Solutions
for Chemical
Manufacturing

8 Ways to Ensure Quality & Efficiency
Optimize Productivity and Safety in Chemical Production

METTLER TOLEDO

Boost productivity with solutions designed for safety

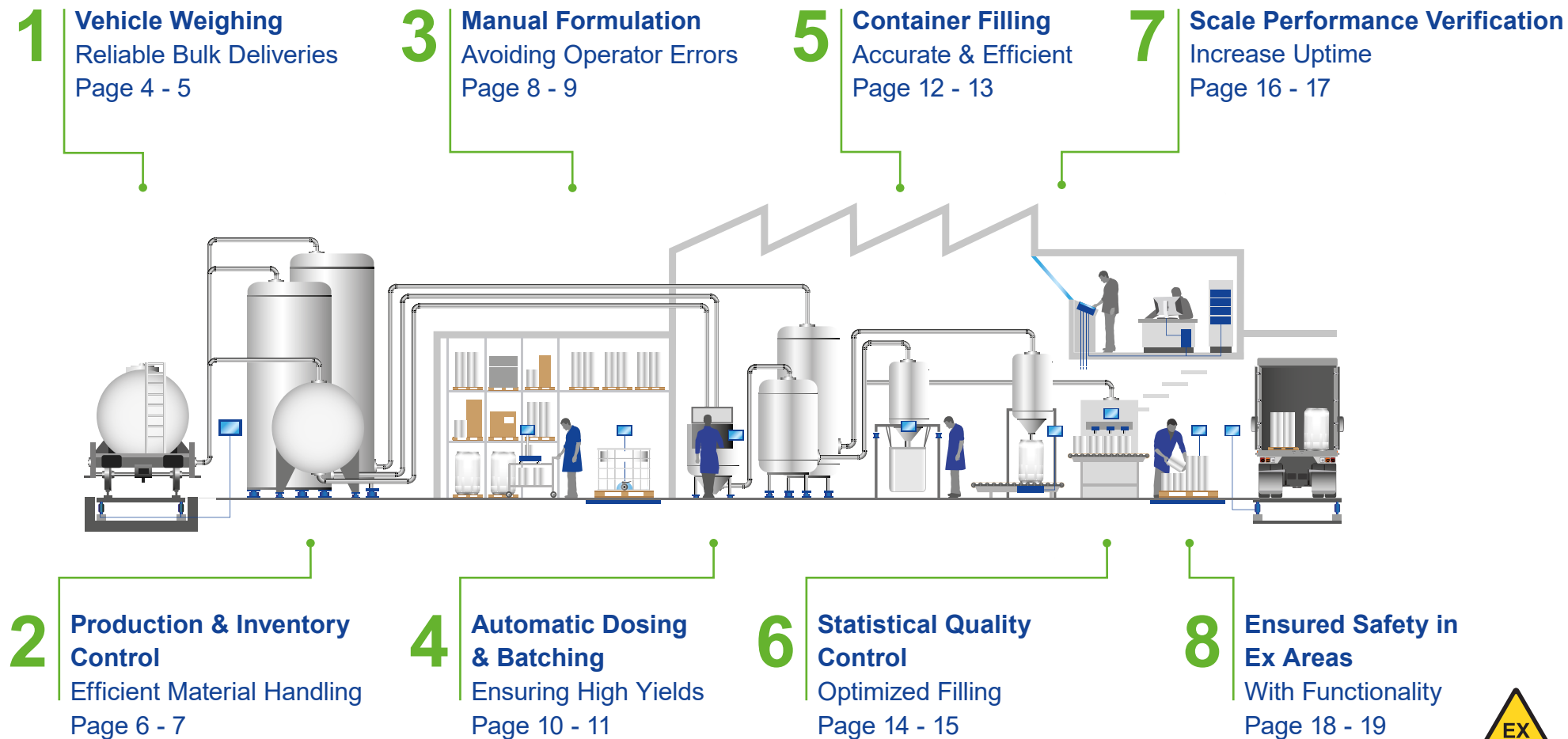Chemical manufacturers face several challenges, including:

- Higher safety demands and increasing regulatory pressure
- Increasing productivity while also improving product quality
- Responding quickly to customer and market demands
- Setting up robust processes right from the start

At METTLER TOLEDO, we create comprehensive weighing solutions and reliable services that help enhance your manufacturing excellence while improving profitability – all while keeping safety at the forefront.

▶ **www.mt.com/chemical**

8 Ways to Ensure Quality & Efficiency

At METTLER TOLEDO we create weighing solutions that help chemical manufacturers to improve safety, enhance quality and boost productivity:

1 Vehicle Weighing
Reliable Bulk Deliveries
Page 4 - 5

3 Manual Formulation
Avoiding Operator Errors
Page 8 - 9

5 Container Filling
Accurate & Efficient
Page 12 - 13

7 Scale Performance Verification
Increase Uptime
Page 16 - 17

2 Production & Inventory Control
Efficient Material Handling
Page 6 - 7

4 Automatic Dosing & Batching
Ensuring High Yields
Page 10 - 11

6 Statistical Quality Control
Optimized Filling
Page 14 - 15

8 Ensured Safety in Ex Areas
With Functionality
Page 18 - 19

How to ensure reliable shipments of bulk chemicals?

Your Challenge

Safe and precise filling
with more accurate truck scales

Traditional truck scales can be off by more then 300 kg at full load. Reducing this over-fill improves your bottom line and reduces safety risks.

Save maintenance cost
with more reliable components

Truck scales in harsh environments experience an accelerated lifecycle and frequent downtime. Selecting a fit -for-purpose system is critical to keep your operation running.

Improved transaction management
with easy data integration

Hand-written transactions and free programs are an inaccurate and unsafe way to handle data critical to your business. Reliable and secure software solutions ensures accurate inventory control, billing, and productivity.

Ensure efficient bulk deliveries with safe and accurate transactions

Our Solution

When it is essential to your success for large vehicle deliveries to be on time, make sure you work with reliable solutions. Our truck scales provide Industry leading accuracy and reliability to ensure safety and consistency for your business and your customers.

▶ **www.mt.com/vehicle**

Industry leading accuracy & reliability

POWERCELL PDX load cells offer industry leading reliability and are capable of performing at the highest level in the world's harshest environments.

▶ **www.mt.com/POWERCELL**
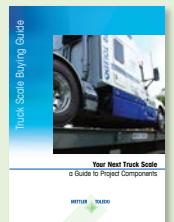
Thinking beyond the scale

Utilizing DataBrige transaction management software helps eliminate up to 90% of the errors caused by manual data-entry.

▶ **www.mt.com/veh-beyondthescale**

Keys To a Successful Scale Project

Free download
www.mt.com/truckscale-guide

How to measure a variety of materials with safety and accuracy?

Your Challenge

Independent from material type

Many level measurement techniques are influenced by temperature or physical state that can adversely affect accuracy. When precision matters, rely on weighing.

Reduce downtime with condition monitoring

Sensors in storage tanks can be difficult to reach and inspect. Remote monitoring allows for efficient maintenance activities and increased uptime.

Reduce risks for safer material storage

Handling toxic or explosive materials requires the highest safety standards and durable equipment. Our solutions are designed with safety in mind.

Ensure efficient and safe material handling

Our Solution

Weighing is an accurate inventory control method independent of tank shape and is ideal for non-self-leveling material. Accurate inventory control optimizes material costs, ensures safe material storage and enables consistent product quality.

▶ **www.mt.com/ind-tank-weighing**

Powermount weigh modules

Provide repeatable accuracy and the industry's highest reliability in hazardous and non-hazardous areas. Performance of POWERECELL load cells can be monitored and provide alerts prior to serious trouble.

▶ **www.mt.com/ind-powermount**

IND131/IND331 weighing terminals

Provide speed and accuracy for tank, hopper or weighing platforms in hazardous and non-hazardous areas. Connect-ability to a broad variety of fieldbus networks, and the internal discrete I/O allow for the most flexible control options.

▶ **www.mt.com/IND331**

Ensure accurate inventory control in tanks and silos

Free download
www.mt.com/ind-wib

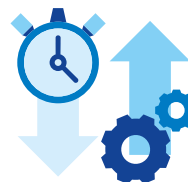## How can I ensure precise formulation control and full traceability?

Your Challenge

Tight process control for consistency

Formulation management with tight process control maximizes ingredient usage and reduces waste. Ensuring tight control at multiple workstations can be challenging.

Process efficiency in complex set-ups

Creating production orders, planning workflows and instructing operators is very time consuming. When done more efficiently, operators are freed up for more value added tasks.

Automatic & traceable documentation

A recipe management system that tracks and traces raw material lots to each production batch allows for a faster reaction time to customer complaints.

Manage Your Complexity

Our Solution

Depending on the complexity of your formulation and batch size, different types of solutions are suitable. Step-by-step guidance for manual workflows help prevent errors. Networked software solutions that deploy instructions to several workstations and automatically capture data provide efficient recipe management.

▶ **www.mt.com/ind-formulation**

Precise compact scale in Ex areas

Dispensing efficiency in hazardous areas is improved from easily managing two weighing platforms with one terminal. Benefit from the highest measurement accuracy from grams to tons.

▶ **www.mt.com/ics4_6x-series**

Networked software for full formulation control

Our formulation software helps streamline processes with accurate recipe execution. It provides tight control and ensures consistent batch tracking from goods entry to product delivery.

▶ **www.mt.com/Formweigh**

Formulation eBook

Free download
www.mt.com/ind-form-eBook

Formulation Solutions
Ensure Consistent Quality with Every Batch

How can I optimize my batching and dosing process?

Your Challenge

Save production cost & reduce downtime

Long batching sequences can be a bottle neck in production. Optimizing speed and timing of dosing steps ultimately leads to higher throughput and better plant utilization.

Optimize accuracy, speed & quality

Automatic dosing depends on the interplay between scale, valves and material flow properties. With the right solutions, finding those sweet spots gets easier.

Flexible & easy system integration

Dosing systems are often part of a plant wide automation system. Standardized interfaces and protocols make integration faster and reduce training effort.

Ensure higher yield with faster and more consistent batching

Our Solution

With a completely automated system, precise and fast dosing and sequencing of materials provides a reliable and robust production process. Diagnostic tools are required in order to ensure continuous uptime, minimize waste and improve accuracy.

▶ **www.mt.com/batching**

Automation terminals

For fast and efficient automatic batching and dosing of materials, our range of automated terminals offer high performance and versatility for a wide range of applications.

▶ **www.mt.com/ind-tank-silo-hopper**

PowerDeck™ floor scale

POWERCELL® Technology eliminates errors and helps improve yields. Monitoring of load cell performance keeps your process in control and helps to avoid bad batches.

▶ **www.mt.com/powerdeck**

Batching Checklist

Free Download
www.mt.com/ind-batching-checklist

How can I ensure an accurate and efficient filling process?

Your Challenge

Optimize cost with precise filling

Small overfills due to incorrect selection of equipment or operator errors can add up. Using the full functionality of your weighing devices ensures accuracy and reduces product waste.

Automated data collection

Tracking of product and container data is being requested from customers more frequently. Automatic data transfer to central databases creates process improvements and more efficient recall management.
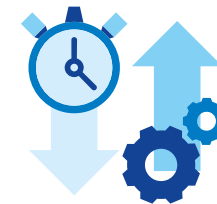
Increased uptime from process control

Many filling processes have very narrow specifications with a high throughput. Unnoticed equipment failure or improper handling impact container levels and can lead to customer complaints.

Streamlined filling processes for every type of container

Our Solution

When filling intermediate bulk containers, totes, drums or big-bags you need fast, precise and repeatable results. Our platform and floor scales provide highest precision and predictive maintenance for increased uptime and peak operational efficiency.

▸ **www.mt.com/filling**

IND570: Automated filling

The IND570 offers easy-to-configure software routines, discrete I/O, material storage tables and more, to enable accurate control of filling operations. All data is easily transferred to your MES or PLC.

▸ **www.mt.com/ind570**

Versatile floor scales

An array of reliable, precise and robust floor scales can be tailored made for your application. Whether your need is for hazardous areas, specified size or diagnostic function, we have a solution.

▸ **www.mt.com/floor_scales**

Filling of Mid- and Large-Sized Containers

Free Download
www.mt.com/ind-large-volume-filling-guideline

How can I ensure precise and efficient filling of valuable materials?

Your Challenge

Save cost by reducing overfilling

Statistical quality control (SQC) for manual net-content control assures that overfilling is reduced to the absolute minimum. This saves costs and reduces waste.

Be compliant with net content regulation

Net content laws mandate that every package contains the amount declared on the label. SQC solutions ensure regulatory compliance for filling.

Manage all quality parameters efficiently

SQC solutions provide automated reporting and allow immediate trend recognition. Managers are alerted when process deviations arise and quality parameters can be efficiently monitored.

Solutions to optimize cost while maintaining compliance

Our Solution

To comply with net content regulations, strict process control is required when filling thousands of containers with chemical materials. Our Statistical Quality Control solutions help ensure precise filling, improve process control and save costs.

▶ **www.mt.com/sqc**

Networked solution

Freeweigh.Net for SQC is a PC-based software solution that enables tight and compliant production control as well as process optimization.

▶ **www.mt.com/FreeWeigh**

Standalone solution

IND890SQC is our user-friendly all-in-one standalone SQC solution with touchscreen control and intuitive user interface.

▶ **www.mt.com/IND890SQC**

Optimize and control your filling process

Free download
www.mt.com/ind-sqc-guide

Need to maintain compliance and increase uptime?

Your Challenge

Achieve high uptime with optimal maintenance efficiency

Scales in chemical production are often subjected to rough treatment. Regular equipment checks following recommended procedures ensure maximum uptime at minimal costs.

Optimize service intervals with preventative maintenance

Preventive and predictive maintenance according to manufacturers' procedures ensure efficient and consistent performance throughout the life of your weighing equipment.

Maintain compliance and be prepared for audits

ISO9001 standards and GMP regulations require regular calibration and control of measuring and monitoring devices. Leverage world-class service to confidently pass future audits.

Get the most out of your equipment

Our Solution

Your equipment is subjected to tough environments and high utilization in critical processes. Periodically scheduled scale calibrations and routine testing enhance the longevity of your scale and facilitate compliance with Industry standards, such as ISO9001.

▸ **www.mt.com/service**

GWP® Verification

GWP® Verification is based on a calibration service that documents the measurement uncertainty of weighing equipment under real operating conditions. Learn how our services can ensure the accuracy of your process.

▸ **www.mt.com/gwp-verification**

Calibration to facilitate compliance

Calibration determines industrial weighing equipment performance. Our comprehensive calibration services help achieve compliance, cost savings and quality.

▸ **www.mt.com/calibration-competence**

Tank Scale Calibration Services

See how RapidCal™ Tank Scale Calibration reduces downtime.
www.mt.com/ind-rapidcal
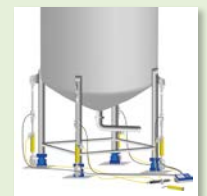
How to ensure safety without compromising functionality?

Your Challenge

Accident-free workplace safeguard all employees

Many chemical companies track accidents with the goal of achieving a zero rate as their number one priority. Safety designed equipment is a first step towards this goal.

High functionality without compromising safety

To facilitate safe and efficient weighing processes, use scales that are approved by IECEx, ATEX and FM standards and are also highly functional. This allows your workstations to be safe, compliant and agile.

Comply with safety standards at all your manufacturing sites

Safety guidelines and regulations are different in each country. Choosing an approved equipment supplier with global reach will ensure easier compliance.
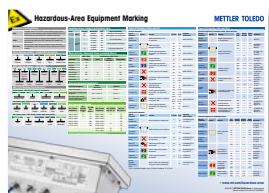
Designed with safety in mind

Our Solution

When handling explosive materials, weighing equipment must comply with extensive regulations and be installed and maintained correctly in order to ensure safe operation. Choose solutions that help you fulfill your safety standards without compromising functionality.

▶ **www.mt.com/hazardous**

Hazardous poster

The easy and quick identification of markings and protection methods help engineers ensure equipment complies with appropriate regulatory hazardous-area standards.

▶ **www.mt.com/ind-haz-poster**

Hazardous services

Our experienced, factory-trained service specialists make sure hazardous area weighing equipment is safely installed, inspected, maintained, calibrated and repaired.
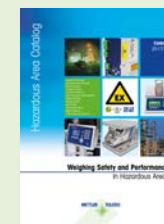
▶ **www.mt.com/ind-ex-service**

Hazardous Catalog

Free download
www.mt.com/ind-hazcat

Online Library for Chemical Manufacturers

METTLER TOLEDO

Chemical Expertise Library

Explore our library of resources for chemical manufacturers. Learn from our array of guides, videos, white papers, webinars and application notes, including:

- Hazardous Area Competence Guide
- Tank Weighing Videos
- Precise Weighing Webinar
- Quality by Design White Paper
- Hazardous Marking Poster
- Chemical Segment Newsletters

▶ **www.mt.com/ind-chem-library**

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Industrial Division
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