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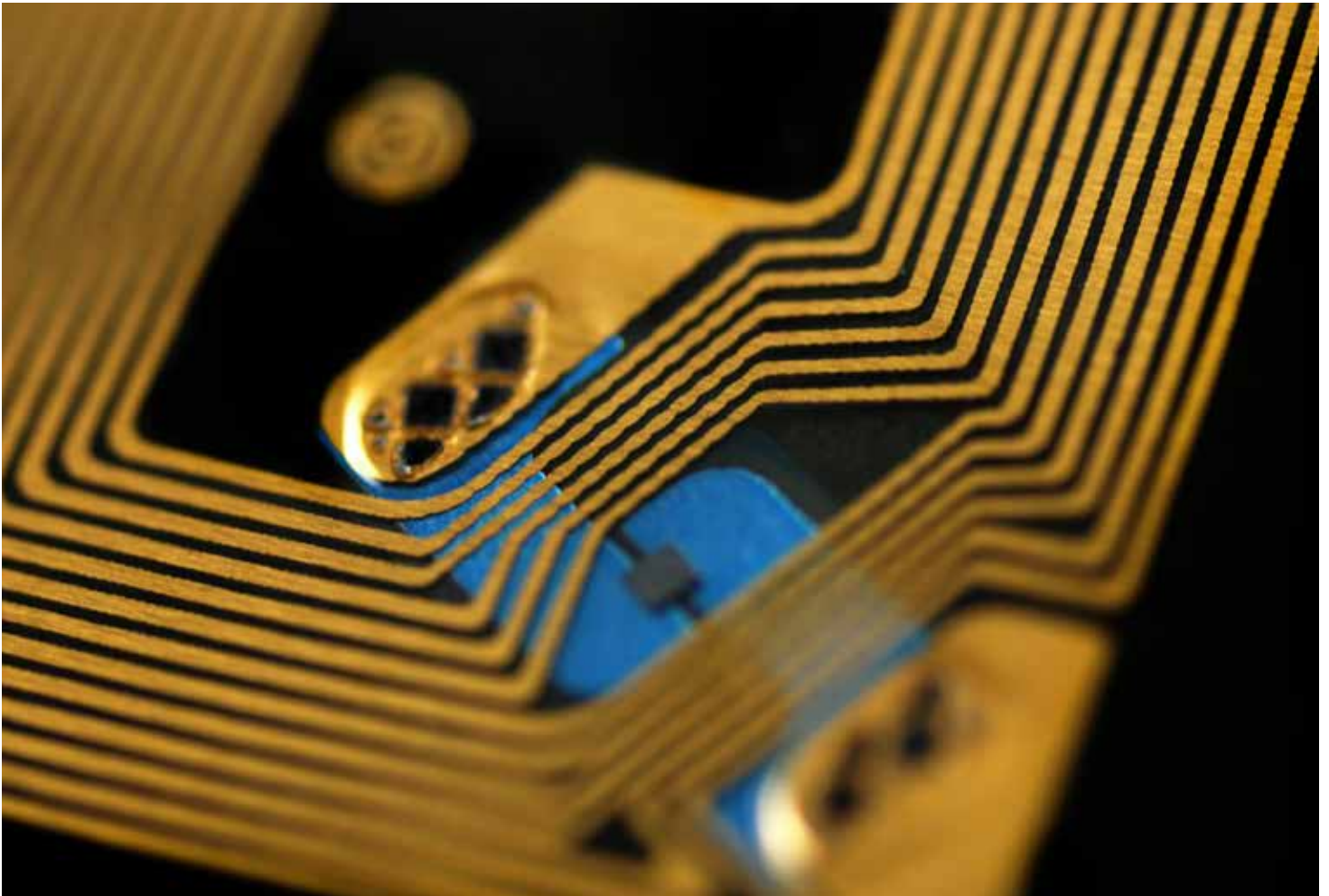
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## A GREENER FUTURE IN THE RETAIL SECTOR



*The following article was written and submitted by Joseph Schlossberg, Vice President of Global Sales – Sourcing Solutions International*

As the effects of climate change are increasingly felt, consumers increasingly seek real change from the retail industry. According to a recent survey conducted by The Economist, Internet searches for sustainable products shot up 71 percent over the past five years.

Similarly, McKinsey & Company has found that 66 percent of all survey participants consider sustainability while making purchasing decisions. That number shoots up to 75 percent for Millennials.

How can businesses in this sector ensure a greener future? Groundbreaking advances in Radio Frequency Identification (RFID), sustainable packaging, energy efficiency, and renewable energy can make companies in the retail sector more sustainable, but these technologies also offer significant benefits for the bottom line. As a result, they can help businesses attract customers even while increasing their profitability.

## What is RFID?

While many customers may not be familiar with RFID technology, chances are high that it's probably already in their wallets as the technology that powers tappable credit cards. A microchip on the card emits a radio signal that the reader accesses and decodes, charging the purchase amount to the customer's account.

Tappable credit cards are just one small example of what RFID can do, however. When RFID tags are added to product packages, boxes, pallets, or shipments, they greatly facilitate manufacturing, shipping, and retail procedures, allowing workers to scan whole warehouses full of inventory simply by walking down their aisles.

By implementing this technology, manufacturers, retailers, and businesses throughout the supply chain can greatly enhance their sustainability in many ways.

## RFID empowers superior inventory management

First of all, RFID tracks inventory better than previous methods by providing an accurate picture of pallets, boxes, and their contents, giving businesses a clear idea of what they actually have on hand, as well as where it is located, at all times. Leadership and management can call up a real-time inventory at a moment's notice.

This enables businesses to better manage their inventory and make decisions to eliminate excess waste and overstocking. Plans can be laid for bringing the right amount of inventory to the right places according to the most advantageous timelines, meaning staff no longer have to navigate crowded spaces or, worse yet, discard unsold goods to make room for new shipments.

All of these benefits translate into improved operations for the business itself, but the careful shepherding of resources also means the company becomes more sustainable from an environmental standpoint. Less waste and more efficiency lighten the company's impact on the planet.

## RFID builds trust through sustainable sourcing

RFID technology also improves sourcing processes and makes them more sustainable. When products have RFID tags, suppliers and manufacturers can reassure their customers about their ethical origin and highlight the use of local materials, which cuts down on both shipping costs and carbon emissions. When retailers can see the provenance of items and components, following their journey throughout their life cycle, their trust grows, as well as their loyalty to those sources.

These benefits carry through to consumers, who increasingly reward ethical and sustainable businesses with their dollars. According to a 2023 McKinsey & Company report, consumer sentiment is driving accelerated growth for sustainable businesses. Products associated with environmental, social, and governance initiatives enjoyed an average of 28 percent cumulative growth over five years, trouncing the 20 percent seen by products that weren't.

## RFID optimizes supply-chain logistics

RFID can also streamline supply-chain logistics because these tags provide real-time data on the movement of shipments. For instance, the empirical data these systems generate can be interrogated to reveal the most advantageous transportation routes. Companies can move away from those trajectories that,



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while they might look good on paper, actually involve bottlenecks or waiting times that end up consuming more time or fuel than alternatives.

Moreover, researchers have observed that RFID technology can ensure goods are handled correctly during shipping. Algorithms can use the information in these tags to develop plans for unloading vessels and stowing cargo in the most beneficial configurations.

Similarly, algorithms can use RFID data to calculate the best and most stable cargo configurations for ships and trucks. For instance, refrigerated containers need to be positioned near electrical outlets, while other shipments may need to be kept out of direct sunlight. This kind of careful handling maximizes the chances that even fragile or otherwise difficult shipments will reach their destinations without incurring damage.

The result of these changes is more efficient shipping that is not only good for the company's bottom line but also for the environment. The less energy that is consumed during transportation, the smaller each shipment's carbon footprint, and these savings become significant when considered on an industrial scale.

Another powerful strategy to reduce the industry's ecological impact is incorporating biodegradable or recyclable materials into retail operations.

### **Transitioning to eco-friendly packaging**

Transitioning to sustainable product packaging goes a long way to advancing a circular economy. Packaging companies are coming up with innovative designs and formulations to reduce the amount of plastic in packaging, as well as create compostable plastics or plant-based alternatives. Other companies are mastering how to turn waste products back into virgin plastic for reuse.

In the apparel industry, environmentally friendly hangers are now available. Some models use less plastic than conventional hangers, yet are still stronger than them, while others feature hooks that can collapse to the side. This means they take up less space, reducing storage and shipping costs, as well as decreasing fuel expenditures. Today's hangers can even do away with plastic completely — some are made from fiberboard, paper, or post-consumer waste. Paper hangers with plastic hooks, called "hybrid hangers," necessitate only 15 percent of the plastic of a conventional hanger.

Importantly, switching to eco-friendly packaging solutions like these wins the approval of most consumers. The aforementioned McKinsey & Company report found that over 60 percent of participants would even pay more for a product with sustainable packaging.

Manufacturers and other retail businesses can also improve their sustainability, as well as their profitability, by embracing new energy efficiency technologies.

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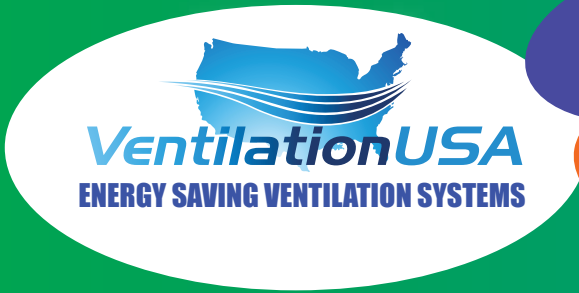
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Companies can also benefit from next-generation energy management systems, which use Industrial Internet of Things (IIoT) sensors to monitor energy consumption and flag areas for improvement, allowing management to implement targeted changes. They can also be set up to automatically conserve energy as much as possible, adjusting energy usage in response to criteria like temperature, amount of sunlight, and occupancy.

Advances in technology have also made solar energy more efficient, reliable, and scalable. Indeed, commercial systems have become so powerful and cost-effective that solar is now a real option even for large businesses and manufacturers. Incorporating renewable energy is an excellent way for businesses to reduce their reliance on fossil fuels and decrease greenhouse gas emissions.

### **Lead the industry, reap the rewards**

The retail industry has a crucial role in preserving the environment. Through the adoption of RFID, sustainable packaging, energy efficiency, and renewable energy, businesses in this sector can drive meaningful change. When manufacturers, suppliers, distributors, and retailers embrace greener practices, everyone benefits.

By raising awareness of their corporate social responsibility, businesses in the retail sector can establish themselves as industry leaders and appeal to today's environmentally conscious consumers. As a result, they will reap the rewards of increased customer loyalty and market share, as well as build leaner, more profitable companies that promote a greener future for generations to come.

*Joseph Schlossberg is a Vice President of Global Sales at Sourcing Solutions International. Sourcing Solutions International is a one-of-a-kind supplier that manufactures both hangers and packaging for the apparel/retail industry. The company proudly works in partnership with some of the largest and most well-known retailers and apparel brands, providing paper/plastic/hybrid garment and accessory hangers, labels, hang tags, packaging, and RFID solutions.*

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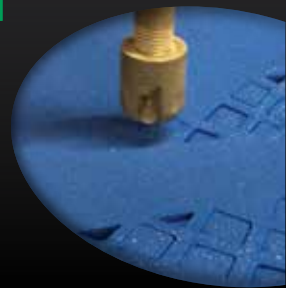
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## THE BENEFITS OF MOM & MES AND WHY THE DIFFERENCES MATTER



Mike Bradford,  
Strategic Business Development  
Director at DELMIA.

Manufacturing Operations Management and Manufacturing Execution Systems play a vital role in the workflow for many manufacturing firms around the globe, but there are still many within the sector who still confuse the two. Mike Bradford Strategic Business Development Director at DELMIA, takes a closer look at some of the biggest differences between MES and MOM, and why these differences are critical to manufacturing success.

## What is the Difference between Manufacturing Execution System (MES) and Manufacturing Operations Management (MOM)?

A lot of people use those terms interchangeably, but they don't mean the same thing. For instance, MES is a core component of the overall DELMIA MOM scope. MES refers to guiding the operator in production tasks to be done, collecting genealogy data as products are produced, and collecting production data in real time.

This data makes it possible for companies to optimize production activities from product creation to final production. MES can be considered a component of MOM. Think about gaining visibility and control over shop floor execution. Its primary purpose is to monitor, manage, and optimize the day-to-day processes inside the facility using data. Precision and efficiency are key benefits of MES, as it provides real-time data and guides the operator in the production tasks, allowing for a smooth flow of operations at the shop floor level.

On the other hand, MOM, with its broader scope, provides a comprehensive outlook on the entire manufacturing operation. It integrates various elements such as quality, logistics, warehouse and materials, time and labor, and maintenance into the overall process. This feature allows for a holistic management approach, making MOM particularly beneficial for businesses seeking to optimize multiple aspects of their operations simultaneously.

Furthermore, MOM offers the advantage of scalability, providing global enterprise support. This means it can be set up at one plant, and then replicated across multiple plants, facilitating consistent processes across various locations. This is particularly beneficial for larger companies operating at multiple sites who want to ensure consistent processes and best practices across the entire enterprise.

## The Benefits of Manufacturing Execution Systems

MES brings several key advantages to the manufacturing environment:

- **Real-Time Data Collection:** MES enables real-time data collection and analysis, enhancing decision-making and operational efficiency.
- **Standardization of Production Processes:** MES helps to standardize production processes within a facility, leading to improved product consistency and overall efficiency.
- **Integration with ERP Systems:** MES seamlessly integrates with Enterprise Resource Planning (ERP) systems, facilitating smooth information flow across different levels of the organization.
- **Reduced Operational Costs:** By streamlining processes, eliminating waste and facilitating lean programs, MES can significantly reduce operational costs.

## How MOM Benefits Overall Manufacturing Operations Efficiency

In addition to the advantages provided by MES, MOM offers several key benefits that contribute to the overall efficiency and effectiveness of manufacturing operations.

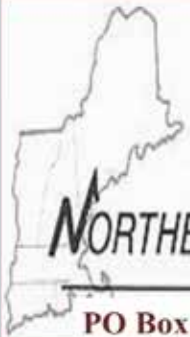
**Improved Decision Making:** With the integration of Real-time data, MOM aids in informed and accurate decision-making, reducing errors and increasing operational efficiency.

**Enhanced Quality Control:** MOM systems integrate quality control in the manufacturing process, ensuring consistent product quality and reducing waste.

**Optimized Resource Utilization:** By providing a comprehensive view of all operations, MOM allows for optimal allocation of resources, thus reducing costs.

**Increased Scalability:** MOM systems can be configured at one plant and replicated across multiple plants, ensuring consistent processes and facilitating growth.

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## Why MOM and MES Matter

Understanding the benefits of both MOM and MES is crucial for businesses looking to optimize their manufacturing operations. MOM plays a comprehensive role in managing all aspects of manufacturing operations, while MES focuses on the granular control needed at the shop floor level.

MOM and MES are not mutually exclusive; instead, they can work synergistically to take manufacturing operations to new heights. By integrating MES into an existing MOM solution, businesses can experience a vast reduction in inventory, waste, and overall inefficiencies.

The choice between MOM and MES ultimately depends on the specific needs and goals of the manufacturing operation. The key is to understand the unique benefits and roles of each, and how they can be leveraged to achieve operational efficiency, improved decision making, and enhanced quality control.

The growing market for MOM and MES systems, predicted to reach \$15.21 billion by 2026, underscores the importance in the manufacturing sector. This growth is driven by the increased adoption of industrial IoT and the move towards Lean and improvement programs.

To summarize, MOM and MES matter because they provide the tools necessary for businesses to optimize their manufacturing processes and gain a competitive edge in today's fast-paced, technology-driven manufacturing landscape.

*Further Information:*

## What is a MES?

MES is a core component of the overall DELMIA Manufacturing Operations Management (MOM) scope. According to the ISA95 standard, MES roughly corresponds to the Production dimension set of capabilities. Hence it can be mapped to the Production module of DELMIA MOM (DELMIA Apriso). It helps companies ensure that manufacturing operations work

efficiently. It enables manufacturers to take control of operations everywhere in the enterprise to coordinate and synchronize people, processes, equipment, tooling, and materials on a global scale. By digitalizing the entire manufacturing process—from design to build to support— and leveraging the IIoT, manufacturers can control and synchronize production operations with real-time operations monitoring and reporting.

## What is MOM?

MOM enables companies to handle all operations across their manufacturing enterprise via a single, unified solution that operates as a highly configurable manufacturing platform. As a result, users can manage and execute enterprise-wide manufacturing operations processes, including those associated with production, quality, internal logistics, warehouse, maintenance, labor, and the supply chain, delivering far greater functionality than a traditional MES.

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**Hutchinson Aerospace & Industry, Inc.,  
receives Business Clean Energy Award from  
Consumer's Energy**

*Ithaca plant has saved over 2 million kilowatt hours in the past two years*

HOPKINTON, Mass. — Taking another green step forward, the Hutchinson Aerospace & Industry, Inc., plant in Ithaca was recently awarded the Business Clean Energy Award from Consumer's Energy after participating in energy demand and response, energy waste reduction and sustainability programs in 2023. The award recognizes Hutchinson's commitment to energy efficiency and energy waste reduction, while helping build momentum toward a clean energy future.

Hutchinson, a world leader in the development of unique and custom solutions for shock attenuation and vibration isolation mounting systems, has been actively working to reduce emissions and act sustainably for the planet and future generations, and credits programs like these with helping.

"We appreciate this recognition from Consumer's Energy and are grateful for its programs that move us closer to reaching our greenhouse gas goals, reducing our carbon footprint and being a good steward and neighbor to people in Ithaca and the world," said Don English, Hutchinson's maintenance manager and health, safety and environmental manager. "It's all intertwined with our overall goals."

Hutchinson set a goal to be 50 percent carbon neutral by 2030, and 100 percent by 2050. The company recently achieved a major milestone, receiving ISO

50001 International Energy Management Certificates for its facilities in Ithaca, Michigan, and Hopkinton, Massachusetts.

English said that as part of the Energy Demand and Response Program, the Ithaca plant commits to reducing its power usage by 250-kilowatt hours for up to four hours if Consumer's Energy contacts them to say it's anticipating an event that will impact the power grid.

"They want to know they can rely on us to take some power off the grid to help release the overall stress on the system," said English. "In addition to helping the community, we also earn rebates based on our participation."

Through another initiative, representatives from Consumer's Energy audited the Hutchinson plant and used ultrasonic equipment to detect air leaks in pipes, valves and machinery.

"They tagged any problem areas, we fixed them and earned a \$1,200 rebate," explained English. "In addition, Consumer's Electric tells us how much energy we save by correcting each leak. These may seem like small projects, but together, they can add up to significant savings and a major impact. Over the past two years, we've saved more than 2 million kilowatt hours."

**About Hutchinson**

*Formerly Barry Controls, Hutchinson Aerospace & Industry, Inc., was founded in 1943 to solve shock and vibration problems for the U.S military. Acquired by Hutchinson in 2000 and serving a wide range of diverse global customer applications with extensive materials expertise, the company is recognized today as a world leader in the development of unique and custom mounting solutions needing shock attenuation and vibration isolation. Additionally, Hutchinson is now well recognized as a specialist in custom system design and analysis, innovators in manufacturing, and engineering partners with its customers. To learn more about Hutchinson, Inc., visit [hutchinsonai.com](http://hutchinsonai.com).*

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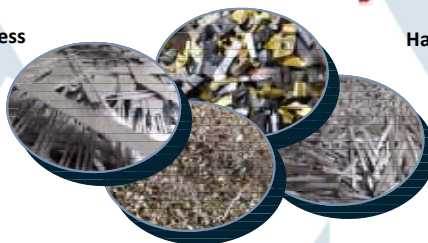
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