OEM and System Integration

Weighing Components

22 News

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.

METTLER TOLEDO

Multi-Cloud Connectivity Options
Exceed Customer Expectations

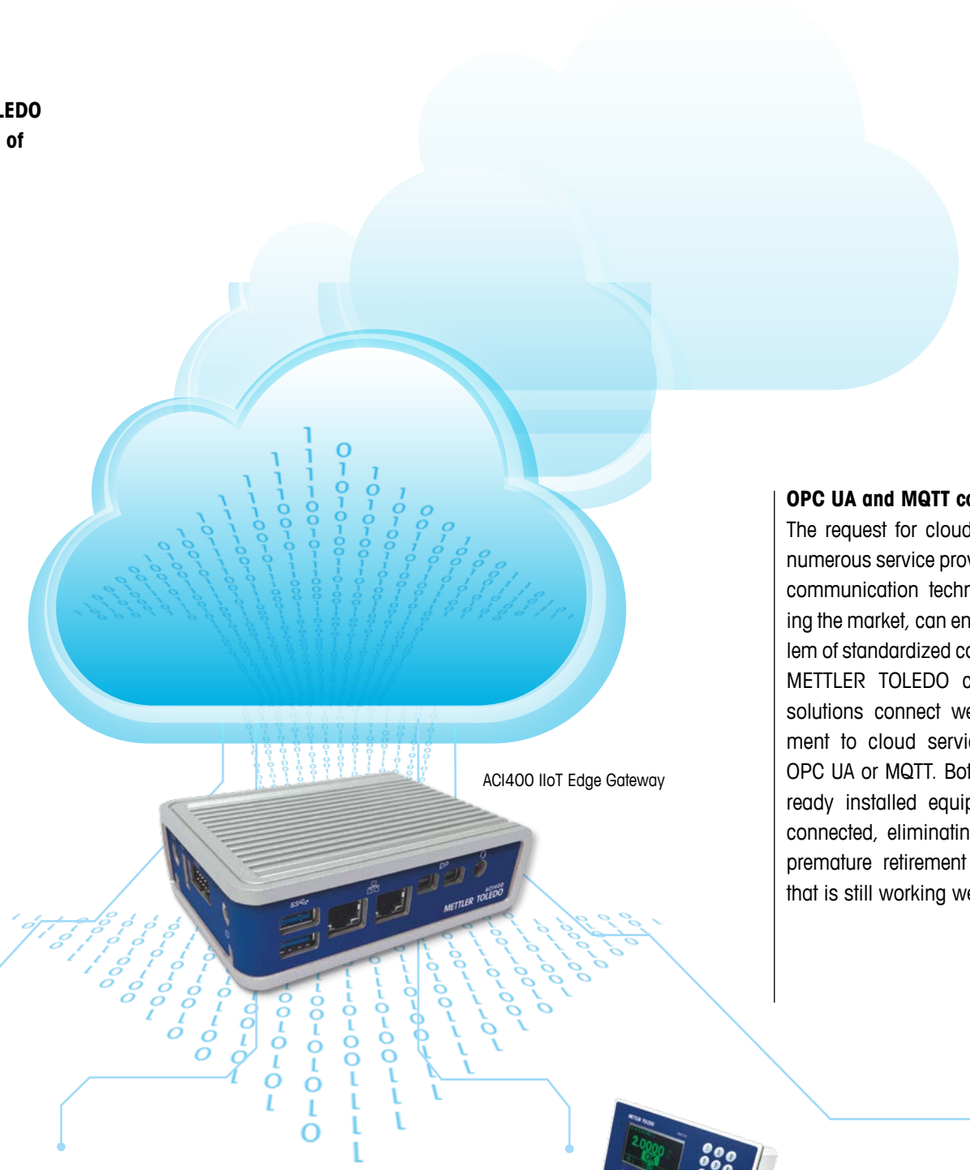
Machine builders and system integrators must comply with their customers' expectations regarding MES, ERP system and cloud connectivity. METTLER TOLEDO provides the common connectivity standards to communicate with a multitude of control, IT and cloud systems, making us your ideal partner.

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.

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




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

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

4 Ways to Deliver Higher Speeds
While Improving Accuracy

Weight-based quality control is the choice for machine builders and system integrators due to its high level of productivity and results consistency. Being able to provide high precision at maximum speed brings a significant advantage to your systems. Partner with METTLER TOLEDO in your next automation projects to meet your customers' speed requirements.

1. Split-second accuracy
Provide your customers with both increased productivity and quality with METTLER TOLEDO components. These high-speed weighing devices deliver low latency and split-second accuracy, allowing for real-time visibility to make critical control decisions at the right moment.

2. Active, user-defined filtering
Vibration is a challenge for consistent quality control. Keep your customers' processes running at top speeds through active, user-defined electronic filters. These filters increase your system speed while providing results that exceed your customers' expectations.

3. Unique communication through SAI
Industrial Ethernet networks transport weight data to your PLC at rates up to 1,000 times per second. Serial-based networks or serial-to-Ethernet converters will not meet your expectations for fast control. METTLER TOLEDO automation components are able to instantly boot up and communicate through Industrial Ethernet networks with a unique language that gives you power on every integration.

4. Cyclical weight data for robust systems
Selectable floating point data allows your control algorithm to operate at its highest efficiency including condition monitoring, synchronization, net, alarm, heartbeat, motion, center-of-zero and data-okay. Your systems are secure and stable and the weight is fault-free because a failure is reported within seconds.

Automation Sensor Brochure
Download the comprehensive brochure on the top considerations when it comes to automated weighing.

www.mt.com/ind-automation-components

Improve Machine Performance
Quality Dispensing Just Got Easier

Dispensing the smallest amounts of liquid accurately is essential for producing outstanding quality products on your machines. Learn how METTLER TOLEDO high-precision weigh modules enable fast, accurate adjustment of dispensing devices to increase the throughput of your machines while simultaneously tightening tolerances.

Enable improved quality
Innovative production machines set new overall quality standards in producing expensive products. An extremely critical parameter, which defines the characteristics of future light concepts and power consumption, is accurate dispensing. Enable consistent quality at maximum throughput with WKC weigh modules. The highly accurate weighing feedback enables adjustment for changes, even when production tolerances reach their maximum.

Gain efficiency
For high-precision results, METTLER TOLEDO provides you with weighing equipment that is able to easily communicate with your automation interfaces. This lets your machine adjust and calibrate valves by measuring the weight of a single liquid dot. The high-speed weigh modules can be seamlessly integrated into your machines and standardized interfaces allow easy communication with control systems, saving you time on every project.

Achieve maximum benefits
Offer your customers higher-accuracy dispensing by providing them with a high-speed, high-accuracy technology that meets their high-precision needs. Your customers will be able to dispense faster and more precisely for longer periods, ensuring maximum uptime and productivity. Leverage best-in-class measurement technology without compromises on integration speed.

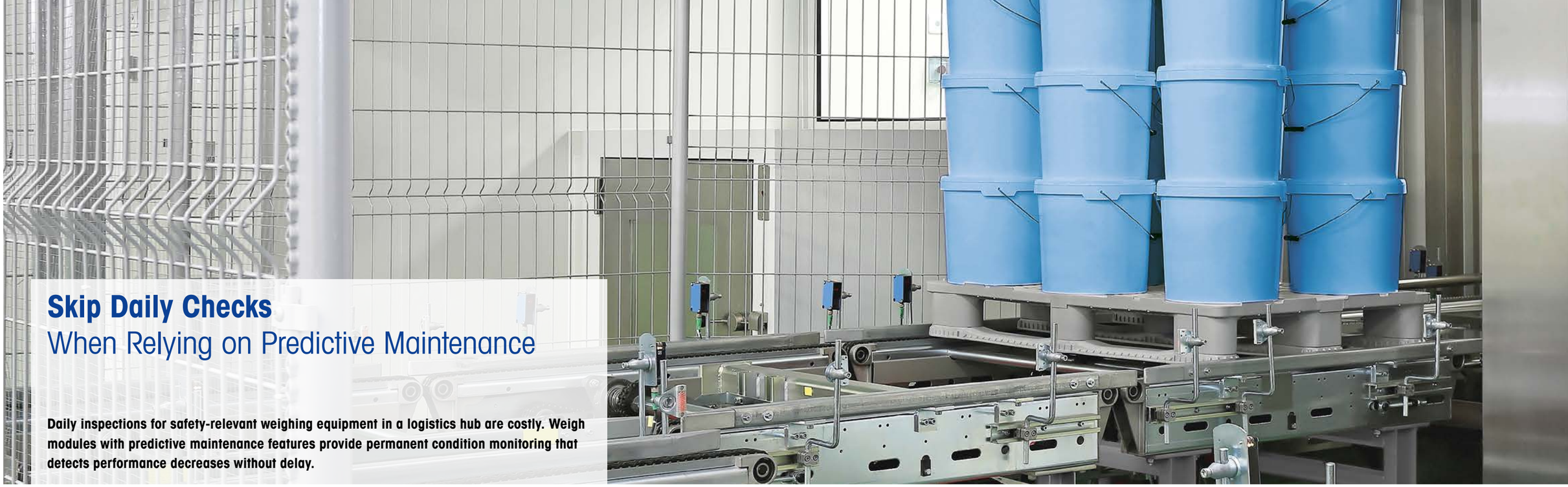
Case Study Collection
For expert insights, download the case study collection on successful integration of small-volume filling applications.
www.mt.com/ind-filling-applications

Fast installation
Standard M12 connector and coated cables for fast commissioning and reliable communication. Cut integration time by a third.

Integrated calibration
WKC weigh modules feature an internal test weight, enabling adjustment if a deviation is detected. Maximize your customers' uptime.

Robust housing
Fully enclosed stainless-steel housing protects the weigh module against aggressive materials.

Adaptable weighing pan
A detachable weighing platform with threaded holes allows for the installation of custom weighing pans. Enable production flexibility with only one device.



Skip Daily Checks
When Relying on Predictive Maintenance

Daily inspections for safety-relevant weighing equipment in a logistics hub are costly. Weigh modules with predictive maintenance features provide permanent condition monitoring that detects performance decreases without delay.

Shipping documents include declaration of weight. Many logistics hub operators use this information to determine the storage location and to avoid overload of shelves. However, warehouse operators typically don't trust the documentation and perform their own weight check before passing pallets and boxes to the automated warehouse system.

Predictive maintenance reduces ongoing effort

A logistics hub operator decided to abandon unreliable daily preventative maintenance checks at the end of every work shift for the safety-relevant weighing stations. He upgraded the existing weigh modules with traditional analog load cells to PowerMount™ weigh modules with POWERCELL® load cells, the new load cells from METTLER TOLEDO. These load cells feature integrated microprocessors that perform continuous condition monitoring to provide predictive maintenance information. They immediately detect debris that falls from pallets and obstructs the free motion of the scales. The load cells also immediately detect damage from careless pallet placement onto the conveyor scale by forklift trucks.

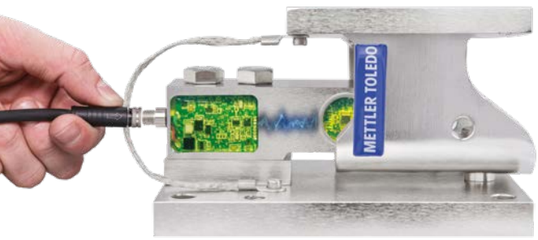
Fast and easy installation

Our service engineer simply replaced the old weigh modules with PowerMount™ weigh modules. The cables were easy to install into existing conduits because of plug-and-play connectors and availability of pre-configured cables with different lengths. Junction boxes to connect individual weigh modules were not required anymore because the POWERCELL® inside the PowerMount can be daisy-chain connected and the length of the cables doesn't matter.

Cost savings and even more reliability

The logistics operator saved the cost and effort of daily inspections that were not always executed because of heavy workloads and a lack of understanding about why it was necessary on the part of some employees. The hub operator also saved the frequent training sessions for the inspection team because of high turnover among workers. In addition, they now have the capability of analyzing the error log file to identify which forklift driver stresses the conveyor so they can provide additional training to prevent unnecessary scale wear and tear and prolong the life of their investment.

- **www.mt.com/SWB605-oe**
- **www.mt.com/SWC615-oe**



Weigh Module for Predictive Maintenance

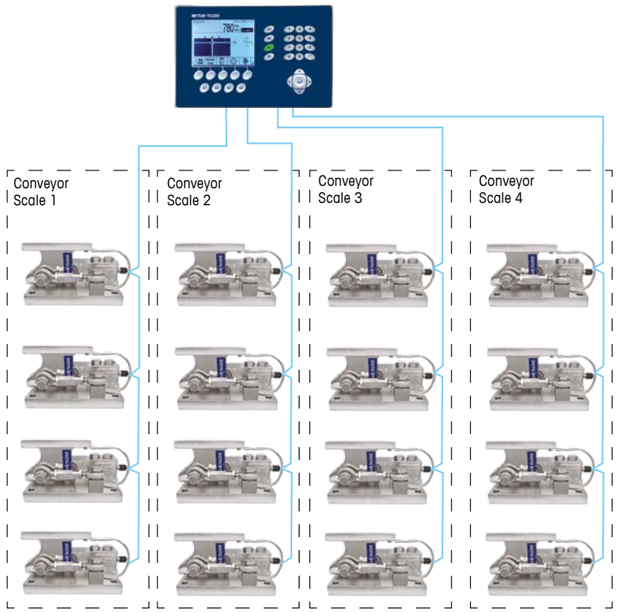
The POWERCELL® load cell inside the PowerMount™ weigh module has an integrated microprocessor that processes weight result. It can be daisy-chained with other weigh modules directly to the weighing terminal.

- **www.mt.com/ind-powermount**

The IND780-PDX Weighing Terminal with TraxEM™

software constantly monitors loads cells, records errors and alerts the user prior to serious trouble.

- **www.mt.com/IND780**



Smallest Footprint in the Industry

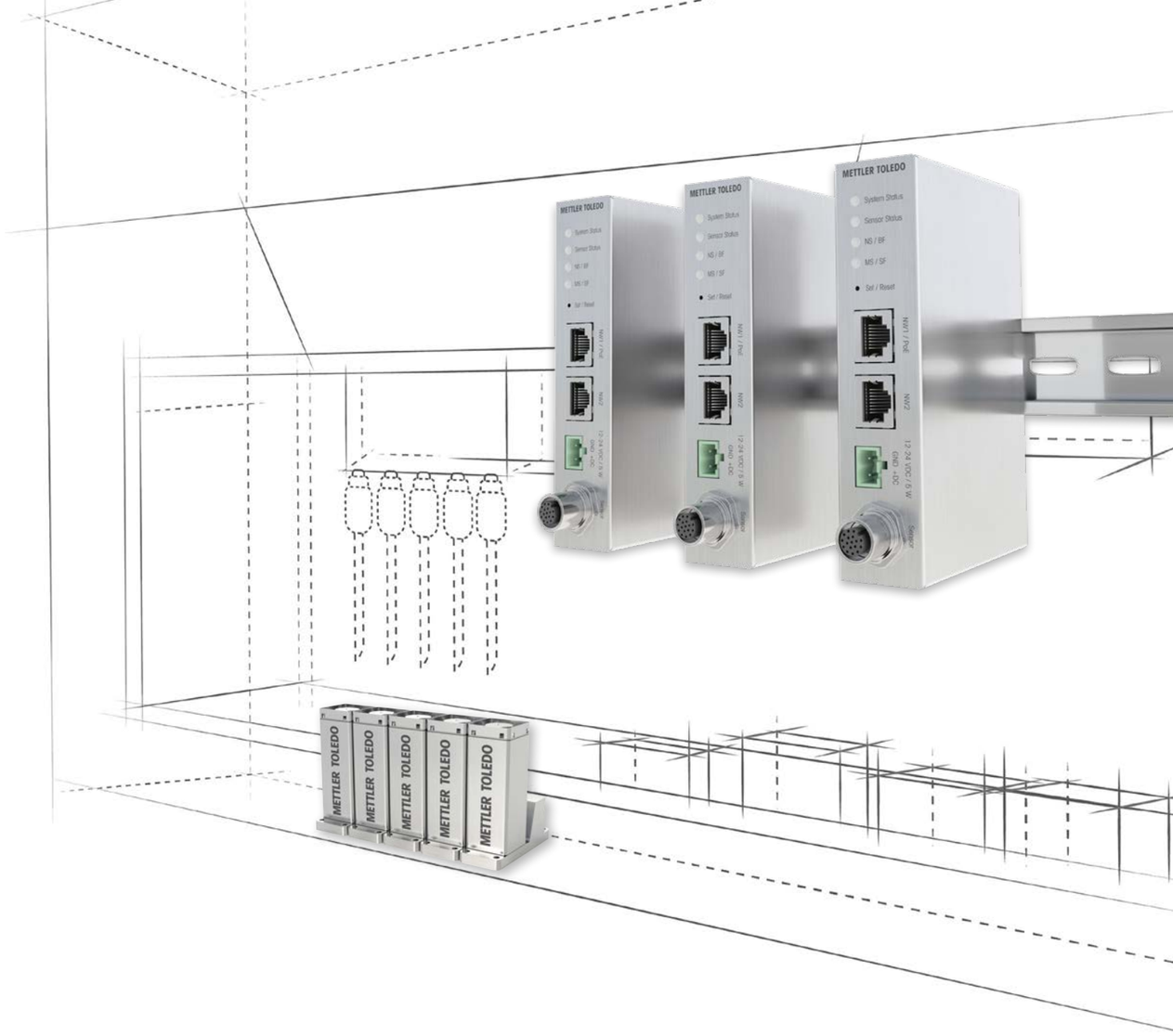
3 Times Smaller for Unique Capabilities
Easy-to-Integrate Weigh Modules

METTLER TOLEDO's new SPC weigh module introduces a new generation of high-precision weighing technology that is the perfect combination of compactness and high accuracy. By exceeding the typical performance for weigh modules of its size, the successor to the well-established WMC weigh module enables new application possibilities and provides space for new ideas.

Tablet testing in lab automation
Compliance with regulations is key when producing tablets for the consumer market. Weight is one of the most important parameters in the quality check process and it is here where the new SPC weigh module, the successor to the WMC weigh module, provides consistently precise results – even in dusty environments. Permanent airflow under the weighing pan prevents dust from entering the weigh module interior.

Dispensing in manufacturing
Modern smartphones contain a multitude of sensors and microelectronics. To protect these sensitive parts, a coating is applied, while cameras and other parts are fixed with glue. SPC enables high-precision weighing to adjust the dispensing device for these substances. Operate at tightest tolerances on a minimum footprint. Plug and communicate with PoE and software for parameterization, diagnostics, and data backup.

Quality in solar wafer coating
Solar wafer production is a highly automated process with superior quality standards. Different pastes are printed onto the wafer's front and rear surface. Beside other parameters, weight is used to ensure consistent quality. SPC provides direct force compensation enabling a short settling time. This makes your machines faster and weighing results more stable, which allows your customers to reach high throughput rates.



PROFINET® PROFIBUS® EtherNet/IP™

What's Next for SPC?

The success story of automation components will continue with direct PROFINET and Ethernet/IP™ connectivity. These solutions will be ready a few months after the initial SPC launch. Contact your local METTLER TOLEDO partner for more information.

▸ **www.mt.com/SPC**

3 Reasons to Enable Systems
For the Future of Tank Scale Calibration

The new RapidCal™ calibration method works for small and medium-sized tanks. This easy and highly accurate process enables the highest compliance with ease and produces a competitive cost position.

1. Reduce testing costs
A factory acceptance test can be a big part of calculated costs if relying on time consuming and expensive calibration methods. RapidCal™ can be executed 3X faster than other methods, saving time and money while ensuring compliance. Perform full capacity calibration on tanks up to 32 tons.

2. Minimize downtime
Clients working in regulated industries want to reduce routine maintenance costs, eliminate complexity and comply with industry and quality regulations. Enabling RapidCal™ gives you a competitive edge and the ability to eliminate downtime.

3. Simplify integration
Handling a variety of different tank designs can be a challenge. Lean on expert experience and benefit from step-by-step guidance including technical drawings on every new project. Enable RapidCal™ for your tanks and choose METTLER TOLEDO as your partner for calibration execution.

Discover the innovative calibration solution:
www.mt.com/ind-rapidcal

www.mt.com/ind-weighing-components
For more information

Mettler-Toledo, LLC
1900 Polaris Parkway
Columbus, OH 43240

Mettler-Toledo Product Inspection
1571 Northpointe Parkway
Lutz, FL 33558

Mettler-Toledo, Inc.
2915 Argentia Road, Unit 6
Mississauga, Ontario L5N 8G6

Local contact: **www.mt.com/contacts**

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