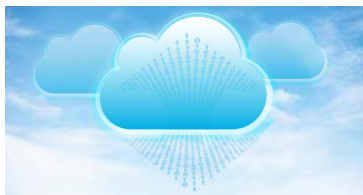




Multi-Cloud Connectivity To Meet Customer Demands



p. 2

Ensured Quality and Efficiency in Formulation



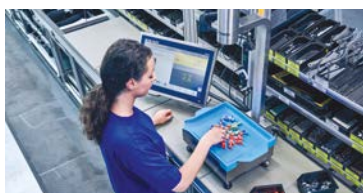
p. 4

Performance and Versatility in Hazardous Areas

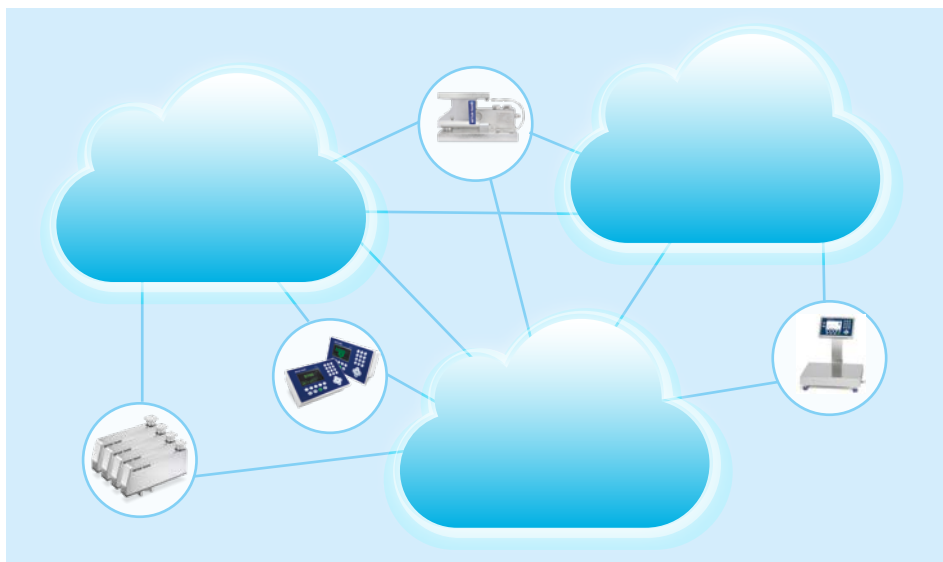


p. 6

Breakthrough Innovation for Productivity and Quality



p. 10



Comprehensive Communication End-to-End Connected Weighing

Standardization is the prerequisite for successful digitalization, it helps to make data processing in clouds affordable. OPC UA and MQTT are two standards available from METTLER TOLEDO that comply with serialization requirements and enable communication.

Industrial Ethernet systems or industrial-based Ethernet such as PROFINET or EtherNet/IP are used to standardize time-critical data communication within the strict SCADA hierarchy. These systems are the top choice among integrators for several reasons including their communication flexibility.

New: Any-to-any communication

OPC UA and MQTT communication technologies standardize communication between MES, ERP and cloud systems. They allow "any to any" communication breaking the

traditional borders between the various levels of SCADA architecture.

Continued innovation

METTLER TOLEDO is the leading provider of future-oriented OPC UA and MQTT technology, making us the ideal weighing application partner for machine and instrument builders as well as end-users.

Read on to discover our comprehensive product range for fast automated weighing, easy implementation and notable cost savings.

Multi-Cloud Connectivity Options Exceed Customer Expectations

Machine builders and system integrators must comply with their customers' expectations regarding MES, ERP system and cloud connectivity. METTLER TOLEDO provides the common connectivity standards to communicate with a multitude of control, IT and cloud systems, making us your ideal partner.

End-user companies standardize their control systems, communication technologies, IT systems and – as of recently – their cloud solutions. This reduces maintenance of their infrastructure in the aspects of purchasing, training, data security and spare parts management. Most importantly, it reduces their complexity and costs.

Competitive advantage

The standardization policy of end-user companies is a challenge for machine and instrument builders and system integrators. They often have to perform the same work multiple times to help clients realize very similar applications on different technology platforms. To remedy this, they can standardize their engineering by carefully selecting vendors that support many key technologies with a broad product range and global service network. This not only reduces their engineering efforts, it also makes them faster and – most importantly – more competitive.

Range of standardization

METTLER TOLEDO supports machine builders and system integrators with a comprehensive product range. For machine-integrated weighing devices, we offer modern industrial-based Ethernet solutions such as PROFINET and EtherNet/IP as well as traditional fieldbus connectivity such as Profibus. Integration of these sensor-to-controller technologies is easy thanks to integration software on the PLC side. On-site and remote configuration and diagnostics with a webserver is always available.



WMF Weigh Module for machine integration



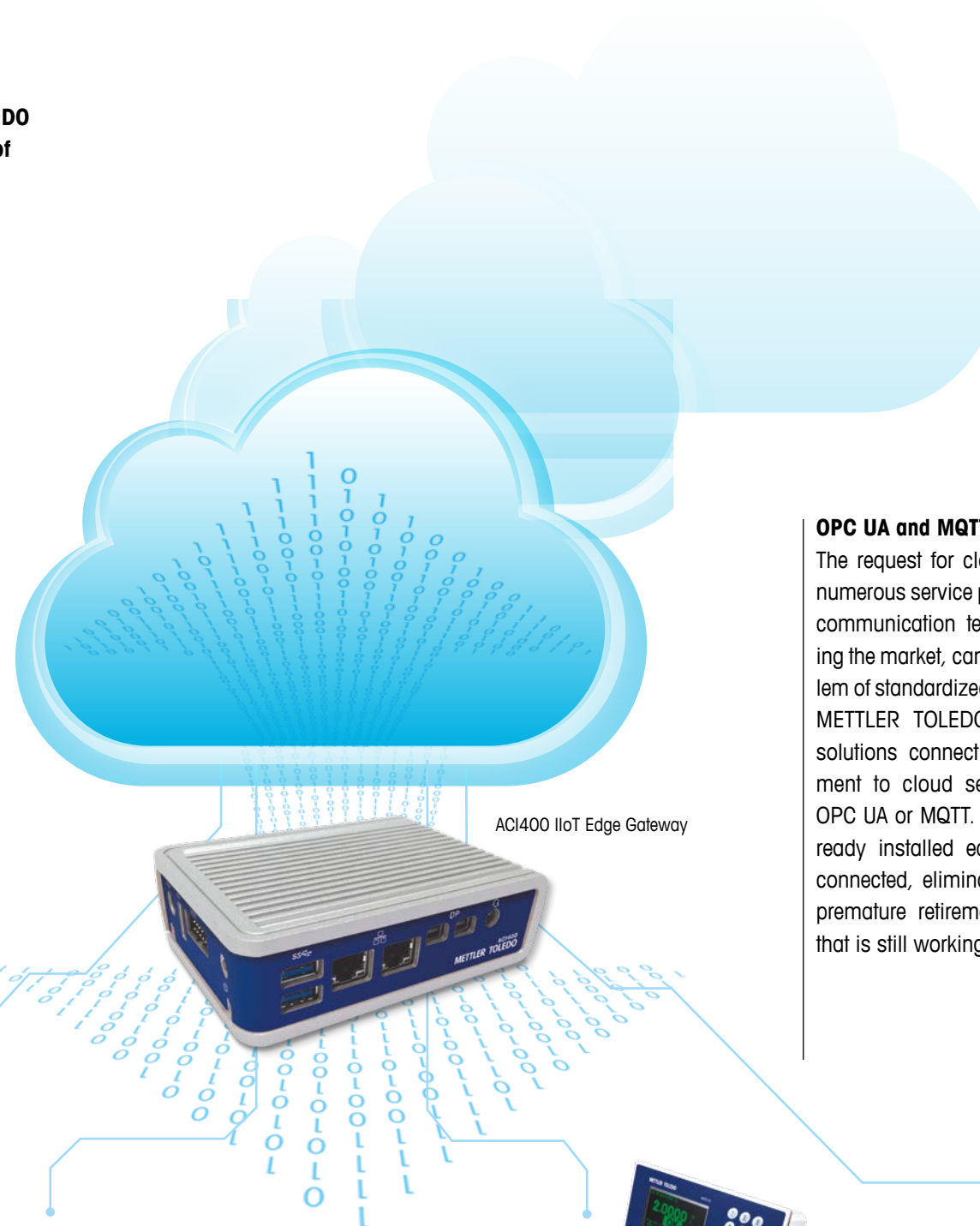
PowerMount Weigh Module for tank and customized scales



IND570 Weighing Terminal with a multitude of functionalities



ICS Bench Scale for weighing in Food, Pharma, Chemical



ACI400 IIoT Edge Gateway

Connectivity to IT and Cloud

Download our documentation explaining how our weighing technology is connected end-to-end.

www.mt.com/ind-sensor-to-cloud



OPC UA and MQTT connectivity

The request for cloud services with numerous service providers and new communication technologies entering the market, can enlarge the problem of standardized communication. METTLER TOLEDO can help. Our solutions connect weighing equipment to cloud services either via OPC UA or MQTT. Both new and already installed equipment can be connected, eliminating the need for premature retirement of equipment that is still working well.



ACI400 IIoT Edge Device

The ACI400 IIoT Edge Device with the IIoT Gateway Suite connects new and old scales to IT or Cloud via OPC UA or MQTT.

► www.mt.com/ind-sensor-to-cloud

Upgrade Your Formulation Workflow

Traceable – Scalable – Efficient

Want to streamline processes such as blending and mixing to ensure accurate recipe execution? Our new formulation software Form+ provides tight control of each ingredient and ensures consistent batch tracking from goods entry to product delivery.

Form+ enables the management of recipes, including the automatic collection and verification of ingredient weights, step-by-step user guidance, and audit-friendly tracking. As a scalable solution, it is available as either a standalone system or a multi-station networked solution. Form+ helps minimize operator errors, ensure consistent quality, and provide advanced visibility with traceable verification of every batch.

► www.mt.com/Formplus



Achieve 100% batch quality

Visit our formulation page to see how you can easily ensure quality in recipe management.

www.mt.com/Formplus



Workflow step

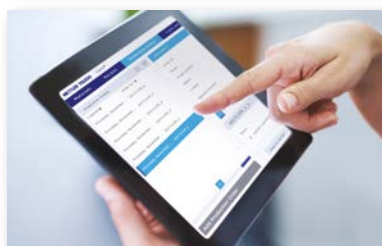
Benefit



Step 1 – Create and Manage Recipes

Form+ adapts to your processes, putting no limitation on the number of formulas, the number of raw materials or the complexity of your recipes. Eliminate the need for intense process or production changes with a simple import of existing recipe databases.

Easily Create Recipes and Define Workflows with a Flexible Recipe Management Tool.



Step 2 – Plan and Manage Production

Form+ facilitates recipe-based production planning from any PC, laptop or smartphone. Adapt recipes, materials and workflows as needed. Monitor production orders, track the progress of multiple operators, and easily produce batch evidence reports.

Plan Production and get Optimal Process Transparency Anywhere.



Step 3 – Ensure Safe, Correct Recipe Execution

Gain systematic control of your formulation process and eliminate the risk of operator error by automating the data entry process with Form+. Automatically display safety instructions for hazardous materials to protect operators.

Avoid Costly Errors with Advanced Operator Process and Hazardous Material Guidance.



Step 4 – Track Operations

Automatic documentation of your workflow ensures traceability, simplifies compliance, and enables faster reaction time to quality issues. Meet the challenge of strict government regulations with easy-to-access historical product data.

Automatically Store Operator Inputs and Data for Audit-Friendly Tracking.



Unlock Your Hazardous Area Potential

4 Ex-Zone Solutions for Safety and Efficiency

Intrinsically safe equipment will not limit or constrain your weighing processes in classified hazardous areas. Our solutions are highly functional, precise, and safe while keeping your pharma and biopharma manufacturing processes compliant and efficient.

4 Ensure Precise Quality

For tight processes that require the best in class for reliability, accuracy and versatility, PBK9 high-precision platforms are up for the challenge. Benefit from using one highly functional and accurate solution in both safe and hazardous areas.

► www.mt.com/PBK9



3 Increase Mobility

The IND256x terminal supports mobility even in Zone 1/21 and Div. 1 areas with integrated Wi-Fi. It simplifies communication in fixed installations by eliminating cables. This new freedom in installations for versatile workflows is now available in hazardous classified areas.

► www.mt.com/IND256x



2 Content and Weight Checks

Highly effective pharmaceutical checkweighing solutions for serialization, Track and Trace, and tamper-evident applications.

► www.mt.com/cw-pharma



1 Monitor Process Conditions

PowerMount™ weigh modules are equipped with POWERCELL technology providing real-time alerts on load cell conditions. This allows for increased visibility into your tank and vessel scales to help you avoid bad batches and ensure the highest quality output.

► www.mt.com/ind-powermount



Visit the hazardous portal

The ultimate resource for all your hazardous needs.

► www.mt.com/ind-hazardous-compliance



4 Solutions to Improve Manual Workplaces Achieve Higher Productivity with Smart Weighing

Implement smart weighing and advanced machine learning in manual workplaces to increase workflow capacity and individual processing speed – all while ensuring high quality with zero errors. See how solutions from METTLER TOLEDO can help you better handle a large range of products and components to pick or assemble correctly.

“ Since implementing InVision™, we have increased productivity by 30% in our manual workplaces and improved our delivery quality significantly! ”

1 Pick&Pack

Pick parts, components or product manuals with the scale-assisted Pick&Pack application. Intuitive user guidance and workflows ensure better picking quality, complete kits or packages, and avoid customer complaints and costly returns. By combining SpeedWeigh with this application, you can significantly reduce your operating time. To learn more, visit:

► www.mt.com/ind-pickandpack



2 InVision™

The combination of visual recognition, weighing and intelligent machine learning brings extra process safety for manual production and packaging processes. InVision™ ensures the completeness of assembly kits with smart operator guidance features and a second set of eyes. To learn more, visit:

► www.mt.com/InVision

New!



3 SmartShelf Inventory Control

Remotely monitor inventory levels with weighing sensors. Choose from an array of integration options to find the best solution to continuously track and analyze stock levels. To learn more, visit:

► www.mt.com/remote-inventory



4 Smart Assembly Workplace

This solution guides operators through the assembly process and weighing pads control piece counts. It can be equipped with lighted directions for easy picking. Get in contact with your manual workplace system integrator to find the best solution for your needs. For more details, visit:

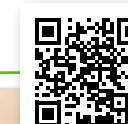
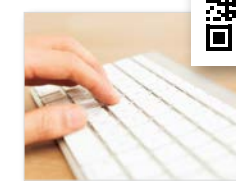
► www.mt.com/ind-smart-assembly



Competence in manufacturing

Explore METTLER TOLEDO's competencies from material receiving to shipping and find the best-fit solutions to keep process reliability under control.

► www.mt.com/manufacturing



Enhance Product Quality with Full Visibility Benefit from Vision-Based Machine Learning

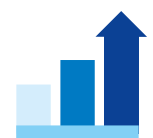
Manual weighing, counting and packaging tasks have high manual error potential. Ease order-picking efforts for operators while ensuring product completeness in production and packaging processes with the latest machine-learning vision and weighing technology: InVision™.

► www.mt.com/InVision



Achieve 100% quality kits

Zero missing parts is a reality with InVision™ as your second set of eyes on every package. When you reduce the risk of human error in manual processes you can achieve 100% quality kits and maximize customer satisfaction.



Increase productivity up to 30%

InVision™ combines guided working steps and intuitive process verification with smart work-station design, leading to increased operator efficiency. See improvements in productivity by up to 30% and get more out of your processes.



Connected work stations improve operational transparency

Benefit from automatic data and picture capture with every kit. Send this information directly to your connected ERP or MES for simplified track and trace capabilities.



New!

Breakthrough bench scale innovation:

InVision™ is able to identify parts that are very similar in weight or in appearance by using both weighing technology and camera recognition:

- The smart algorithm combines the two technologies for optimal parts identification results in milliseconds
- Two-way verification boosts process safety
- Smart operator guidance on an intuitive touchscreen display reduces errors significantly





Industrial Weighing Catalog 2020

482 Reasons to Download Our New Weighing Catalog

Your new 2019/2020 Industrial Weighing Catalog will help you easily formulate an efficient, cost-effective solution that meets all your weighing and processing needs. Our complete product family combines the broadest range of globally-approved and supported industrial weighing and processing solutions to help you meet your toughest manufacturing challenges and obtain:

- Sustainable accuracy with high uptime
- Reduced waste and bad batches
- Better fill/quality control
- Easier regulatory compliance
- Effortless data management
- Seamless traceability

Download Your Free Catalog:
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