Every Piece Counts

How to Increase Profits with Scales

METTLER TOLEDO

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Note! This interactive PDF is optimized for Acrobat Reader.
Other softwares might block some functionalities.

Introduction:
Every Piece Counts

Counting scales are used in various industries:

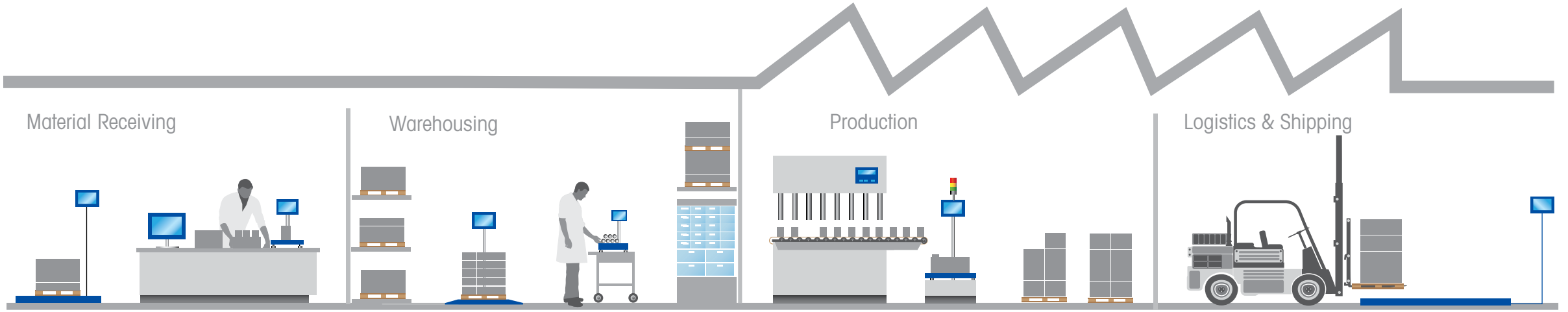
- Automotive parts manufacturing
- Electronics
- Plastic and metal components production
- Paper manufacturing
- Distribution

Accurate and efficient material management is the basis for successful, reliable production. A slight variation in your piece weight can not only affect your bottom line but also create waste and hinder productivity. Ensuring your scale is fit-for-purpose is critical for effective control of incoming and outgoing goods.

Never get caught short. The right counting scale can help you reduce errors, improve productivity, and increase your profitability.

Counting Applications

Areas Where Speed and Reliability Matter



Material Receiving

Counting scales verify quantities received and provide accurate results in less time. Barcode scanners recall article information and transactions are stored in a scale-embedded database or sent to an attached ERP/MES system.

Warehousing

Smart weighing and counting solutions keep track of stock movements, ensure flawless goods storage, and avoid out-of-stock emergencies through direct integration into ERP systems.

Production

Operating procedures with responsive user guidance are essential to increase production efficiency and consistency. Semi-automated counting solutions assure efficient packaging right in production.

Logistics & Shipping

Counting scales in commissioning workplaces ensure that orders are filled on time with exactly the right number of pieces, required labels, and documentation.

Optimize Accuracy

Get Reliable Results from the Start

Counting accurately and efficiently can be a challenge. Errors occur when factors such as piece weight variation influence the counting process. Proper sampling and high-precision reference scales deliver accurate quantities from the start.

Eliminate Piece Weight Deviations

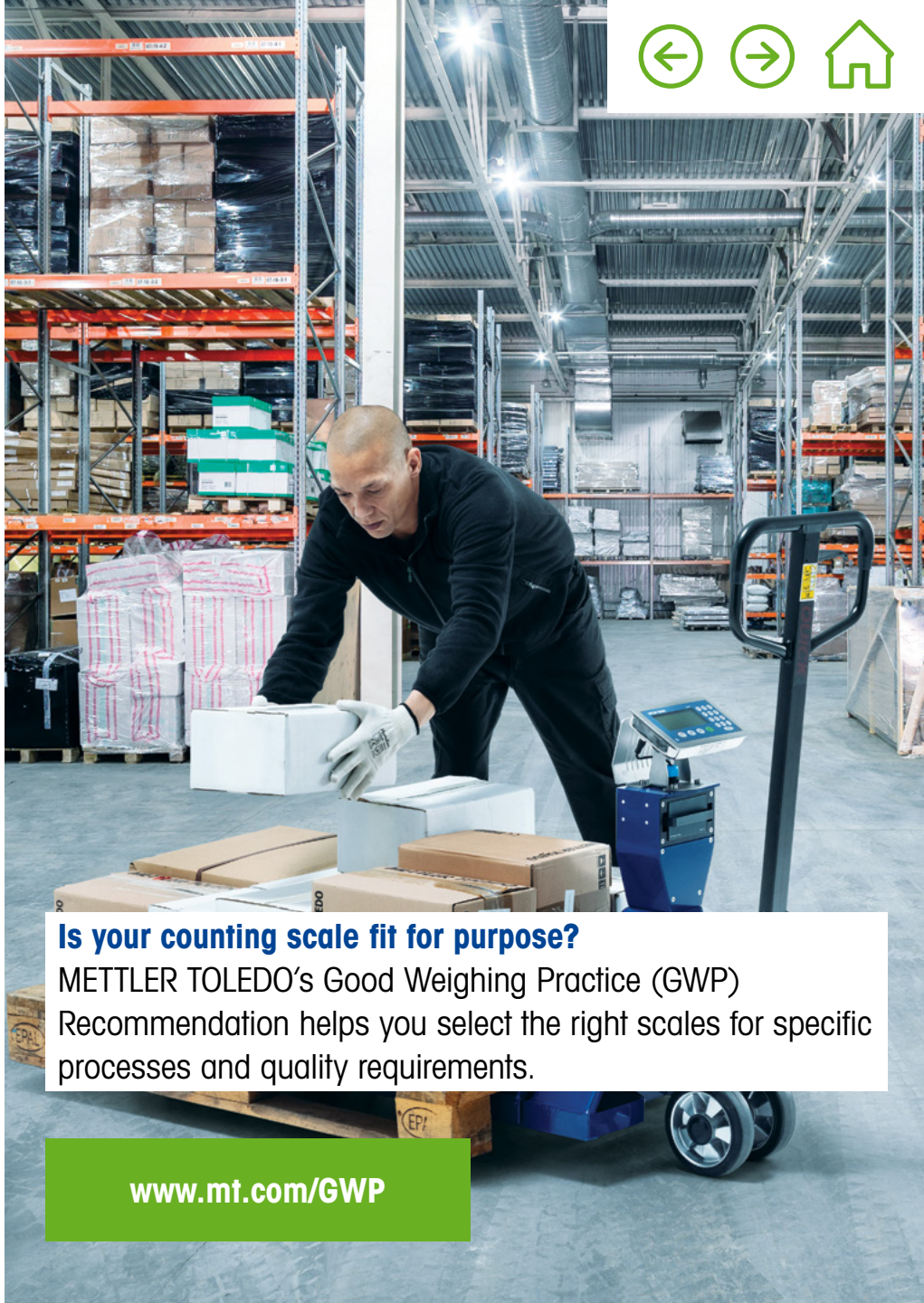
Piece weights can differ due to differences in production machines or wear and tear on tools. If parts have a deviation of more than 1 percent, counting errors can be cut in half by increasing the number of reference parts, e.g. from 10 to 30 pieces.

Choose the Right Scale

Accurate average piece weight determination is dependent on appropriate scale resolution. To achieve a high counting resolution, weighing electronics must offer superior repeatability.

Use a Two-Scale System

The lightest and heaviest parts influence the type of counting scales required. A two-scale system can accurately and flexibly weigh parts from 1 mg to 3,000 kg. To precisely determine average piece weights, connect a 0.1 mg reference scale and count small pieces on a 0.6 kg to 6 kg scale. For heavy weights, use a floor scale.



Is your counting scale fit for purpose?

METTLER TOLEDO's Good Weighing Practice (GWP) Recommendation helps you select the right scales for specific processes and quality requirements.

www.mt.com/GWP

Tip:
The Importance of Accurate Reference Weights

Accurate reference or sample weight determination has a great effect on counting accuracy. Investing in a suitable reference scale pays back, as mistakes made in this part of the process translate to big counting errors later.

Using a high-precision scale to weigh samples increases counting accuracy. Furthermore, the ability to define a smaller minimum reference weight allows for counting lighter pieces and/or reduces the number of reference pieces. The fewer reference pieces to count, the faster and less error-prone your counting processes. You enjoy higher throughput, better productivity, and reduced production costs.

Avoid Errors

Reduce Fatigue, Enhance Productivity

Straightforward manual operation increases efficiency and accuracy in piece counting. The right weighing equipment can enable smooth, digitized operating procedures, enhancing operator comfort and supporting time and cost savings.

Wasted Materials

Wasted Materials
Scale uncertainty is a major source of error in counting applications. An inaccurate scale can lead to over- or under-counted batches, impacting your bottom line.

Slow Manual Processes
In the past, operators needed to concentrate on the scale display to avoid miscounts during bulk counting. This focus, along with inevitable manual miscounts, slows down time at the scale.

Our Solution

Waste Reduction
A good scale can account for piece weight variation and average it out, preventing material miscounts and reducing waste.

Increased Speed
Selecting an indicator with easy color-coding (colorWeight®) allows you to see when your target is reached at a glance, speeding up processes and reducing fatigue for the operator.

Tip:

Reduce Errors When Determining Average Piece Weight

Counting large quantities by hand when determining reference weights opens you up to significant error risk. However, sampling 30 or more parts can increase accuracy.

With Automatic Reference Optimization, the scale itself helps you achieve piece-weight accuracy. First, an operator hand counts 10 pieces to establish average piece weight. Then, they place a few more pieces on the scale. The scale automatically recalculates for a more accurate average.

Improve Data Management and Integration

Analyze, Trace, and Document

Efficiently counting thousands of parts demands smart handling of numerous data points. Facilitate your daily counting jobs with counting scales featuring powerful databases. When you do, transaction memories record all counting results for easy analysis. Various printing options also extend your reporting capabilities

Effortless Analysis and Full Traceability
Simplify monitoring and analysis of weighing data with configurable databases. Choose from a scale embedded database or centralized archiving and easily analyze all counting results in the transaction memory including date, time and operator ID.

Fast Data Integration and Exchange
Access and share real-time data on inventory management, quality control, and other production parameters via Ethernet, serial, USB, or Wi-Fi connectivity to exchange data between your devices or your MES or ERP system quickly and easily. Connected barcode scanners automatically recall article information such as average piece weight and batch ID so you can get started counting right away.

Easy Printing Solutions
We offer integrated printing solutions tailored to your application. Items you can define include QR code, barcode, article number, date, time and corporate logo to further enhance documentation and traceability.

Tip:
Automate Your Counting Task

Reduce transportation time to packaging stations and significantly reduce staff involvement in parts counting with semi-automated counting at your production machine.
Scales can control third party devices such as conveyor belts and stop or redirect parts filling as soon as the target piece count is reached.
Scales can also alert operators that a container is ready for further processing using external lights or audible alarms.

Tolerances such as target count or average piece weight can be automatically called up from the article database by simply scanning a barcode or selecting an article ID. This means faster counting and higher productivity, saving you time and improving your bottom line.

Facilitate Your Counting Jobs

Our Complete Portfolio of Compact Standalone Scales

Enjoy high throughput and consistency. Intuitive user menus make counting faster, easier, and error-free.

Model: Compact Scales	ICS685	ICS4_5	ICS241
			
Description	When verifying inventory, packaging, or production quantities, every part or piece is important. Industrial Bench Scales provide solutions to make parts-counting applications fast, accurate, and cost-effective. The scale provides intuitive guidance for packing and ensures kit completeness onthe first pick.		
Applications	• Intuitive counting and totalizing • Smart formulation and Pick&Pack • Fast classifying and average weighing	• Accurate counting and totalizing • Advanced checkweighing and portioning • Fast average weighing	• Basic weighing • Simple counting
Capacity Range	0.6 kg up to 600 kg (requires separate reference balance)	0.6 kg up to 600 kg (requires separate reference balance)	3 kg up to 30 kg
More Information	▸ **www.mt.com/ICS685**	▸ **www.mt.com/ICS465**	▸ **www.mt.com/ICS241**

Configurable Counting Indicators

Combine with Platforms for Smart, Intuitive Processes

In addition to compact scales, we offer a range of indicators that can be combined with different types of platforms. You enjoy intuitive, accurate counting that speeds up processes and enhances throughput.

Model: Compact Scales	IND400	IND700	IND930
			
Operator Interface	5″ touch screen and tactile keys for print, tare, clear and zero commands as well as 5 pre-set softkeys	7″ touch screen with additional touch keys for print, tare, clear and zero commands	15″ touch screen
Peripherals	SICS piece weight reference scale, QR/barcode reader, printers, discrete I/O, communication interface		
Scale Type	One analog or precision scale plus a SICS reference scale for piece weight sampling	Two analog or precision scales combined with up to four PowerDeck scales plus a SICS reference scale for piece weight sampling	Two analog, precision, or PowerDeck scales plus a SICS reference scale for piece weight sampling
Communication	Ethernet TCP/IP, USB, serial	Ethernet TCP/IP, USB, Industrial Ethernet (PROFINET, Profibus DP or Ethernet/IP)	
More Information	▸ **www.mt.com/IND400**	▸ **www.mt.com/IND700**	▸ **www.mt.com/IND930**

Explore Our Service Solutions
Tailored to Fit Your Equipment Needs

METTLER TOLEDO Service delivers resources to enhance your efficiency, performance, and productivity by providing service packages that fit your operational needs, maximize your equipment lifetime, and protect your investment.

www.mt.com/service

Start with professional installation

Installation services include support for your unique production situation:
- Professional IQ/OQ/PQ/MQ documentation
- Initial calibration and confirmation of fit-for-purpose
- Hazardous area installations

Maintain accuracy over time

Receive professional guidance (GWP® Verification™), including a routine testing plan that specifies four key factors to maximize your efficiency and ensure quality:
- Tests to perform
- Weights to use
- Testing frequency
- Tolerances to apply

Schedule maintenance

Full preventative maintenance plans offer inspection, functional testing, and proactive replacement of worn parts.

Health inspections offer a full assessment of current equipment condition with professional maintenance recommendations.

Calibrate for quality and compliance

The professional Accuracy Calibration Certificate (ACC) determines measurement uncertainty in use over the entire weighing range. Corresponding annexes gives a clear pass/fail statement for specific tolerances applied, such as fit-for-purpose (GWP®), OIML R76, NTEP HB44, or further regulations.

Extend your warranty coverage

Add two years of preventive maintenance and repair coverage to protect your equipment purchase and achieve maximum productivity and budget control.

METTLER TOLEDO Service

Our extensive service network is among the best in the world and ensures maximum availability and service life of your product.

Reimagine Your Counting Application

Creating Efficiency in Warehousing, Logistics, and Production

Watch our Counting Scales in Action

When verifying inventory, packing containers, or confirming production quantities, every part is important. METTLER TOLEDO is a leader in precision parts-counting technology. We can help you ensure that only the right number of parts come through your door and are delivered to your customer.

www.mt.com/counting

Counting Cost Savings Calculator

Throughout a year, even small inaccuracies in counting can add up to tremendous costs. Counting solutions from METTLER TOLEDO prevent errors and increase efficiency, giving you the best return on investment. Calculate your savings from Piece Counting with our Cost Savings Calculator!

www.mt.com/ind-counting-solution

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