



## Vendor Assessment: Vendor Landscape — Traceability and Compliance for the Grocery Product Life Cycle

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IDC Retail Insights: Retail Supply Chain, Sourcing and Product Life-Cycle Management Strategies

EXCERPT

#GRI239070E

Leslie Hand  
Simon Ellis

Heather Ashton

### IN THIS EXCERPT

The content for this excerpt is taken from the IDC Retail Insights Vendor Assessment report "Vendor Assessment: Vendor Landscape – Traceability and Compliance for the Grocery Product Life Cycle" by Leslie Hand, Simon Ellis and Heather Ashton; Doc #GRI239070. All or parts of the following sections are included: IDC Opinion, In This Study, Situation Overview (including vendor Profile), Future Outlook, and Essential Guidance. Table 2 and Figure 2 are also included.

### IDC RETAIL INSIGHTS OPINION

The role of the grocer continues to grow more complex, with new requirements around ingredients tracking, packaging and labeling, and track and trace of products and ingredients from source to the store shelf. Add to this the global nature of the food supply chain and the effort to manage all of the moving parts becomes overwhelming. Findings from our study of traceability in the grocery retail and food and beverage manufacturing segments include:

- Food stores and food manufacturers both view product quality as a top priority, and they see improving collaboration with suppliers and enhancing supply chain visibility as key drivers for improving product quality.
- Retailers are very concerned about quality of product and transparency to the customer regarding product details down to the ingredient level. Both consumer demands for more information and the potential brand damage from recalls are drivers for grocers to implement granular systems and processes for product life-cycle management (PLM) and traceability.
- Retailers and food industry companies we spoke with emphasized the challenges of launching a solution to increase visibility, connect with suppliers, and improve supply chain collaboration.

Properly allocating human resources to traceability and product life-cycle management projects was repeatedly identified as a key necessity for success.

- The vendor landscape for PLM and traceability solutions for the grocery market — particularly for private-label brand manufacturing — is very much an emerging market that shows potential for significant growth.

## **IN THIS STUDY**

In this IDC Retail Insights report, we look at the growing importance of product life-cycle management, traceability, and compliance to grocery stores and food and beverage manufacturers. Specifically, we cover:

- Business drivers behind PLM and traceability for grocery retailers, including consumers' demand for greater visibility, and retailers' desire to instrument a smarter supply chain
- Current challenges within the grocery supply chain, including lack of visibility beyond one step and specifically into the source of ingredients, and supplier onboarding
- Compliance efforts including government mandates and industry initiatives
- Examples of what leading retailers are doing around grocery product life-cycle management and traceability and how they view their role in the consumer-retailer relationship
- A proposed model for balancing speed of adoption for traceability and PLM with customer centricity
- Vendor offerings in the PLM and traceability space, addressing the spectrum of functionality for developing and manufacturing a product as well as traceability and recall capabilities

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## **Methodology**

We invited 10 vendors to participate in this study, extending an invitation only to those vendors that have PLM solutions with traceability and compliance capabilities for the grocery and food and beverage markets. We spoke with IBM, which has completed some impressive work around "Smarter Food" capabilities but does not have a "packaged" product for PLM and traceability. Dassault Systèmes and Infor declined to participate.

There were a number of steps in this evaluation process, including:

- Product review and strategy briefings with each of the participating vendors
- Each vendor completing an extensive RFI and providing customer references
- Customer reference calls conducted, covering general business challenges around traceability and PLM, complexity of the project, vendor responsiveness, and strengths of vendor and offering
- Qualitative assessment of each vendor against the evaluation criteria
- Review of assessment with each vendor prior to publication to ensure factual accuracy

The resulting vendor landscape accurately reflects the result of these research efforts, in addition to publicly available information, end-user experiences, and the market knowledge that IDC Retail Insights has accrued in this space.

## **SITUATION OVERVIEW**

Grocers are being pressured by many groups today to increase visibility into their supply chains to enable the tracking of food from farm to fork. Consumers, industry initiatives, and government regulations are all driving grocers to implement various compliance efforts to increase food safety and deliver better products to the consumer. At the same time, grocers are entering into a new relationship with their customer as brand owners of the store brands they carry. This shift is driving new challenges for grocers regarding how to manage the process for bringing new products to market, how to ensure the quality of the ingredients that go into the products, and how to communicate this level of stewardship to customers.

The goal for many grocery retailers, then, is to create systems and processes that will support a smarter supply chain and more efficiently and effectively move a store brand product from ideation through delivery to the shelf, including with it the appropriate levels of traceability and compliance. A major component of these systems involves the ability of grocers to engage their suppliers in a collaborative way to achieve visibility throughout the product life cycle. However, supplier collaboration can be one of the biggest challenges for retailers as they move down the path of product life-cycle management and traceability.

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## **Compliance and Regulations in the Mix**

Both the government and the food industry are pushing initiatives and standards to help prevent outbreaks of common pathogens from reaching consumers. And consumers are now, more than ever, interested in knowing how safe the food they purchase is. All three forces are combining to make compliance a significant factor for grocery retailers. Consider that the CDC estimates that nearly 1 in 6 people (or 48 million) will be impacted by a foodborne illness each year in the United States ([www.cdc.gov/foodsafety/facts.html](http://www.cdc.gov/foodsafety/facts.html)). Because of the potential havoc a recall can wreak on a retailer's brand and customer loyalty, retailers need to take an active role regarding traceability to build a trustworthy relationship with customers.

Increasingly, industry consortia and government mandates add a layer of complexity for grocery retailers in terms of maintaining compliance for their store-branded products. Retailers must combine the demands of the consumer for visibility that enables them to trace a product from origin to the store shelf with a need to meet certain requirements for properly labeling products, managing ingredients, and having the ability to trace a product if there is a safety recall.

There is a combination of voluntary and mandatory programs for increasing food safety. The challenge for grocery retailers is to keep track of the regulations, including changes and updates, to maintain compliance. And, a number of leading retailers do not feel the standards go far enough to protect their brands, so they are implementing traceability systems that provide even more granular details to ensure product safety and manage potential recalls. Increasingly, grocery retailers are turning to software solutions that help manage the complexities of compliance, traceability, and product life cycle of their store brand products.

## **IT SUPPLIERS**

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### **Defining the Ideal Traceability and Product Life-Cycle Management Processes for Grocery**

In this report, we cover two categories of business processes to assist grocers in managing their branded products and providing visibility throughout the supply chain. While these categories — traceability and product life-cycle management — are not mutually exclusive, it is important to note that they do not always come together in an integrated product. Some of the vendors we have interviewed for this report have solutions that are focused more completely on track and trace rather than managing the entire product life cycle for store

brands. Others have a very robust product life-cycle management offering, and traceability is ancillary to this offering.

Because of this, it is useful to consider all of the myriad processes and functions that typically occur as part of the product life-cycle management and traceability approaches within a grocery retailer.

### ***Design***

As grocers move into the role of brand owners, many are assuming a new role in owning the design process for products. Whether it is specifying ingredients to avoid (e.g., high-fructose corn syrup) or design components (package size or labeling), grocers are more intimately involved at this stage of conception than ever before. Among the capabilities that make up a product life-cycle approach are:

- Product specification management
- Formula management
- Ingredient management
- Collaboration tools for design
- Product packaging management
- Technical data sheet management

### ***Manufacture***

When a product has been designed, it is then the responsibility of the grocer to communicate the information necessary with suppliers and manufacturers to source the correct raw materials and move through the manufacturing process. Very few retailers are currently also manufacturers — Kroger is an example of a notable exception. Either way, the need for traceability and compliance management from source to shelf still applies. Key capabilities during this phase include:

- Product quality control
- Supplier collaboration
- Supplier performance management
- Factory audit tracking
- Regulatory compliance management
- Regulatory compliance tracking
- KPI management

Supplier collaboration is an important component of this phase and is not to be taken lightly. Customers we spoke with could not stress enough the challenges of properly onboarding suppliers to achieve a connected product value chain.

### ***Deliver***

As products move from production to the store shelf, the level of visibility a grocer has through this phase is equally important to upstream visibility back to the ingredient source. Capabilities at this phase include:

- Transportation visibility
- RFID tracking
- Store inventory management
- Customer complaint tracking
- Recall management
- Customer visibility

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### **Is Traceability a Business Process or an Application?**

Many of the grocery retailers and food product managers we interviewed for this report shared that traceability is a multifaceted approach that combines people, processes, systems, and technology to solve these business problems. It needs to begin during the design and sourcing phase of a product and extend through manufacturing to delivery of the finished goods to the customer (refer back to Figure 1). At each step in each phase, there need to be processes in place to capture and share the appropriate data, passing it along through to the next phase and aggregating it at the end to create a complete picture of the final product. These processes can be manual or automated — or a combination of both.

When traceability is being practiced correctly within a company, at any point in the business chain, the company has the ability to track upstream or downstream the critical information linked to the particular product. Today, the industry standard is one step up and one step down, but many retailers are pushing their value chains to provide visibility beyond one step, realizing that one step removed is not enough of a guarantee that the levels of quality and safety are being met. Given that retailers' reputation is increasingly on the line, their position makes sense.

## Selecting the Right Technology Partners

Fortunately, the market for technology products that address the needs of grocery food product life-cycle management and traceability is gaining momentum. In the past several years, as the private-label market has continued to grow, a number of software applications have emerged to address the unique challenges of this environment. We provide a summary of vendors that offer a packaged solution for addressing the product life-cycle management aspects of grocery foods as well as solutions that help grocery retailers improve product traceability and manage recalls. Table 2 provides a summary of the vendors in this report as well as their capabilities, key customers, and some of their core strengths. The sections that follow provide brief summaries of each vendor offering.

**TABLE 2**

### Vendors That Offer Traceability and PLM Capabilities for Grocery Retailers

Vendor Name	Applications	Food-Related PLM/Traceability Customers	Support for Mobile	Support for Cloud/SaaS	Strengths
MICROS	MICROS myCreations portfolio	Tesco, Sainsbury's, Makro, Waitrose, Sobeys, Bakkavor, H.E. Butt, Sobeys Canada, Daymon Worldwide	Yes	Yes	Product life-cycle management, regulatory compliance tracking, recall management
Oracle	Oracle Agile PLM, Oracle GRC, Oracle Process Manufacturing, Oracle Retail Merchandising System, Oracle Retail Store Inventory Management, Oracle Transportation Management, Oracle Retail Warehouse Management	Kroger, Starbucks, Tyson, McDonald's, Coca-Cola	Yes	Oracle Cloud Services	Product life-cycle management, inventory management, container-level traceability, recall management
JDA Software (RedPrairie)	JDA Brand Protection, Inventory Visibility, Collaboration Portal, Performance Management, Enterprise Store Operations, and Warehouse Management	Cabot Creamery, Hatfield Quality Meat	In next release	Yes	Inventory management, regulatory compliance tracking, granular traceability, recall management
SAP	SAP PLM for Process Industries and SAP Business Suite	ACH Food Companies, Henkel, Danone,	Yes	Yes	Product life-cycle management, regulatory compliance

**TABLE 2****Vendors That Offer Traceability and PLM Capabilities for Grocery Retailers**

Vendor Name	Applications	Food-Related PLM/Traceability Customers	Support for Mobile	Support for Cloud/SaaS	Strengths
		Arla Foods, Tate & Lyle			tracking
Selerant	DevEX for Innovation Process Management, Product Development, Product Data Management, and Regulatory Compliance	Nestle, Smart Balance, Bacardi, Colgate-Palmolive	Yes	Yes	Product life-cycle management, regulatory compliance tracking, recall management
Siemens	Teamcenter and SIMATIC IT	Kraft Foods, Unilever, Cargill, AB InBev, Diageo, FrieslandCampina, Birds Eye, Iglo, Godiva, Land O'Lakes	Yes	Yes	Product life-cycle management, lot-level traceability
TAKE Solutions	TAKE Solutions Gemini Series Suite and TAKE Solutions OneSCM Suite	Welch's, SunOpta, Molson Coors, Herbalife	TAKE mobility platform available 1Q13	OneSCM Suite today; Gemini Series Suite in future	Lot-level traceability, regulatory compliance tracking
TraceOne	Product Development Manager, Community Manager, Packaging Manager, Collaborative Workflow Manager, BI & Reporting, Alerts & Communications, Product Quality Test Manager, Issue & Corrective Action Manager	Carrefour, Auchan, Sam's Club, Michaels, Walgreens, Sainsbury's, Marks & Spencer, Tesco, L'Oreal, Sara Lee, Kraft Foods	Future product road map	Yes	Private-label product life-cycle management, regulatory compliance tracking, ingredient-level traceability, recall management, supplier collaboration network

Note: The names of some food-related PLM/traceability customers were sourced from public documents and not from vendors.

Source: IDC Retail Insights, 2013

**Oracle**

Oracle Corp. (Nasdaq: ORCL) is a public, profitable enterprise software and services provider. Headquartered in Redwood City, California, Oracle was founded in 1977, and today it has 115,900 employees and offices in more than 145 countries around the world. Revenue for FY12 was \$37.1 billion, with net income of \$10 billion.

90% of Oracle's sales are direct, with the remaining 10% through partners. Oracle has had an offering in the food-related PLM market for approximately 10 years.

Oracle has a number of products that provide the functionality covered in this report. Oracle's Agile PLM provides end-to-end food product PLM including formula/ingredient management, product packaging management, product specification management, technical data sheet management, and regulatory compliance. Oracle GRC provides risk and compliance management. Oracle Process Manufacturing provides the repository for data related to formulas, recipes, and product packaging. It also provides quality management and chain of custody. Oracle Retail Merchandising System provides store inventory management capabilities. Oracle Retail Store Inventory Management provides recall capabilities, and Oracle Transportation Management and Oracle Retail Warehouse Management provide tracking to the container level.

Oracle customers are using various combinations of the products listed previously to assist with food-related PLM and traceability. The solutions are also being used by product segments beyond grocery retail and consumer packaged goods (CPG) manufacturers. For example, Oracle has a significant number of customers in agribusiness and helps provide visibility from farm to fork in the food supply chain, including proof of origin and safe handling. Retailers using Oracle for PLM and traceability include Kroger, and Starbucks. CPG customers include Tyson, McDonald's, and Coca-Cola. Revenue from customers is approximately 70% product and 30% services.

## **FUTURE OUTLOOK**

Grocery retailers are making notable progress in their efforts to assume ownership of their store brands and transition into a role that involves greater control of the product creation and life-cycle process. Leaders in this endeavor are making commitments to both staffing and technology to support product life-cycle management and traceability. Some of the leading grocers we spoke with have identified best practices that include creating internal centers of innovation that control new store brand products from ideation through delivery to the shelf. Making the ownership of store brands strategic and central to the business is positioning these retailers for omnichannel customer excellence.

Where do most grocers sit on the continuum for adopting PLM and traceability capabilities for their store brands? Figure 2 offers a model for understanding how grocers can use this technology to focus their efforts on omnichannel customer-centric customized service and product excellence.

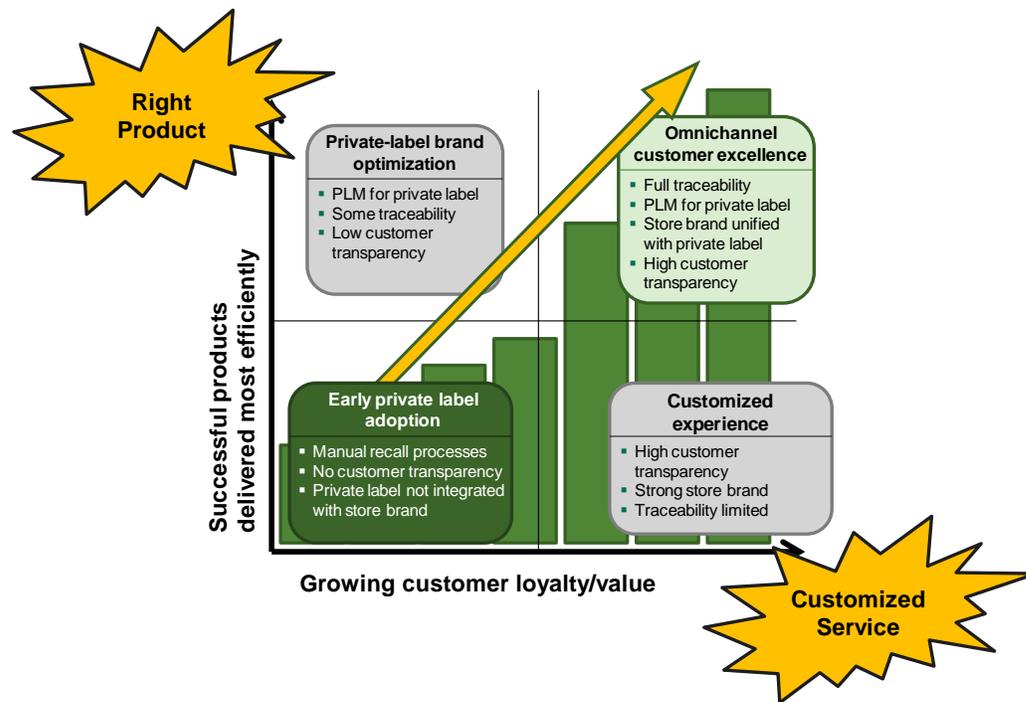
Moving from the lower left-hand corner of this 2 x 2 to the upper right-hand corner adds both efficiency and effectiveness of processes — in what we call a trustworthy, efficient, and effective (TEE) supply chain. Most importantly, this progression is an indication that the brand owner is enabling higher levels of source-to-shelf transparency, automation, and customized customer service.

The vertical axis in Figure 2 denotes the efficiency and effectiveness of *customizing* products for the consumer — that is, offering a customer-centric array of products that satisfy the particular needs of a given customer for value, quality, and availability. In the context of this report — PLM and traceability — this axis references the degree by which PLM is integrated to improve overall product performance.

The horizontal axis in Figure 2 denotes the degree by which traceability is being applied to improve the organization's ability to improve and protect the brand, thereby growing customer loyalty and brand strength. This axis represents the level of focus on customizing service for the customer — transparency being one of the great opportunities of this decade. Let's look a little deeper at the capabilities exhibited in each of these quadrants.

**FIGURE 2**

Focus Efforts on Customized Service and Product Excellence



Source: IDC Retail Insights, 2013

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### **Early Private-Label Adoption**

This is the beginning phase for many grocers as they identify the opportunities that private label presents and seek to find ways to more directly manage the process of bringing new store-branded products. Often, grocers have not merged their private-label "brand" with their overall store brand identity. Recalls that occur are commonly manual processes, and there is minimal ability for customers to have greater visibility into product information and origin.

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### **Private-Label Brand Optimization**

At this phase, grocery retailers have taken full ownership of their private-label brands. Often, they have implemented a product life-cycle management solution and are capable of understanding formulation and ingredients and managing packaging and labeling requirements to meet regulations. This typically includes some level of traceability and helps make a recall more targeted and less disruptive to the business. There is still a low level of visibility available to the customer, although the grocery retailer is capturing much of the data necessary to be able to share it with customers.

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### **Customized Experience**

Grocery retailers that have created the customized experience are highly focused on building customer loyalty and delivering value to the customer. They have achieved recognizable store *brand* awareness within their loyal customer base and are offering some of the aspects of customer intimacy that builds toward omnichannel excellence. These retailers have started to provide services to the "5 I" consumer, delivering targeted marketing messages, providing customer visibility into product offerings, and using technology to assist customers as they move through the physical store. There is still a lower level of traceability here, however, since it is most likely that a comprehensive PLM solution for private label has not been implemented yet.

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### **Omnichannel Customer Excellence**

Omnichannel customer excellence is the ultimate phase in this vision of grocery private-label ownership and product traceability; grocery retailers in this category have fully instrumented their organization with technology to optimize the product life cycle, provide customer transparency, and unify the store brand and private-label products into a single identity. Traceability is possible, and customers have the ability to access product information through the interaction method of choice. Grocery retailers are able to respond quickly and effectively to market opportunities for new private-label products, and they can track and ensure the quality of those products throughout the process.

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## **Locating Yourself on the Map**

The purpose of this graphic (refer back to Figure 2) is to help grocery retailers understand where they are on the map that is moving toward omnichannel customer excellence and how a comprehensive strategy for private-label product management and traceability can contribute to omnichannel excellence. It is important to keep in mind that each of the phases represented requires a combination of technology, processes, and people to successfully move a grocery retailer forward to the next phase. Purchasing a PLM solution for private-label products but failing to staff the effort or achieve the necessary level of sponsorship and buy-in are common mistakes companies we spoke with have made. One large box retailer explained how it had a comprehensive traceability solution in-house for almost two years before the company finally assigned the proper amount of staffing to it to help it get off the ground.

What does the omnichannel retailer look like? One good example is Safeway. In 2010, the company made a strategic decision to move all store brand product management in-house, launching what it called Safeway Direct Connect and rolling out Agentrics (now Trace One) for PLM. The goal was to improve core capabilities such as speed to shelf, product innovation, and quality.

Similarly, Kroger stores selected Oracle Agile PLM for Process in 2011 to speed innovation and establish a platform to continually improve the customer's experience. Kroger implemented the system as part of its "Customer 1st" strategic initiative, which intends to transform business operations to improve customer service and product quality.

### ***Aligning PLM and Traceability Vendor Capabilities to This Path***

The vendors covered in this report can all help companies establish more trustworthy, efficient, and effective supply chains. Some have a fairly broad set of supply chain capabilities that include traceability and PLM components. Others are specialists in managing product life-cycle management and/or traceability.

## **ESSENTIAL GUIDANCE**

At IDC Retail Insights, we are seeing a clear market shift for grocery retailers in light of the increase in private label, the regulatory environment, and the rise of the "5 I" consumer. It is time for grocery retailers to think both strategically and tactically about how to automate and orchestrate some of the processes surrounding private-label products and traceability in more effective ways. The

homegrown and manual processes of the past are no longer suitable or acceptable in today's climate.

Early adopters have recognized the need to invest in these capabilities that enable higher degrees of automation and process control. This automation helps them offload the responsibility of managing systems for compliance and recall to meet the requirements of the continually changing landscape. IDC Retail Insights expects there will be more widespread adoption of PLM for private-label and traceability capabilities by grocery retailers over the next few years, supported by the four pillars: big data, cloud, mobile, and social. Cloud and mobile especially are two major enablers of this shift toward omnichannel excellence.

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### **Actions to Consider**

Actions that grocery retailers can take, depending on where they sit on the map regarding PLM for private-label adoption and improved product traceability, are:

- Benchmark yourself against your closest competitors to see where they are in terms of private-label management and traceability capabilities. Understand how they are communicating this to their customers.
- Understand the market opportunity for private label, particularly in the United States, which has lagged behind Europe and other regions. How can your company position itself to leverage the private-label wave, and what do you need in terms of people, processes, and technology to accomplish your goals?
- If your goal is to firmly establish yourself at the forefront of the private-label brand wave, consider making a commitment from a human resources perspective. Follow leaders, like Safeway, that have created internal retail brand teams.
- From the process perspective, understand how a bigger focus on brand and the importance of how a private label represents your company's brand will change your processes. Focus on embedding intelligent systems into the processes that orchestrate the movement of private-label products from ideation to shelf, reducing manual and rudimentary work.
- Supplier collaboration is one of the most important aspects of successfully integrating your organization into omnichannel excellence. From a product development perspective, this involves being proactive about design and managing, reducing redundancies related to ingredients, and collaborating with the manufacturer through the various steps. From a recall perspective, it is all about

finding the most efficient path to pulling a product off the shelf and handling it however the supplier instructs.

- Your approach to traceability may change relative to the level of sponsorship you receive within the organization. If you have a full commitment from C-level sponsorship, you will be able to connect PLM to traceability, incorporating levels of accountability and traceability as you move from bill of materials through end product. You will also have the opportunity to think about the customer and how you can connect the data you are capturing with the customer's desire for greater visibility into product origin and ingredients.

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## **Synopsis**

This IDC Retail Insights report discusses the growing importance of product life-cycle management and traceability and compliance to grocery stores and food and beverage manufacturers.

According to Leslie Hand, research director, IDC Retail Insights, "Grocers that aim to build more customer brand loyalty, and expect that growth in private brands are a key component to this strategy, must create systems and processes that will support a smarter supply chain and more efficiently and effectively move a store brand product from ideation through delivery to the shelf, including with it the appropriate levels of product life-cycle management, traceability, and compliance. Additionally, as the face of national brands to consumers, retailers must also ensure the quality of the products on shelf, manage recalls efficiently and effectively, and communicate this level of stewardship to customers."

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