



Track & Trace Solutions

to support your business and improve consumer engagement



Table of Contents

1.	Industry Challenges of the Future.....	3
1.1	Quality Assurance	
1.2	Production Control	
2.	Track & Trace Solution Impacts.....	7
2.1	Consumer Engagement	
2.2	Global Efficiency & Supply-Chain Control	
3.	Our Solution for Your Challenges.....	9
3.1	Key Elements	
3.2	Flexible Approach & Project Services	
4.	User Cases / Return on Invest.....	12
4.1	Packaging Execution System / Batch Constant	
4.2	Serialization	
4.3	Aggregation	
4.4	Fully Digital Approach	
5.	Process Challenges.....	17
5.1	Product Compliancy	
5.2	Product-IDentification	
5.3	Case-IDentification	
5.4	Pallet IDentification	
6.	Services.....	21

1. Industry Challenges of the Future

For the past 25 years, industrial companies had to face many coinciding challenges. The first and most crucial one was to meet retailers' requirements to organize their complete process and especially their supply-chain management by applying the GS1 Standards. Today logistic and ordering tasks are automated with GS1- EDI message exchanges.

The Second step was to be able to provide full traceability of food products after repeatedly occurring food scandals. In response to the BSE crisis ("mad cow disease"), the EU's General Food Law (Regulation EC 178/2002) was adopted in 2001.

Since this serious huge scandal, consumer pressure has continuously increased.

Tracking and traceability (T&T) of goods along the entire supply chain has become extremely important for all industries.

T&T enables companies in the pharmaceutical industry, for example, to minimize the risk of counterfeiting, thereby increasing both, the safety of their products and the level of trust among consumers.

The use of reliable Track and Trace solutions from specialists such as Laetus makes it possible to monitor an entire supply chain, from the manufacturer's packaging line all the way through to the consumer /point of sale.

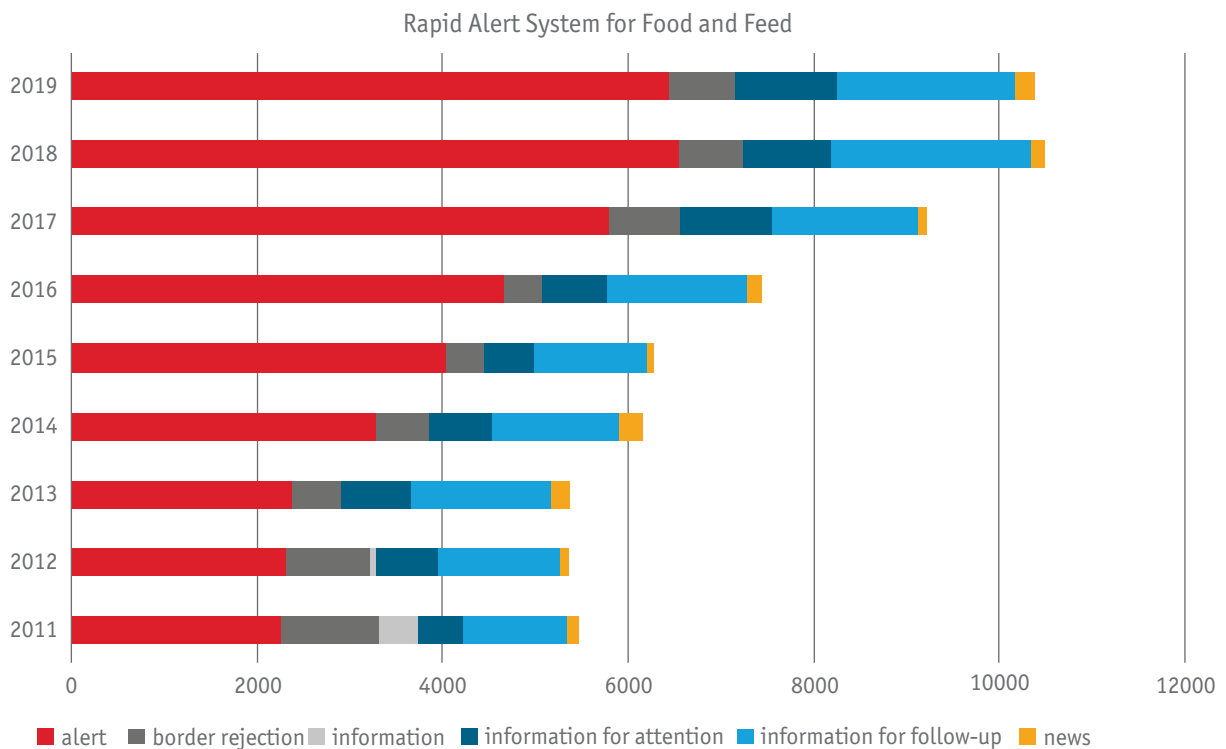
The next challenge is to transform a constraint into an advantage that supports your growth and brand image.



In the past 5 years, the global communication and media speed has steadily increased.

It is no longer possible to hide an issue or a food scandal. The power of social networks are not more necessary to prove. The number of recalls is increasing. So Manufacturers and private brand owners must be able to communicate ASAP and in a precise manner to avoid any side effects on their global business.

Consumers connect an issue not only with a product, but also with the brand behind it.



Source: "European Commission; The Rapid Alert System for Food and Feed – Annual Report 2019, p36"

1.1 Consumer Expectations

Health & Engagement

The consumer of 2020 is increasingly concerned with their way of consumption, particularly with regards to food. Developments of the past 30 years, and the readily available information in regards to the food industry, provided by the media and social networks, have fundamentally changed consumer expectations. Food contamination is a familiar occurrence all over the world. The World Health Organization (WHO) reports that every year an estimated 600 million people – almost 1 in 10 worldwide – fall ill after eating contaminated food and 420 000 even die.



2020 Adulterated spices (India)

Issue	Result
Spices such as chili were adulterated by mixing in chemicals and harmful products	Indian authorities seized 8 tons of spices and arrested 3 people



2017 Listeriosis outbreak (South Africa)

Issue	Result
Contaminated processed meat led to a listeriosis outbreak in South Africa	1.060 cases of listeriosis and 2016 deaths; class-action lawsuit secured compensation for those affected



2015 Salmonella peanuts (USA)

Issue	Result
Contaminated peanuts were sold in the US	9 deaths and 700+ illnesses; former employees were sentenced to 20-25 years in prison



2013 Horsemeat Scandal (UK, Ireland, Netherlands)

Issue	Result
Meat advertised as beef contained as much as 100% undeclared horse meat	Dutch trader was charged with 2.5 years custody



2009 Olive oil (Italy)

Issue	Result
Counterfeit olive oil	Police arrested 39 people

2019 Illegally treated tuna fish (Spain)

Issue	Result
Frozen tuna was treated with substances to enhance color and sold as fresh	45 tons were seized; 4 people were sentenced for up to 4 years in prison



2016 Mislabeled wine (Italy)

Issue	Result
Italian food chain produced and sold wine with a "free wine" label (low in sulphites)	Italian Antitrust Authority fined the company with 50.000€



2014 Counterfeit food and beverages (Europe)

Issue	Result
Nearly 430.000 liters of counterfeit beverages and 1200+ tons of fake or low-quality food were seized during an EU investigation	96 people arrested and detained



2011 E-coli (Germany)

Issue	Result
A novel strain of E-coli bacteria caused a serious outbreak of foodborne illness in Germany	3950 people were affected and 53 died



2008 Adulterated milk (China)

Issue	Result
Milk and infant formula adulterated with melamine	6 death's, 54.000 hospitalized; two employees sentenced to death



In its report about consumers in 2020, Deloitte concluded with two key insights:

1. **Align brand value with consumer values:** Here the consumer expects to find his values in the different products he needs or wants to buy. Of course, they will look at pricing, but they are ready to pay a higher price if they are convinced that the brand and the product are aligned with their personal values and way of thinking.
2. **Drive of sustainable consumption:** Customers needs to be assisted here. The best way to do so, is clear product communication such as labeling products with clear data and/or interactive communication. One example is Procter & Gamble with its education program, called "Future Friendly", which shows how to use P&G products to benefit the environment.

Consumer expectations are even higher if children are involved. Nutritional values and origin of products are increasingly important in the purchasing decision. Consuming better has become the leitmotif.

The growing success of apps like Yuka (scanning of products to obtain detailed information about a product's health effects) confirms this fundamental movement. Yuka already records 3.5 million scans per day. The list of applications dedicated to nutritional scoring would take too long to list here, but is a reflection of a changing society that seeks to know what it eats.

Consumers want to know the origin of products, and ingredients used, they want the certainty of eating a "healthy" product. But if until today the notion of "healthy" was purely related to having a product that does not harm one's health, now the consumers' expectations go far beyond that of food safety.

"Basic" consumption in our developed countries is becoming a real desire to have consumption aligned with its own values. discussions on responsible consumption are steadily increasing.

The new, more responsible consumer is interesting and intriguing -in particular for brand owners and retailers that seek to understand this consumer and identify his expectations. The new generation wants to integrate a purpose in their professional life in general, but also in their lifestyle, and all the choices that come with it.



According to the YouGov study by GT Nexus, 72% of millennials (18-34 years old) say they have opted for a different brand than the one they usually opt for during purchases they made in the past 12 months. The reasons for this change mainly relate to perceived brand values rather than product prices, 29% of respondents refer to product quality problems and 21% to supply problems as deciding factors. In addition, 17% of them admit that they would change brands if their favorite brand did not process and/or pay its employees properly, or did not exercise an eco-responsible approach.

There is increasing talk of Brand Engagement Marketing. In France, the top three of the most cited brands following this strategy are Patagonia, Danone and Carrefour.

1.2 Industrial & Brand-Owners Expectations

Product compliancy & OEE

The leitmotif of brand owners today is to deliver the right product to the right place at the right time. So the first part of the challenge is to ensure that the product leaving the manufacturing line is perfectly aligned with all specifications (content, quality, packaging,...). In parallel, global efficiency is a key driver in the manufacturing part of the process.

Industry players are focused on OEE optimization to improve the global cost per product.

Productivity

Today, manufacturers produce for several customers on the same packaging line. Most of them have to produce private brand products in parallel with their own products. The challenge is quite high to respect all of the different brand owners' constraints, especially in terms of packaging. This challenge is sometimes intensified due to the flexibility needed in the manufacturing industry where often employees are part-time workers who are less knowledgeable and less involved.



Supply-Chain efficiency

Due to the increase of demand in the on-line business, and the fact that consumers are focused on quick delivery, the supply-chain must be more efficient and increase transparency. 80% of customer complaints at online selling sites concern late deliveries. In parallel, retailers and manufacturers reduced their storage capacities to improve their global cost and Ebit. Consequently, the supply-chain needs to be reactive and transparent to support the global business model of fast delivery.

Quality Assurance

Retailers and governments are increasing the pressure on global products' quality, especially in regards to consumer safety.

In the US alone the financial impact of food contamination on health was cited as high as 15 billion USD in 2019. 52% of food recalls resulted in costs between 10 and 100 million USD, not including additional damage from loss of reputation and brand value. (Source: Swiss Re – Food Safety in a globalized world).

A report by the University of Portsmouth in 2014 claimed that companies in the UK could increase their profitability by 6.67 bn USD, or more than 34%, by preventing food fraud.

This topic is applicable globally and not limited to food producers.



2. Track & Trace Solution Impacts

2.1 Consumer Engagement

Quality is key for building strong brand loyalty and improving consumer satisfaction. Consumer demands are high and closely linked to brand image, requiring consistently, controlled product quality. Defective products damage a brand and should therefore not reach the end consumer, if at all possible. Therefore, errors and defects should be detected and minimized during production and defective products should be rejected in time (Product Inspection approach).

Delivery of a compliant product (compliant, safe and in required quality) is the first step, the second step is to deliver it on time and to the right place. Independent of the distribution channels (retailers, online,...), consumers are expecting the same availability. So the challenge for a brand is to secure availability of their products with a precise and improved supply-chain management and to collect logistical data at each step of the logistics chain.

In parallel to a global traceability system at item level, brand owners should implement a direct link with their consumers to engage with them. As already explained in Chapter 1, consumers and especially the millennials, expects more of their brands.



The number of counterfeits of consumer and industrial goods has risen by 10,000% over the past two decades. At this point we can assume that between 5 and 7% of goods traded worldwide are counterfeits. These are alarming figures resulting in economic losses of 600 bn USD annually. (Source: IACC, International Anticounterfeiting Coalition, www.iacc.org) With a unique code on your product you can guarantee that the end customer will get the desired, original product of high quality.

2.2 Global Efficiency & Supply Chain Control

Goal is a supply chain that can withstand unforeseen disruptions. However, 72% of companies see risks to their supply chain increasing.

Supply-chain challenges can be splitted into two main categories:

- Global optimization of manufacturing, retailers, consumers, based on tracking events
- Data management to provide necessary information and optimize all actions regarding recalls and traceability

Serialization plays a significant role in your supply chain, it can improve your business processes by providing more meaningful data. One basic process that could be improved is recall management where serialized data will help to more quickly identify where a specific recalled product is in the supply chain and efficiently remove it before it reaches potential customers. Your customers' safety will be improved tremendously. Improved data access can also help streamline processing accuracy of orders and returns because data relating to delivered shipments can be easily verified. Global data management will secure all logistic steps, and permits the outsourcing of all logistic tasks so owners can focus on their added-value functions (marketing, production).



3. Our Solution for Your Challenges



One platform for all demands:

Modular - create your own solution!

Current industrial production is increasingly facing the daily challenge of optimizing production planning in such a way that the right product is delivered at the right time to the right place in the right quantity. Short production cycles and large product variations also complicate matters. In such complex production processes, a variety of different data exists.

Laetus UP is a cross-application, uniform platform, which coordinates these vast quantities of data for production management, and improves the complete data flow between existing systems and packaging line tools. The Laetus UP Suite supports your production process with a large selection of standardized modules following industrial requirements (GS1, EU traceability, IFS, BRC). Here, tailored solutions can be supplemented by further modules as soon as additional requirements arise or the demand changes.

Depending on the requirements, basic functions can be extended with various modules covering aspects of production control, supply chain management, quality assurance, brand protection and customer engagement. You are going to be prepared for future demands!

Customers from the fields of pharmaceuticals, baby foods, animal health, medical products, cosmetics, foods and chemicals benefit from this flexibility today.



Create **YOUR Solution** as you would create your meal

3.1 Key Elements

Laetus UP is a new-generation software approach. The necessary tools are already included in the software, and permit the building of industrial applications mainly by configuration tasks. Through many customer conversations we found out that the required tools are quite often the same : marking devices, cameras, counters, I/O connections, the main difference lies in process implementation.

So, after compiling all information we collected from our customers and different industries, we created Laetus UP: The software platform dedicated to industrial Packaging Applications. With our experience in the pharmaceutical industry, we are sure that there will be several changes in terms of market requests and technologies in the coming years. Flexibility will be a key element to be able to continuously evolve configurations to address these request.



Every manufacturer has his own purchasing strategy regarding marking systems, cameras, casepackers. This is the main reason for creating a central data solution independent from Level 1 device brands. The most critical challenge in the industry is to ensure that all data related to the product from a sales, logistics and health perspective are accurate, registered and retrievable.

Laetus UP is the central place to exchange data between the different systems in place. These systems include line devices (checkweigher, printers, cameras) and data owners like ERP, MES, etc. In the latest survey done by our associates, we found that more than 60% of marking devices who are in stand-alone mode are completely dependant on the operator's accuracy!

Laetus, with more than 45 years of experience in vision and data management, has build a strong platform of experience with its team and applied the accumulated experience and knowledge to our software approach and product portfolio.

Laetus UP is the result of 10 years of software experience gained from implementations on more than 600 packaging lines. Our previous approach, Secure Track & Trace Solution (S-TTS), managed billions of serial numbers and secured the supply-chain until products reached patients all over the world. Groups like Roche or Danone, gave their trust to Laetus to manage their global serialization strategy.

All the learning, we gained from our customers in Vision Inspection gave us the capacity to join the most efficient vision management system in our UP approach with the Laetus Inspect software.



Our deployment team is fully dedicated to Track& Trace solutions and consists of long-term associates with a high level of expertise and a real passion for their job. They listen to customer expectations to supply them with a long-term approach.

All necessary competencies are in-house: from project manager to validation manager and from mechanical engineer to system engineer. To provide the value you expect from your investment, you will get a dedicated team for your project. Most of the team members come with 5+ years of experience in developing highly constrained projects all over the world.

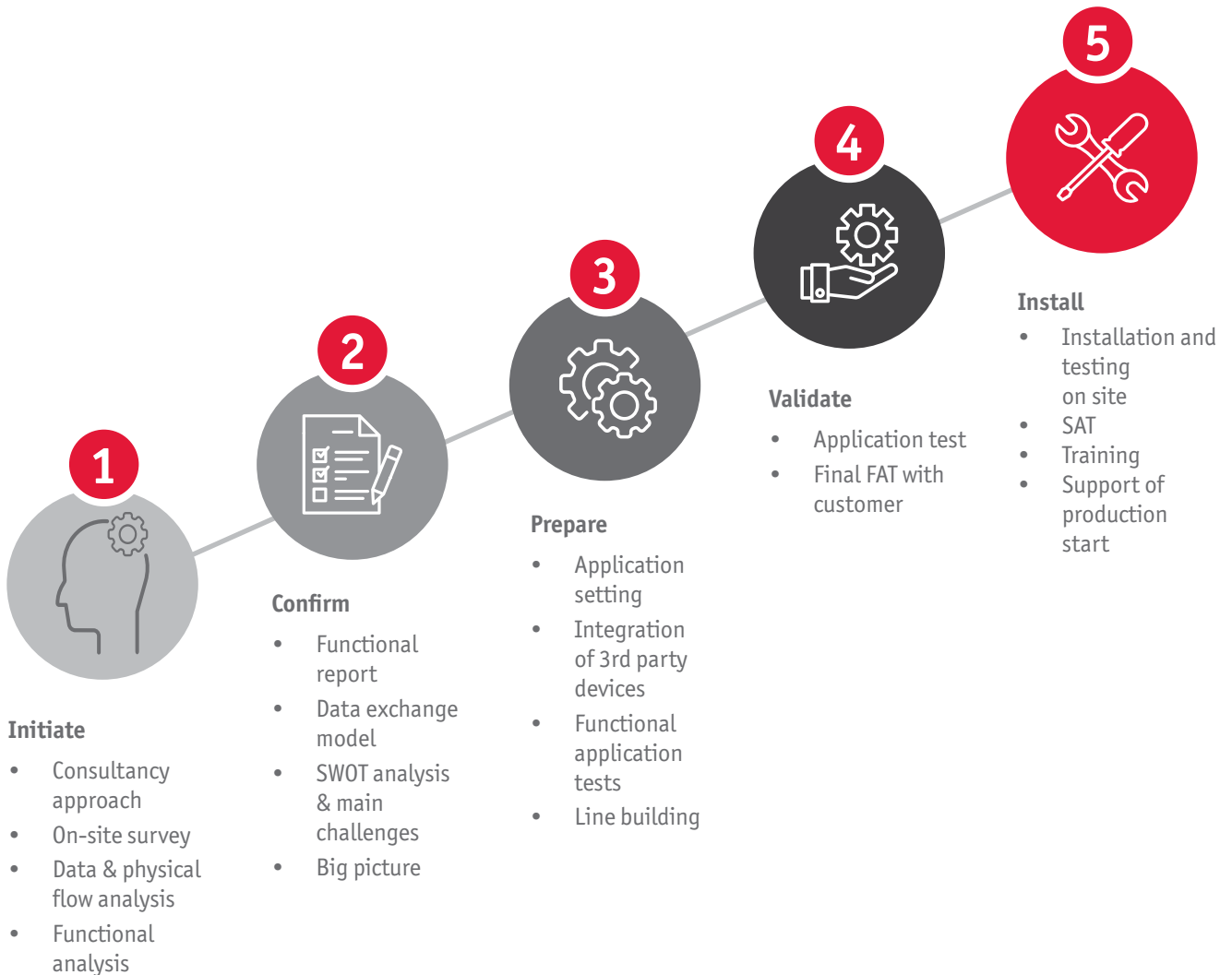
From integration into existing machines, to delivery of complete marking modules, our team will focus on your timeline to respect commitments and avoid downtime. In addition, we have local teams in many countries to provide support in the local language.

Our focus on establishing and continuing long-term partnerships with our customers also adds value to their projects.

3.2 Flexible Approach

Laetus has a dedicated deployment team, with internal project managers, and full support from experts in areas involved (Software, Machines, Vision Inspection, etc.), to ensure the success of your project and strategy. In the past 5 years, our team integrated Laetus solutions into more than 400 packaging lines - and did so with a remarkably high level of first acceptance of onsite SATs.

We are able to deliver customized services to meet customer requests - such as a fully dedicated team or special on-site consultancy or specific topics (e.g. data exchange or machine integration).



4. User Cases / Benefits

The level of challenges in various industries is quite high due to new technologies, and a completely open world. 20 years ago it was very difficult for an end-user to attempt buying goods from a local manufacturer in China, today it is a matter of 5 minutes.

Most of today's challenges are related to Item-level and Packaging. From batch level approaches to full traceability systems, the possible Return On Invest can be quite impressive for brands as well as manufacturers.

All sectors are impacted, by legal requirements or due to pressure from customers. Affected are industries from pharmaceutical to cosmetic, and from toys to food. Today, all brands have to protect themselves from possible legal actions by consumers, and expand their business by delivering the right product to the right place at the right time.



Global Requirements

Aligned with expectations from : EU Traceability, EFSA, FDA, BRC, IFS, Organic code, CPSA

Equipment to manage

Our solution is able to manage most of the existing printing technologies (CIJ, TIJ, TTO, Desktop printer, Laser). Multiple brands are supported like Zebra, SATO, Novexx, Videojet, Domino, Markem Imaje,... Cameras can although be integrated in our solution (Sick, Cognex)

Connection with

Our solution is able to communicate with case packers, palletizers, checkweighers, wrapping systems.

4.1 Packaging Execution System

Today, many manufacturing sites increasingly face issues of complexity on their packaging lines. Issues such as private brands, own brand, country specific packaging, regulations, special sales promotions play a role. In addition, most packaging lines or stand-alone modules are equipped with several types of marking systems (technology, brand).

The goal of a PES application is to secure full supervision of the complete packaging and marking process and to provide a global connection to your data.

Challenges

- Packaging order management
- Real-time control & supervision
- Global packaging and product compliancy
- Management of variable data connected to production order
- Batch level traceability
- Data collection
- Ensure 100% accurate marking of data (GTIN, GS1-128)
- Accuracy of GS1 messages for retailers

PES implementation benefits

- Real-time overview (of packaging area)
- Agnostic approach regarding marking equipment
- Standard tools to connect with ERP / MES
- OEE increase by reducing setting time
- Data and packaging accuracy
- Batch reports with all packaging data
- Ensure global product accuracy (especially with private brands)
- Proof in case of customer request
- Ensure data availability for smooth and efficient recall process



Necessary modules



Connect your data (Product database, Packaging Orders database, layouts) coming from your master system (ERP, MES) to your packaging area. Transfer data from your SCADA to manage the necessary data for marking from a unique place.



All the necessary tools to manage your packaging orders. (User management, Production orders management, and master data management). Central data base management to distribute all data regarding packaging.



Packaging line management for batch constant process. Full line management. Batch reporting. Connection of all devices (Marking systems & cameras).



Global line overview with OEE real-time calculation

4.2 Serialization

In many industries such as pharmaceutical products or milk powder for babies, serialization is mandatory for producers to meet legal requirements. But there are many other reasons to implement a thorough level of traceability (down to the item level)! They include: to fight against counterfeiting, to manage pricing strategy for different regions, and to improve the tracking of goods.

Challenges

- Legal compliancy
- Counterfeiting
- Grey market / diversion
- Data management related to production order
- Item level traceability
- Data collection
- Productivity management & overview
- Supply chain management (control)

Serialization Benefits

- Supply-chain control
- Product compliancy (packaging & traceability)
- Batch reports with all packaging data
- Anti-counterfeiting strategy
- Region pricing control
- Proof in case of customer request
- Improvement of recall process
- Enhancing brand image



Necessary modules



Connect your data (Product database, Packaging Orders database, layouts) coming from your master system (ERP, MES) to your packaging lines. Transfer data from your SCADA to manage the necessary data for marking from a unique place.



All the necessary tools to manage your packaging orders. (User management, Production orders management, and master data management). Central data base management to distribute all data regarding packaging.



Ensure the data accuracy on your packaging lines. Serial number and uniqueness management. Upload all necessary data for next process steps regarding Supply-Chain and Traceability (SSCC, batch report)

4.3 Serialization & Aggregation

The experience acquired during our work with key players — Roche in the pharmaceutical and Danone in the baby food industry — demonstrated to us the strategic interest of aggregation, especially in regards to improving supply-chain management.

Aggregation improves the management of global data in ERP, and TMS systems. All companies who implement aggregation consider it to be a key element of their global logistic efficiency and mandatory for anticounterfeiting strategy and efficient tracking.

Challenges

- Product accuracy (packaging & marking)
- Legal requirements (depending on sectors and countries)
- Diversion (grey market)
- Counterfeiting
- Global traceability from source to consumer
- Brand image control
- Supply-chain control & overview
- OEE improvements

Aggregation Benefits

- Supply-chain improvement (Case level efficiency)
- Easy traceability at case and pallet level
- Improvement of global data base management (IT & DB)
- Recall efficiency on the supply-chain
- Connection between GS1 logistic standards & item tracking
- Full Track & Trace for customers and end-users



Necessary modules



Connect your data (Product database, Packaging Orders database, layouts) coming from your master system (ERP, MES) to your packaging lines. Transfer data from your SCADA to manage the necessary data for marking from a unique place.



All the necessary tools to manage your packaging orders. (User management, Production orders management, and master data management). Central data base management to distribute all data regarding packaging.



Ensure the data accuracy on your packaging lines. Serial number and uniqueness management. Upload all necessary data for next process steps regarding Supply-Chain and Traceability (SSCC, batch report)



Manage the necessary process on case packers and palletizers, to create the link between items and cases, and between cases and pallets. Connect physical and data flows to always have a 100% control of traceability.

4.4 Consumer Engagement & Full Traceability

For the last 10 years, consumer behaviors and attitudes migrated completely to a more active status. They expect more from brands in terms of value and social engagement. At the same time, the way of selling has completely changed with the online business (Amazon, Ali) taking over (in the US moving from 5,6% of total retail sales in 2009, to 21,3% in 2020 with a value of 861 bn USD). This major change has a significant impact on the supply chain's organization which needs to secure the on-time delivery (track) as well as ensure an authentic and safe product (trace).

At the same time, brand owners look for direct contact with their consumers in addition to the already established contact through retailers or big media campaigns. The direct connection to consumers is a "must have" for brands to gain a deeper understanding of their market and engage in real-time actions. Laetus offers serialization solutions for your packaging line to enable and accelerate your consumer engagement journey.

Challenges

- Improvement of customer loyalty
- Control of supply-chain management / Inventory
- Creating consistent customer experiences
- Create a difference to competitors
- Create a direct link to end-users
- Digitize the brand
- Ensure product authenticity

Full Traceability Benefits

- Real-time overview of all process steps
- Increased market share
- Collect precise consumer data
- Quick reaction to customer expectations
- Efficient recalls
- Brand protection improvements
- Moving from reactive to proactive approach
- Confirm product & brand values to millennial consumers

“Yasmine Achab, Global Program Director at Danone Specialized Nutrition at Danone had the following comment:

The outer-QR code allows us to provide information about the product, its origin, and nutrition information; while the inner QR code provides us the channel to directly connect with our consumers, guarantee the transparency and the authenticity of Danone brand to them and their families.

”

Powered by Laetus
Serialization technology



Necessary modules



UP EXCHANGE

Connect your data (Product database, Packaging Orders database, layouts) coming from your master system (ERP, MES) to your packaging lines. Transfer data from your SCADA to manage the necessary data for marking from a unique place.



UP CORE

All the necessary tools to manage your packaging orders. (User management, Production orders management, and master data management). Central data base management to distribute all data regarding packaging.



UP SERIALIZE

Ensure the data accuracy on your packaging lines. Serial number and uniqueness management. Upload all necessary data for next process steps regarding Supply-Chain and Traceability (SSCC, batch report)



UP AGGREGATE

Manage the necessary process on case packers and palletizers, to create the link between items and cases, and between cases and pallets. Connect physical and data flows to always have a 100% control of traceability.



UP CONSUMER

Global solution with L4 provider to collect all data (ERP, WMS, TMS, TTS) in a central cloud repository, to provide all necessary information. Laetus has created a strong relationship with Kezzler by implementing full standard connection tools between both systems to warranty 100% efficiency.

5. Process Challenges

5.1 Product Compliancy

The packaging of a product is the major communication channel between a brand and its consumers. The global communication on media and social network puts a spotlight on the product so that the end-user is able to identify it easily identify it at retailers through colors, logos, shapes.

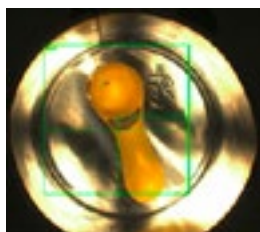
Thus, at the end of the manufacturing process, the product is existing without any "identity". The first step of packaging is to transform this "standard item" into a brand-compliant product.

Key elements such as filling level, product label, cap color and positioning, presence of components, need to be checked. This ensure the consumer that the product is aligned with his expectations and ultimately creates a robust link between him and the brand's promise.

Laetus Knowledge

Laetus has implemented more than 20.000 inspection systems in the past 45 years. As a global key-player, we have acquired the crucial expert knowledge to implement necessary components (amera, light, I/O exchange with packaging machine, ejection management) and to identify key elements for integration:

- ✓ Machine process understanding
- ✓ Picture adjustment (contrast, aperture)
- ✓ I/O exchange
- ✓ Algorithm integration for optimization



Control of Packaging

Controlling the presence of a spoon in a milk powder can. This is one example, but there are many possible applications to ensure that all components are present.

Today, manufacturers often provide special packages by combining several products in a "kit" (for example shaver and 2 blades) which need to be tested for completeness.



Control of fill level

For liquid products, the filling level should be controlled in real-time especially for products like perfumes and spirits. Due to Brand and higher price points, customer expectations are quite high, and every element of the product should be checked.

On wine and spirits there are some additional requirements like legal rules regarding alignment of content with content marking.



Control of Components

Here we control the accuracy of the different packaging elements (colors, text, logo, barcode)

We can also control the different packaging elements necessary for the product level.

For example, pre-printed foil, cap, label, and primary packaging (bottle, can, spray,....)

5.2 Product Identification

The brand image is mostly driven by the item -level packaging as it is (most of the time) the selling unit, and the direct contact with consumer. So it is necessary that all data related to the product itself are accurate.

The accuracy can be divided in 2 types :

Product labeling: checking accuracy of the label related to the Production Order data, and the label's position on the item. Today a lot of manufacturers produce the same product for different countries on the same packaging line, so the risk is quite high for labels to get mixed up. Some countries, such as the US and Japan, have very high expectation regarding language accuracy.

Variable data: Checking accuracy and readability of the variable data linked to the Production Order (Batch Number, Best Before date, Serial Number). These data are the pillars of product safety, and therefore essential to consumer health. Considering the in case in recalls they are quite critical.

Laetus Knowledge

Laetus has equipped more than 700 packaging lines, running every day in a variety of industries. We have developed a staff of vision inspection engineers to prepare the appropriate solution for each project. We can provide a system that provides product accuracy and the necessary data to provide a strong traceability function (batch or item level) while being aligned with all industrial challenges:

- ✓ Line speed (up to 400 products / min)
- ✓ Integration capacities on existing lines
- ✓ Strong network with machine manufacturers
- ✓ Algorithms integration for optimization

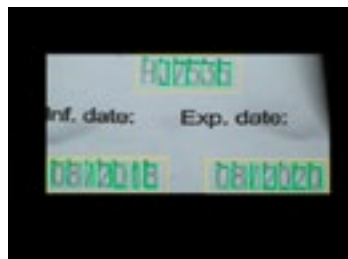


Label Control

Controlling presence of a product label, accuracy of the label with the Production Order, and its position on the product.

Many manufacturers can have the same item packaging and only change labels for language reasons, or to adjust for private brands.

The risk of a mismatch on product labeling is very high, especially due to the rapid increase of SKUs in the last 10 years.



Variable Data (Batch Level)

Variable data, like Best Before Date and Batch number, are critical regarding legal requirements and consumer expectations.

This data is often the essential data to organize efficient recalls.

Today many marking systems work in stand-alone mode with a risk of mistake.



Variable Data (Unique)

Control of complete data with a special focus on the serial number.

In parallel, the system controls the global quality of the marking (called grading).

The system manages all exchanges between printer, camera, and PLC of the machine to have a clear item tracking at each step of the process.

5.3 Case Process & IDentification

Case marking is a pure logistic and traceability topic. The supply-chain efficiency and the tracking of goods and deliveries is completely linked to the accuracy and readability of codes (GS1-128 or / and QR Code).

Our system will check 100% of the units prepared for transport(data & printing quality) to secure the next steps in the logistic process. Aligned with the pressure of retailers and logistic suppliers, our system is able to generate a batch report for each Production order which provides key information and a clear overview of the quality of the printed codes (% sort by grading).

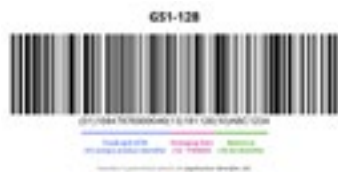
On case packer, our system (connected to the machine PLC in place), will secure the aggregation process, to warranty the content of the case and to create the link from a logistic point of view - between Parent (Case) and Children (Items).

Laetus Knowledge

Laetus is working closely with builders of case packer to implement aggregation in the pharmaceutical industry. The I/O exchanges of our systems are standardized and usually meet the requirements of already installed machines.

Our team of system engineers, will secure integration and communication exchange during a site survey to provide a clear project approach that includes:

- ✓ Technical expectations (integration)
- ✓ I/O exchange structure
- ✓ Algorithm integration for optimization



Variable Data (Batch)

Ensure global readability and data accuracy of case labels. Most often manufacturers use GTIN, best before date or production date, or batch numbers to mark an item.

These 3 types of data are strategic and critical for global logistics efficiency and recall management.

Retailers expect 100% readability on this key element and issue penalties to enforce improvements.



Aggregation Process

Combination of data and PLC process to ensure 100% accuracy. After 300 installations Laetus established a standard approach for integrating necessary components into existing case packers on packaging lines.

Creating the link between a unique item number and the logistical unit is the most challenging aspect of the implementation on packaging lines.



Variable Data (Unique)

By adhering a serial number to a case, the global supply-chain efficiency increases - especially regarding recall management and real-time tracking.

Here the Laetus capacities makes the difference by employing the right components to ensure readability, OCR/OCV, and uniqueness control of serial numbers at high speeds. This is done with a connection to automation to secure an efficient ejection process.

5.4 Pallet Process & IDentification

Pallet marking is a pure logistics and traceability topic. Supply-chain efficiency and the tracking of goods and deliveries is completely linked with the accuracy and readability of codes (SSCC & GS1-128 or / and QR Code).

Our system will check 100% of the logistical units (for readability & data accuracy) to secure it passes through the next steps in the logistics process. Aligned with the pressure of retailers and logistics suppliers, our system is able to provide the necessary data to your ERP or WMS to secure the subsequent step in the process.

No matter if on-line or centralized palletizer or a centralized wrapping system are used, our system, connected to your process, will ensure the aggregation process. It warrants the content of the pallet and creates the logistical link between Parent (Pallet) and Child (Cases).

Laetus Knowledge

For the past 5 years, Laetus has been involved in industrial projects, implementing full serialization from item level to warehousing, all over the world. As a global key-player, we have acquired the necessary knowledge to implement our solution into logistic process stations (e.g.: Palettizer, Wrapping stations, AGV).

Several technologies can get integrated :

- ✓ GS1 labeling standards
- ✓ QR code marking
- ✓ RFID
- ✓ PLC connection



Variable Data Control

Integration of data and PLC process to ensure 100% accuracy. After 300+ installations Laetus has established a standard approach to integrate the necessary components into pallet systems (palletizers, central wrapper, central palettizing station).

Creating the link between a case serial number and the higher logistical unit (pallet) is the most challenging part of the implementing aggregation on packaging lines.



Aggregation Process

By implementing a serial number on a pallet, the global supply-chain efficiency increases, especially regarding recall management and realtime tracking.

GS1 requirements have been in place for more than 30 years. Their pallet SSCC, makes every pallet unique. Laetus integrated this standard control in its approach in order to support all GS1 requirements.



RFID Pallet Tag

We can combine standard GS1 requirements with new generations of data carriers such as RFID labels.

This technology will improve the global logistics accuracy by providing an automatic reading process for pallet moving within the warehouse or lorry loading.

6. Services

With our comprehensive after-sales service, we can provide fast and flexible support for maintenance (SLAs, preventative maintenance for database and machines), regular repair and optimization of your systems.

The best way to optimize your investment is a long-term approach.



Service Level Agreement

- Ensure full support according to your organization
- Reduce line downtime



Preventive Maintenance

- Regular maintenance of database and/or machines
- Prevent breakdowns before they would happen
- Optimize line OEE



Spare Parts Packages

- Maintain spare parts inventory
- Ensure continuous production capability



Hotline

- Available 24/7 for immediate technical support



Why Laetus?

We partner with you - from initial contact to implementation of our solutions to ongoing support.

- More than 40 years of experience in vision inspection and quality control
- Expertise in track & trace in pharma, food, FMCG & cosmetics industries
- Project management from consultation to implementation
- Quality management through validation
- Flexibility when integrating solutions through modular approach
- Training academy with individual offers
- Worldwide technical support, partly in local languages
- 24/7 hotline

© 2021 Laetus GmbH, all rights reserved

Laetus GmbH
Sandwiesenstraße 27 64665 Alsbach-Hähnlein Germany
T (+49) 6257-5009-0 F (+49) 6257-3119
contact@laetus.com www.laetus.com/en



Solution Partner
Laetus GmbH