassembly.

Smooth and Sealed Surfaces:

Surfaces should be smooth and without crevices or joints that can trap food debris.

Effective Drainage:

The conveyor system should be designed to allow proper drainage of cleaning solutions.

Compatibility with Cleaning Agents:

Ensure that the materials used in the conveying system are compatible with the cleaning agents and sanitizers that will be used.



2.2 Cleaning and Maintenance of Systems

Maintenance Equals Time and Money

Over two-thirds **(69%)** of those surveyed clean their conveying systems 3 or more times per week. **38%** clean their systems 4 or more times per week. For **31%** of those surveyed, this process takes more than 2 hours and for another **60%**, the process takes 1 - 2 hours.

How many times per week do you clean your conveying system?

1 time	10%	/
2 times	19%	
3 times	31%	
4+ times	38%	, i
Don't clean the system weekly	2%	



On average, how long does it take on average to clean your conveying system?

Less than one hour	9%		
1 - 2 hours	60%	, i	
2 - 5 hours	28%		
More than 5 hours	3%		

ROI Calculator

You can quickly calculate your savings based on minimizing your maintenance hours. If you had 700 fewer hours of maintenance time, that would be thousands of dollars saved. What other benefits would you experience by replacing your current conveyor system? Benefits to consider are:

- Product breakage and value losses
- Maintenance: downtime and cleaning
- 🔶 Energy

Here is a quick and easy ROI <u>Calculator</u> to help you make the best decision based on your facility and the products you are conveying.

Click Here

The Bottomline:

Every efficiency you get when you choose the right conveying system in your facility results in hundreds of maintenance hours saved per year.



2.3 Cleaning and Maintenance of Systems

Reasons for Cleaning Your System

The goal is to minimize the time spent on maintenance but maintenance cannot be eliminated. What are the most common reasons for cleaning a system?

Routine maintenance, material build-up, and FDA sanitary compliance are the top reported reasons for cleaning according to **63%**, **62%**, and **61%** of those surveyed, respectively.

63%		Routine maintenance
62%		Material build-up
62%	F	DA sanitary compliance (food grade)
31%	Need	ling to clean one specific component
20%		Swab testing between products
17%		Abrasive material

Cleanability of the system and energy usage are considered to be the most important pre-purchase tests according to **57%** and **52%** of those surveyed. So what does the purchase process look like for food processing professionals? In the next section, we'll look at the purchase process in more detail.





Cleanvey – A New CIP (Clean-in-Place) Solution

Cleanvey, the <u>Cablevey CIP cart solution</u> makes cleaning easier and faster with the following features:

Automate the wet cleaning process. Getting rid of some manual labor and reducing the risk of improper cleaning.

Data logging all critical information. Easily and hassle-free store cleaning times and key cleaning measurements (temperature, water used, chemicals used, etc)

Store and use cleaning recipes for multiple systems that can be implemented with the touch of a button

> This brief video provides more details on the new Cablevey CIP cart solution.

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3.0 The Purchase Process

Cleaning and maintenance are the top reasons why companies evaluate their systems and begin the purchase process, but there are a lot of steps to consider when making a critical and long-term purchase decision. The food processing professionals surveyed revealed interesting insights into the purchase process.

Always Evaluate Your System

The purchase process starts with companies evaluating their current conveying system. Conveying systems are getting evaluated frequently. **43%** say they evaluate every month and another **46%** say they evaluate every 3 - 6 months.



How frequently do you EVALUATE the performance of your conveying system(s)?



Every Month Evaluations: Brazil (58%) and Mexico (53%) have the most frequency with their system evaluations.

And when the evaluation process results in a purchase, who is involved in the decision-making process? It is a collaborative process that includes in-house engineers, outside consultants, maintenance personnel, and local equipment representatives. Another research study, **Evaluating and Implementing New Conveyor System**, takes a closer look at critical considerations when evaluating a system.

14 AUTOMATED HANDLING SOLUTIONS

2023 State of Conveying

3.1 The Purchase Process

Shopping for a New Conveying System

61% of those surveyed have shopped for or purchased a new conveyor system in the last year and **82%** plan to update or replace parts of their conveying systems in the next 2 years.

Why Food Processing Professionals Update Systems

What starts the purchase process? As mentioned earlier, the #1 REASON for updating a system is maintenance issues. Maintenance is also part of the #2 reason, the overall cost to operate. (Q13)

What are the top REASONS for updating your conveying processes?





Best-in-Class

The best-in-class group

is all about energy efficiency and that is reflected in their #2 reasons for updating their conveyor systems, energy efficiency (55%). Those less satisfied with their system have energy consumption at **38%**, far below the best-in-class group. For energy efficiency, the size of the motor and the amount of horsepower required to run a conveying system can have a major impact on efficiency and production costs.



3.2 The Purchase Process

Insights on the Evaluation Process

What are the most critical factors to consider when evaluating a new system? Energy efficiency is reportedly the most critical consideration when selecting a new conveying system. Minimizing maintenance and a system that is easy to clean is also at the top of the list of most critical considerations when selecting a new conveying system. (Q14)

What are the top REASONS for updating your conveying processes?

Energy efficiency	42%
High volume per hour	33%
Easy to clean	33%
Minimization of maintenance	33%
Purchase price	28%
Minimization of breakage	27%
Eliminate contamination of the product	25%
Facility requirements	23%
Low noise	17%
Homogeneity of material	13%
Dust-free environment	12%



The best time to address energy efficiency

is when you are selecting a conveying system for your specific product. An energy-efficient system can save significant money and resources throughout its lifespan. The same is true of minimizing maintenance and ease of cleaning, taking time in the evaluation process will save you time and expense in the long term. Here are a collection of **white papers and guides** to help you with that review process.



3.3 The Purchase Process

Test Before You Buy

Pre-testing a new system is a necessary step in the process. **98%** of those surveyed agree that testing products (nuts, breakfast cereal, etc.) on a new system is a critical step to take before making a buying decision on a new conveying system. Over two-thirds **(67%)** strongly agree.

Testing my products (nuts, breakfast cereal, etc.)

on a new system is a critical step to take BEFORE making a buying decision on a new conveying system.

Strongly agree67%Somewhat agree31%Somewhat disagree1%Strongly disagree1%





Cablevey Testing Center

Before investing in a new conveying system, test it with your product and specifications.

Cablevey Conveyors' Tech Center has tested more than 1,900 distinct products to date for some of the largest global brands consumers purchase every day. Take advantage of our testing facility to run your product through our tubular disc and cable conveying system to observe how it protects the product quality of fragile materials. Attend product testing in person or view it via a video link long distance. Whatever the concern, related to breakage, temperature, stickiness, abrasiveness, or another product characteristic, our technicians and engineers can diagnose and prescribe a solution.

<u>Contact us today</u> to set up your free product test.





4.0 Ranking the Types of Systems

What systems are most effective at gently conveying food? In 2022, cable and disc conveyors were the clear top choice with food processing professionals when it comes to the system that is the most effective at gently conveying materials like coffee, nuts, and snack foods.

Which of the following

is MOST EFFECTIVE at gently conveying materials like coffee, nuts, and snack foods? (2022 data)









This year we looked at the 38% of those surveyed that have cable and disc conveyors in their facility.

This group is more likely than those who do not have cable and disc conveyors in their facility:

- Are extremely satisfied with their current conveying systems (50% with cable and disc are extremely satisfied vs 36% of those with no cable and disc conveyors).
- Report that cable and disc conveyors are the most effective at gently conveying materials like coffee, nuts, and snack foods (45% vs 27% of those that do not have cable and disc conveyors).
- Report that cable and disc conveyors are the most energy efficient (41% vs 25% of those that do not have cable and disc conveyors).

4.1 Ranking the Types of Systems

12 Reasons Why Tubular Cable Conveyors Are #1 for Conveying Food Products

A tubular cable conveyor can offer several benefits when it comes to conveying food products in various processing and manufacturing settings. Here are some advantages of using a tubular cable conveyor for this purpose:

1 - Gentle Handling:

Tubular cable conveyors use a flexible, tubular design that allows for gentle and precise handling of delicate food products. This is especially important for items like coffee, nuts, snack foods, pet foods, breakfast cereals, and other sensitive products that can be easily damaged or bruised during transportation.

2 - Minimized Product Degradation:

The design of a tubular cable conveyor reduces the chances of product degradation, as it eliminates the potential for crushing, breaking, or compacting food items. This ensures that the quality, texture, and appearance of the food products remain intact.

3 - Reduced Contamination Risk:

Tubular cable conveyors are enclosed systems, which minimize the exposure of food products to external contaminants, dust, and debris. This helps maintain high hygiene standards and reduces the risk of cross-contamination.

4 - Flexibility and Versatility:

Tubular cable conveyors can be designed to accommodate various product shapes, sizes, and weights. The flexibility of these systems makes them suitable for conveying a wide range of food products, from small grains to larger items.

5 - Multi-directional Conveying:

Some tubular cable conveyor systems offer multi-directional conveying capabilities. This can be particularly advantageous in processing lines where products need to move in different directions or be distributed to multiple points.

6 - Space Efficiency:

Tubular cable conveyors often have a smaller footprint compared to traditional conveyor systems. This can be beneficial in facilities where space is limited and efficient space utilization is crucial.

7 - Reduced Maintenance:

The enclosed design of tubular cable conveyors helps protect components from wear and tear caused by external elements. This can lead to reduced maintenance requirements and longer equipment life, ultimately saving on maintenance costs.

8 - Customizable Configurations:

Tubular cable conveyor systems can be customized to fit the specific layout and requirements of a food processing facility. They can be designed to navigate around obstacles, follow specific paths, and integrate with existing equipment.

9 - Energy Efficiency:

Tubular cable conveyors can be energy-efficient compared to some traditional conveyor systems, as they often use lower power requirements due to their design and reduced friction.

10 - Hygienic Design:

Tubular cable conveyors are constructed with food-grade materials that are easy to clean and sanitize, ensuring compliance with food safety regulations and maintaining a hygienic production environment.

11 - Reduced Noise:

The enclosed design of tubular cable conveyors can help reduce noise levels in the production area, creating a more comfortable and less disruptive working environment.

12 - Controlled Flow:

Tubular cable conveyors can be equipped with features to control the flow rate and speed of product movement, allowing for better integration into various processing steps and optimizing production efficiency.



Conclusion

Multiple independent research studies conducted by Ascend2 in the past two years provide a quantified ranking of the major conveying systems for food processing facilities. The ranking is based on maintaining product integrity, energy and efficiency, maintenance and downline, and accommodating facility requirements. For each category, the rankings start at 1 (best) and continue to 7 (worst). The lowest resulting numbers are the top-rated across categories. Cable conveyors rank #1 in each category and #1 overall.

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	CABLE CONVEYORS	ROUND-LINK CHAIN CONVEYORS	PNEUMATIC CONVEYORS	BUCKET ELEVATORS	VACUUM CONVEYORS	AERO MECHANICAL CONVEYORS	SCREW AUGERS
Product Integrity Maintaining the integrity and homogeneity of materials is critical in the conveying process, and some systems arent up for the challenge.	1	2	3	3	5	4	6
Energy & Efficiency The size of the motor and amount of horsepower required to run a conveying system can have a major impact on production costs.	1	3	2	4	6	5	6
Maintenance & Downtime A system that requires frequent maintenance and part replacements will affect production throughput and cost of operation.	1	4	3	2	5	3	6
Facility Requirements Certain types of conveying systems can't accommodate some workspaces and facility requirements.	1	4	2	3	6	5	7
Overall Rating Conveyor systems have unique characteristics that may not be obvious until it is installed.	The Winner! Dust-free environment, consistent blending,	13 Red Flag: Round-link chain conveyors tear up sprockets, resulting in	10 Proceed with caution: In some cases, more than 10% of delicate	12 Design limitations: Materials are thrown between buckets which may compromise	222 Efficiency warning: Energy usage, excessive noise, and potential for damage	177 One catch: If a slow and steady movement (like that of cable conveyors)	25 Design flaw: Damage, grinding, and separation can occur while the screw
	eliminating product degradation.	maintanence and prolonged downtime.	damaged by air-powered systems.	of material, and limit where they can be used.	and endpoints are drawbacks.	breakage rates are reduced.	upwards from start to finish.



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About the Research Partners



Automated Handling Solutions (AHS) combines the strengths of two market leaders in Cablevey Conveyors and Spiroflow to provide customers with a specialized handling and automation product portfolio for mission-critical applications.



Cablevey Conveyors is a worldwide expert in cable and disc conveying solutions, with 50 years of experience, 66 countries served, 1,000+ products moved, and 32,000+ conveyors commissioned.

Our 8" diameter conveyors move up to 8,000 lbs/hr (36,278 Kgs/hr) and are a common solution for conveying nuts, mixed products, chips, popcorn, coffee, etc.

Other systems are 6", 4", and 2". To learn more, visit Cablevey.



Ascend2 conducts comprehensive research studies and surveys to gather insightful data on B2B and consumer behavior, industry trends, and competitive landscapes. Leveraging a team of experienced researchers and cutting-edge methodologies, Ascend2 is a trusted partner for companies seeking to optimize their marketing initiatives and stay ahead in a rapidly evolving business landscape. To learn more, **visit Ascend2**.



