PacMoore is a contract food manufacturer for retail, foodservice, food processing and pharmaceutical customers. With quality and accountability at the core of their culture, they rely on high-performance XE3 checkweighers from METTLER TOLEDO Hi-Speed to detect and reject under- and overweight packages. METTLER TOLEDO’s optional ProdX monitoring software enables PacMoore to maximize yields and productivity and document the results of each product run, which they share with their customers.

"As a co-manufacturer, it’s our job to be the safest and most reliable link in the supply chain while helping our customers make money. With our checkweighers and ProdX software, we’re able to maintain our target weights at the same time we reduce product giveaway," said Nicole Marie Lowe, Plant Engineer at PacMoore. "We selected ProdX because we wanted to capture immediate, accurate, indisputable data about what is being produced."

Designed as an off-the-shelf solution, ProdX software easily connects METTLER TOLEDO’s inspection systems to a centralized PC at PacMoore. With an ‘at-a-glance’ view of devices, ProdX centralizes product inspection with an online visualization of the complete lines.

"ProdX gives us real-time data that helps us recognize potential problems on the production line quickly so we can take correct actions to increase line compliance and uptime. For example, it allows us to quickly identify problems with the filler or changing product density by alerting us if fill weights fall outside the tolerant zone or the standard deviation rises within a couple of hours," explained Lowe. "This process control is the most effective when the checkweigher is..."
directly connected with filler. On our VFFS line, the checkweigher sends feedback to the filler to automatically adjust it before out-of-tolerance packages are produced. This line has the best standard deviations, by far, of any of our packaging lines. It also results in lower labor costs and a lower chance of human error."

The premium XE3 checkweigher uses electromagnetic force restoration (EMFR) weigh cells, instead of the more traditional strain gauge load cells, to achieve an accuracy of +/-0.5 to 1 g. This impressive weighing capability is important for PacMoore, which manufactures products like cake mixes that have very specific target weights.

PacMoore has XE3 checkweighers on all three of their production lines at their Hammond, Indiana, USA facility. The checkweighers are connected to ProdX, which captures weights, records rejects and monitors events. One line fills fine powders in 14 oz. to 4 lb. cardboard boxes, one line uses a vertical-form-fill-seal (VFFS) machine to package a variety of products like cocoa, rice, fruits and vegetables into 50 g to 5 lb. bags. The third line produces 50 g to 1.3 lb. stand-up pouches on a horizontal-form-fill-seal (HFFS) machine.

"We use ProdX to export data from the checkweighers all three of our production lines, both for our own reporting purposes and to satisfy specific customers’ requests," said Lowe. "Performance Verification Reports track standard deviation, the mean, the average, the median value and more, which can be used to identify issues on the line. We also offer reports using exported data to customers, which includes how many packages are produced and the average weight. This allows us to show our customers that we are putting exactly what we say we are putting in every package, both in terms of individual package weights and the maximum allowable variance we’re achieving for them."

Maximum allowable variance (MAV) is the limit of "reasonable variation" based on the weight that is declared on a single package and specifies the lowest possible weight permitted. An official MAV is set by FDA regulations, although customers often choose to exceed it. PacMoore’s objective is to stay above each customer’s MAV by the smallest possible amount.

"Because ProdX allows us to run closer to each customer’s target MAV, we’ve reduced product loss by 2 to 10 percent or more, depending on the product," noted Lowe. "With it, we’re able to get more packaged product out the door, which is a direct benefit to our customers."

The connection between the checkweighers and ProdX also helps PacMoore’s personnel, who can set up new products on the checkweigher remotely. "It’s much simpler to set up a new production from my desk than on the production floor," said Lowe. "I’m not in a rush, and I can have the order packet right in front of me."

"Ease of use is very important to us, since people at different levels of the company must be able to use the checkweighers and ProdX software," explained Lowe. "Everybody has access to ProdX, from our maintenance personnel, who use it to diagnose problems, to our sales team, who sells the software’s capabilities to our customers. For this reason, we appreciate the technology’s password protection capabilities, which allow us to control who can log in and what they have access to."

"Because we’re able to monitor every production run in real time, ProdX maximizes our productivity and yields," concluded Lowe. "By reducing product loss, we help our customers make more money. It’s a win-win situation."