BUILDING FOR EU FMD: 5 SERIALIZATION LEADERS SHARE HOW TO PREPARE

WHAT TO EXPECT IN GERMANY, ITALY, SPAIN, AND SCANDINAVIA

INTRODUCTION

The Delegated Regulation on safety features for the EU Falsified Medicines Directive (EU FMD) requires pharma companies selling drug product in Europe to meet aggressive timelines and market-specific regulatory requirements by early 2019. As these companies build and deploy serialization and track and trace capabilities to support a digitalized supply chain, the challenge of managing all their requirements and specifications is becoming more and more complex. And time-consuming.

To help you prepare, we asked select EU serialization experts to share their views and lessons learned about overcoming implementation hurdles. This collection of interviews—conducted with EU FMD frontrunners across Germany, Spain, Scandinavia, and Italy in early 2017—sheds new light on how you can improve compliance outcomes as the February 9, 2019, deadline gets closer.

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PART 1 | ACS PHARMAPROTECT

Building a National System for EU FMD

Before the publication of the EU Falsified Medicines Directive (EU FMD) and the Delegated Acts, a few EU member states had already chosen to adopt traceability standards, and Germany was one of them.

We recently spoke with two supply chain executives who worked behind the scenes at Germany's ACS PharmaProtect, which operates the first national system in Europe, securPharm e.V. We asked how the system works in Germany, how it will operate under EU FMD, and what insights supply chain companies can gain from the experience.

Tell us about ACS PharmaProtect and who it represents.

ACS PharmaProtect operates the database of the pharmaceutical industry in the securPharm project. ACS is responsible for the operation of the database where all serial numbers of the German industry will be stored in. secuPharm is Germany's national medicines verification organization (NMVO).

The stakeholders of ACS are the three pharmaceutical manufacturer associations—BAH, BPI, and vfa—representing more than 90 percent of all German pharmaceutical companies.

Do you have to be a member of one of these associations to join ACS?

It's not necessary to be a member to connect to the NMVO in Germany. If you're not represented in these associations, you can join ACS as well. Indeed, every pharmaceutical company that has medicinal products in its portfolio having to bear the safety features has to join securPharm via ACS.

Why was securPharm formed?

When securPharm started in 2011, the intention was to show that it's possible for stakeholders to manage a system. Now the Delegated Act states that the repository should be established and managed by stakeholders in the market.

Once the law goes into effect in February 2019, how will verification work at a pharmacy in Germany?

It is an end-to-end verification system. If the pack is in the database, and the verification is successful, they can dispense the medicinal product to the patient. If not, they should investigate.

The Delegated Acts regulation asks for product master data. In Germany, this is a task of *Informationsstelle für Arzneispezialitäten (IFA)*. How do companies and ACS work with IFA?

We check with IFA if a company is responsible for the products. The company gets the national reimbursement number (PZN) from IFA so that we get the master data from IFA for our system. After that, companies can upload their batch data in our database.

How do they connect to the securPharm system?

We provide access and you can test in our integration environment. Then you can upload batch data, including serial numbers for real products, in the production environment.

To prepare for compliance, there are literally tons of moving parts to upgrade and integrate. What are the consequences of not being ready in time?

There are still lots of companies that haven't started to prepare yet. It's really a tough timeline until February 2019—less than 500 working days to implement—and still a lot of companies underestimate the requirements of the EU law. And if you fail, your company then has a supply issue, and consequently a real financial problem because your products produced after February 2019 without safety features are no longer dispensable.

But what if you are prepared? Then, you're on track and you can gain additional market shares.

If a pharmaceutical company connects to securPharm and has multi-market products, how do they exchange information such as product statuses and transactional data?

We recommend that such a pharmaceutical company should upload the data via the European hub and the European hub will forward this data to the relevant NMVOs. For example, when you want to upload a multi-market pack for Germany and Austria, you send the data to the European hub. The hub sends the data to the databases of Germany and Austria. The serial number is only stored in the NMVO.

Who is required to contract with the European hub and national systems under EU FMD?

If you place prescription medicine in a market affected by the Delegated Acts regulation, you or your parent group must conclude a contract with EMVO for connection with the European hub. In addition, you need a contract with the operator of the national verification system in every country in which you place your products in the market.

For companies doing business in Germany, why participate now with the securPharm pilot?

Companies need experience that they only get when testing the systems. ACS needs their input so we can learn together. The focus on this pilot is to reduce technical errors and to provide companies an opportunity to make mistakes without any effect on their sales. If no one uses it now, we can't improve it.

What is the biggest roadblock right now in piloting?

The biggest challenge is handling serial numbers—the exchange from a central database to the pharmaceutical company or CMO. At first, when we started the pilot, we thought, "Oh, most errors will be in printing—printing quality will not be good." But we saw in the last two years that the main errors are related to serial number management.

Are you finding different challenges for big versus smaller pharma companies?

All companies still make a lot of mistakes, so the size doesn't matter. We have a lot of big pharmaceutical companies who participate in our pilot, and they are also faced with other requirements, for example, in Turkey or in China. The error quotes of these companies are as much or higher as the error quotes of beginners.

What are some other common challenges you're discovering?

Manufacturers need to have a look on the packs. Not only do you need to print the DataMatrix code, you must also print four elements in Germany—and five elements in some other countries—in human-readable format on the pack. A lot of companies have problems with the size of the pack, and they should change the packaging. That requires time, and it's one of the biggest challenges in the coming years.

For example, if you are a generic company with a thousand different products—and you change the artwork of a thousand different products—it takes a while to do it. And you have to combine all that with the anti-tampering device.

What happens if a participant encounters an error during the pilot?

If you make an error, it has no consequence on the dispensing. If there is something wrong, if the serial number is unknown, the pack can be dispensed in a pharmacy. That will change in 2019, so it's best to start early.

How can companies address data exchange issues and fragmentation between partners?

If you have 10 CMOs, you can have 10 different interfaces. It's very expensive. Harmonization in this field would be helpful for all companies in Germany, and in Europe as well.

What data is stored by securPharm? Is it anonymized?

Data stored in the system includes serial number, product master data, and additional information described in the regulations. The pharmaceutical company has no access to dispensation data, so a pharmaceutical company can't see which pharmacy a pack was dispensed in. And Company A will not see the data of Company B.

How many companies are participating so far in the pilot?

About 100 pharmaceutical companies are actually on-boarded: one-fourth of the pharmaceutical industry in Germany. We hope to contract another 100 companies in 2017, and test the system with all of them.

We have 400 pharmacies and 19 wholesalers participating in the pilot. They generate traffic to the system, and we get messages and queries from them, such as if the packs are dispensable, and if it's possible to verify them.

How has the securPharm national system worked with TraceLink to meet EU FMD requirements?

TraceLink is one of the first service providers with a connection to the European hub. Now with more than three pharmaceutical companies connected, it has successfully uploaded data via the European hub to our system.

That's important for Europe—testing together with the hub. We have a lot of pharmaceutical companies that are customers of TraceLink, and the response from those companies is that they are quite satisfied.

Tobias Beer is the former Head of Customer Recruitment & Relationship Management at ACS, and has just taken on a new role at the European Medicines Verification Organization (EMVO). Before joining ACS in 2014, he supported serialization implementation at Boehringer Ingelheim, the second-largest pharmaceutical manufacturer in Germany.

Maria Mehnert runs the Customer Recruitment and Relationship Management program at ACS PharmaProtect.

Her responsibilities include contracting and onboarding ACS customers: legal entities that place medicinal products in the German market. She has been with ACS since May 2016.

PART 2 | ALTRAN

Spain's Small Pharmas Face Big Serialization Challenges for EU FMD

While many large pharmaceutical companies have the staff and resources required for serialization planning, smaller and virtual manufacturers in the EU are already falling behind. With just two years until the EU Falsified Medicines Directive (EU FMD) compliance deadline, businesses in Spain are turning to traceability experts to help them prepare across all levels of serialization.

One such organization is Altran, a company with decades of experience helping supply chain companies in Spain and throughout the EU. In a recent conversation with Altran Solution Architect José Guijarro Peralbo, we discussed the pharma landscape in Spain, and the technical challenges of EU FMD that companies must overcome in the coming months.

Altran has been known as a global leader in engineering services for over 30 years—what's your company's experience in life sciences?

We've been delivering operational excellence and system integration expertise for life sciences in Spain for more than 15 years. We help improve performance in packaging lines, production lines, and we provide customer support to optimize processes and operations. Once the processes are optimized, we work with automation and IT teams, developing process controls, PLC, SCADA, and DCS, and other systems like Historian and MES-EBR. We act as a system integrator to collect data from the equipment, and from others systems, such as the quality management system (QMS) and laboratory information management system (LIMS), and we integrate that data into other systems like electronic batch record (EBR), Historian, or enterprise resource planning (ERP) systems.

Additionally, two years ago, Altran began serving pharma companies in overcoming the serialization challenge by providing consulting, integration, project management, and operations support services.

What is the landscape of the pharmaceutical industry in Spain?

Spain has more than 100 small and medium pharma companies. What we have most are CMOs that work with pharmaceutical companies that aren't manufacturers. Most of them export outside of Spain. On average, 60 percent export outside of the European Union, and many of them export at least one product to the United States.

What are the biggest challenges that pharma companies are facing in Spain today?

The medium and small companies are growing fast because the market is growing. Their biggest challenge in Spain right now is to grow as fast as they can, while at the same time complying with all the quality requirements.

Most of our customers are really busy because they have older projects in their portfolio that take priority, and they have to buy new lines and new facilities to grow. At the same time, they have to maintain compliance. That's the big challenge. They don't have enough expertise, knowledge, and staff, and they are not ready to grow so fast.

In most cases, they don't understand the quantity of work that serialization means for them. They are so busy and have so many projects in their heads that they don't want to analyze serialization.

How prepared are companies for serialization across all 5 levels?

There are a few companies who haven't started anything yet—they are still waiting or asking for funding for the serialization project. The most common scenario is companies that have bought just one or two pieces of equipment, such as a leveler with a camera and printer. They are starting to test something with a pilot project, but only for level 1 and level 2—they don't have software on their third, fourth, and fifth levels. The next step for them is to find a suitable solution to cover level 3 to level 5.

What's the current status of Spain's national system?

The national repository system for Spain is still under development. There is a lack of information right now about the project and all the requirements to connect the distribution centers, the pharmacies, and the hospitals.

When do companies in Spain need to connect to the European hub for compliance reporting?

They should connect before the February 2019 deadline. We have been in contact with the European Medicines Verification Organization (EMVO), and they are going to publish all the requirements for connecting to the European hub. We can provide the support to our customers to start the process of establishing the connection.

What challenges specific to CMOs are you seeing?

For CMOs working with at least 20 customers, the challenge is that very few customers have specific requirements for serialization right now. The CMOs are a bit confused in communicating with their customers, because their customers are not able to define their final requirements yet.

Because serialization is such a large endeavor, how can exceptions processing impact a company's serialization solution?

Serialization is a huge project with a huge impact in the organization, so you need to prepare for all the exceptions before implementing serialization—it's very important to not underestimate this work.

In the production area, for example, there can be an exception if a particular product reference doesn't have folding boxes or they are not printing on the labels. For instance, we had the experience of preparing one line for serialization, and everything was more or less fine. However, we incurred an exception when a specific reference was sent to the market without a carton. The production was blocked because the system wasn't ready for this situation.

Another lesson learned is not to underestimate the number of procedures you'll need to modify, update, or create. If you don't have all the procedures updated, you are not able to serialize.

We have learned that the performance of the lines—the overall equipment effectiveness (OEE)—potentially goes down. With serialization implementation, OEE goes down about 3-5%, and with aggregation and serialization, it goes down 10-15%. With our experience, we can take some action on levels 1 and 2 that will minimize the impact of serialization on the performance in the lines.

Once the regulations are in place, what will happen if companies can't serialize product?

Their business will stop and they won't be able to ship product.

How will the partnership between Altran and TraceLink help customers achieve EU FMD compliance?

Itran and TraceLink provide confidence to our customers so they know they will be ready for compliance with the European law. There isn't time for customers to make the wrong decision when selecting a vendor. Altran and TraceLink share the vision that serialization is not only a technology challenge, but a global business operations and technology challenge for pharma companies. By working together, we leverage our knowhow on operations impact, technology integration, and regulatory compliance, and we solve any language barrier, or local culture specifics. Our customers understand that TraceLink provides a flexible and best-in-class solution for level 4 and level 5, and the key for local integration services support comes from Altran.

Marta Larrea Jaspe is Solutions Director for the Energy, Transport, and Life Sciences division at Altran. She oversees the development, enhancement, and management of technology and engineering practices related to manufacturing and operations-industry 4.0 technologies, digitalization, product development, and enterprise performance. She has more than 18 years of experience serving industrial companies in their technology challenges derived from regulatory or market requirements. Larrea Jaspe currently supports the serialization practice at Altran.

José Guijarro Peralbo is a Solution Architect for Altran's Industrial Information Systems in the Energy, Industry, and Life Sciences division. He oversees the design of systems integration, data connections, and technical delivery of serialization solutions for Altran Spain. He has over a decade of experience in automation and engineering for the life sciences industry.

PART 3 | EPISTA LIFE SCIENCE

Understanding the Scandinavian Serialization Landscape

Preparing for the EU Falsified Medicines Directive (EU FMD) regulations presents significant hurdles for any pharmaceutical company, but can be particularly challenging for the small- to-mid size ones. Epista Life Science provides a broad range of consulting services in the serialization, track and trace arena, with a specialization in quality, validation, and IT systems implementation for small and medium-size life sciences companies. Founded in 2009, Epista today services nearly 100 global life sciences clients across Scandinavia, Europe, the U.S., and Asia from their offices in Denmark and Sweden.

We recently spoke with Epista Principal Serialization Consultant Jesper Ilm to understand what these pharma companies are facing as they look to be ready by the February 9, 2019 EU FMD deadline.

What is the pharmaceutical landscape of Scandinavia?

In Scandinavia, the early adopters are a group of primarily top international pharmas. The small and medium pharmaceuticals are slow adopters in general. Across the Scandinavian countries, companies are participating in GS1 global forums and trying to align standards for Scandinavia, but also to align in the EU. At this point, there are very few pharmaceutical companies who don't know about the FMD and have no activities to comply.

What's the degree of readiness in Scandinavia right now for EU FMD?

Serialization projects are very complex, with everything in play: production, IT, regulatory affairs, marketing. The lines in the Scandinavian countries have many years in production. Some of the sites are trying to get their lines updated now that they need to fix this serialization issue. Many thought it would be a simple fix but it's actually quite difficult. In general, pharma companies are realizing that preparations will be involved and time-consuming.

When do companies need to start preparing for EU FMD?

The large pharmas have been addressing serialization for three to six years now, often for the U.S. and originally for the Brazilian market. Many are much more than halfway through on their way towards readiness. The big pharma companies will just continue on their path to be ready for the EU requirements also.

Many mid size pharmas and CMOs have struggled to identify who will pay for the investments of line upgrades, and how they should price and handle it. These companies should not wait to move forward because with the deadlines, there will be a shortage and lead time for equipment and services. They're in a hurry when they try to contact the vendors for help, and they're experiencing lead times of up to 12 months to get the most attractive machinery. After that, they need to quality assure everything they do around packaging lines, IT systems, and work processes.

It's important to create a user requirement specification (URS) document as one of the first things you do because you need to get your vendors aligned. Talk to each of your partners, and start a year in advance because if you're a year late, you can't sell your product.

Some of our contract manufacturer customers have actually seen the light and kick-started their projects so they can contract out their lines and take some of the production from contract manufacturers that are not ready. These small contract manufacturers, with maybe 10 production lines, are ready within six months, so they can get business from all the ones that haven't started yet.

What makes serialization quality and validation requirements so complex?

Companies are not just implementing a Level 1, 2, or 3 system—they're implementing a Level 1 to 5 system. They have to do this because they need to communicate with the regulating authorities.

We often hear, "What's the big deal? It's just the system we need to implement." While that's true, when you change something on the box of a pharmaceutical product, you need to inform all the authorities that you're making changes to these pre approved designs. You need to involve everyone in packaging, regulatory, and marketing. Your IT department has a system that needs to communicate through the internet with critical data. And you'll need to involve operation and production with all the changes to the lines.

It is a big mistake to think it is an IT system that needs to be implemented. That's not true. It is a cross organizational project, and the quality part needs to be in focus because when you implement a Level 1-5 system, you must have the sequence right. You need deep validation, qualification, and quality guidance from the beginning. You have communication updates going across various systems, and you cannot show the functionality unless everything is ready at exactly the right time.

A Level 3-5 system is very IT based, but you can't release it in a production environment until you have done end to end testing to verify that the line is receiving the serial numbers for the product. If you don't get the sequence right, you will need to stop and wait for the line to be qualified.

How is the partnership between Epista and TraceLink helping customers meet EU FMD regulatory requirements?

TraceLink has a methodology that is very thorough and a product that guides the customer in the right direction, especially for mid size and smaller companies that aren't used to communicating with regulative authorities' databases. The setup is easy and helps companies in Europe and Scandinavia that don't have IT departments with two or three hundred people. Together with the advisory and implementation services from Epista, pharma companies have a much better chance to meet upcoming deadlines.

It's important to me that we make a difference, but also that we make a difference on the right quality level. Our partnership with TraceLink is valuable because we are in the same market, delivering a lean approach to serialization implementation projects.

Jesper Ilm is Principal Consultant, Serialization Specialist, and Lead Auditor at Epista Life Science. Jesper brings 25 years of pharmaceutical industry experience, including IT, regulations, computer system validation, infrastructure compliance, ERP, GMP, and pharmacovigilance. He specializes in preparing validation and qualification documentation for serialization and track and trace systems in compliance with global regulations.

PART 4 | LAETUS

How People, Process, and Planning Will Drive Your EU FMD Compliance Success

For pharma companies that will ship product under the EU Falsified Medicines Directive (EU FMD), the deadline for compliance is less than two years away. The technical requirements will challenge your traditional packaging processes and require labor-intensive system integrations with line and warehouse systems.

Laetus is at the forefront of helping customers overcome these challenges. Based in Alsbach, Germany, the company is heavily focused on large and small brand owners and CMOs that are looking to serialize by the 2019 deadline. Founded in 1974, and with more than 250 employees worldwide, Laetus specializes in L1-L3 track and trace and supply chain control solutions for a global customer base.

We recently spoke with Laetus General Manager Christoph Staub to find out why humans have a major impact on track and trace systems, what insights supply chain companies can gain from serialization beyond compliance, and more.

What industry expertise does Laetus provide?

We've supported quality inspection for more than 40 years, focusing on very specific pharma packaging processes. What differentiates us as a Level 1 to Level 3 specialist is that we maintain our own proprietary hardware parts, including machine modules, lighting devices, and transport solutions. We also have the combination of deep software expertise—ranging from firmware embedded in cameras and other devices, up to plant-level track and trace management systems at Level 3. We also provide application services from consultancy through deployment, installation, and support.

When do companies need to start preparing for EU FMD?

For companies that haven't started preparing yet, it's already very late. If they have not made their decision about serialization equipment for the packing line, they face a big risk of not being ready by 2019. The challenge starts with the availability of supply resources. Very few serialization projects have been successfully completed within the original time schedule set.

Once you implement, you immediately go into a learning and optimization phase. There's a big risk that companies will be late and need to find ways to mitigate their risk of not being able to supply products to the market.

From your perspective, what challenges is the industry running into with serialization?

One of the biggest challenges is that the market is so fragmented. With the implementation of traceability, many different parties suddenly have to exchange information—no longer in a pure paper or simple digital form—but in a real-time standardized digital form. On a packaging level, it's fairly clear how to do it. But as soon as we talk about data, data exchange, and data ownership—that's where customers start to scratch their heads.

What's so challenging about data-related serialization issues?

The huge data volumes create investment and performance issues. Companies think they can simply interface with other systems by exchanging in EPCIS format. Unfortunately, these are just false phrases: real life is much different. We have yet to see a so-called "standard" interface or protocol. Everybody has invented their own little rules about how to structure and manage their data.

How is serialization changing the way pharma companies do business?

Serialization affects almost every department—it's not just happening down in the packaging department. The individualization the pharma industry has maintained for decades is now biting back from the technology side. Even if a company says they have five identical packaging lines on the shop floor, you can walk the five lines and immediately spot the differences just by looking. If a product is running better on one line than on the other, the lines have started over time to become optimized to that specific situation.

In the end, companies have created, line by line, a bespoke and individual process. As serialization is changing processes, we're not able to just copycat from one process to the next because they have not been standardized. If you look at how much legacy equipment pharma is using, it's unbelievable.

Even a little thing like different firmware on a printer—let's say the model is exactly same, but one was purchased in 2015 another in 2016. Most likely they don't have the same firmware, which can have an adverse effect on the functionality of a serialization solution.

Are companies going forward with aggregation even though it's not required under EU FMD?

Just like in the U.S., supply chain partners are starting to publicly demand or strongly recommend aggregation because they understand that serialized product is very difficult for them to handle.

We see an increasing number of customers aggregating product right from the beginning because of business benefits beyond compliance that are only accessible if you aggregate. Serialized product is good enough for end-to-end verification—but for manufacturers, it's not good enough for anything else in your supply chain logistics, or in your internal production logistics.

Will it be more difficult to implement aggregation at a later date if you expand to a market where aggregation is required, or your partners begin to demand it?

Absolutely. Aggregating later means you will have to start all over again. Initially, it will be a higher investment to bring packaging lines to a fully aggregated stage. But if you need to aggregate in the future, with two split projects, the total cost will be even higher than an initial investment.

Does master data play a crucial role in serialization?

Customers with lots of product underestimate how much additional effort serialization is bringing to the maintenance of master data. It's going to be quite challenging to set up, maintain, and correctly version all your master data in digital format. For traceability, you will not be allowed to just overwrite an old master dataset. You will have to archive it.

What lessons have you learned that would make for a smoother implementation?

Do whatever you can as early as possible so you do not suffer later in the project. Companies need to bring all stakeholders to the table as early as possible and work through all the processes. Whether you want to do one bespoke packaging line, or serialize across all your packaging lines, prepare for the maximum effort and then cut it into the necessary pieces.

Be sure to plan for a lessons-learned, optimization phase. Don't plan your installation in such a way that the day after site-acceptance testing and final production qualification, you have to go live into a real production. Give yourself at least two to three months to challenge the system and bring user learnings back into your solution. The industry is starting to understand the real value comes from people operating the system.

Humans are humans. They will not work exactly the way they are being told in their training or operator manual. Not by bad intentions, but until they understand what the process is, they will continually bring the system to a full stop. That's why we opened a track and trace training academy 2 ½ years ago, and why today we are overbooked.

People are different from line to line, from shift to shift, from company to company, so respect this. The biggest impact on system performance is from human beings.

What potential advantages does serialization provide?

Serialization provides visibility for pharma companies to plan manufacturing more accurately. With a good serialization or traceability scheme, we can reduce the number of non consumed drugs in the market that reach their shelf life before getting to the patient, or that are administered in the wrong place at the wrong time. This directly improves profitability, which is always a strong motivation driver. Companies will be able to manufacture much more bespoke and specific to a market niche.

Serialization means companies will be able to reduce quality costs. With a full implemented traceability scheme, you can make hierarchical recalls, calling back down to the single pack from the market if necessary. It's also much easier for the manufacturer to know exact time intervals on the packaging line, so they can know in which pallet, in which case, in which box they would find the product that is potentially impacted by the quality issue they found.

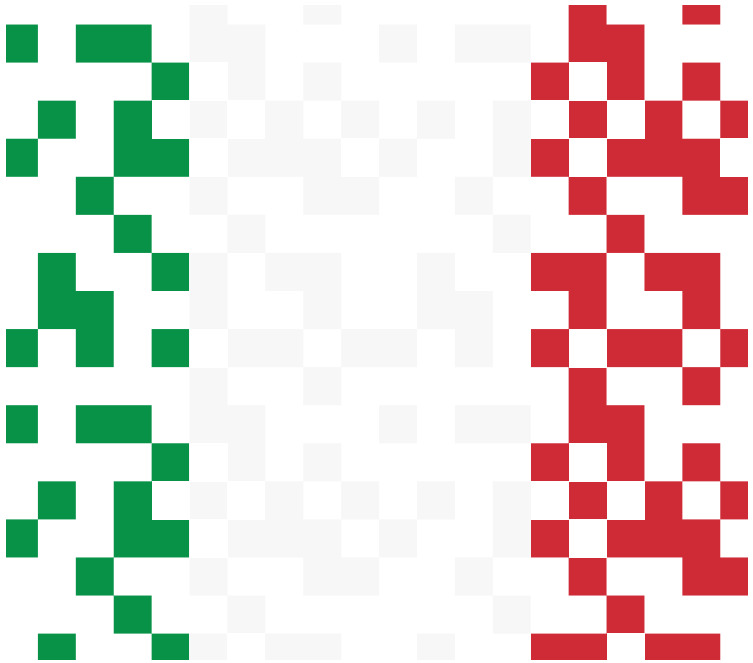
How is the partnership between Laetus and TraceLink helping customers meet EU FMD regulatory requirements?

Our two leading companies are delivering a full-fledged, comprehensive solution where customers don't have to worry about anything. The TraceLink-Laetus partnership provides a one-stop shop for serialization, ensuring you get a seamless solution from Level 1 up to Level 5.

Christoph Staub is General Manager of Track and Trace at Laetus, overseeing track and trace technology, development, and production for automated packaging control systems. Before joining Laetus in 2012, Staub was Commercial Director at Hapa, a Swiss packaging specialist. He has served in product management and marketing roles in the life sciences industry for the past 20 years.

PART 5 | LIFEBEE

What to Expect in Italy for Serialization, Bollino, and Potential EU FMD Delay



Before the EU Falsified Medicines Directive (EU FMD) and Delegated Act on safety features was published in 2016, a few EU member states already had serialization and coding schemes in place for the life sciences industry, creating a "grandfathering" provision—all were offered an additional six years of transition time to meet the February 2019 deadline. Italy is one of the countries, and is considering how to address the provision.

We recently spoke with managing consultants at LifeBee, an organization with decades of consulting experience working with life sciences companies in Italy. In a conversation with two founding partners, Operations Manager Elvis Graffeo, and CEO Teresa Minero, we discussed how Italy's existing tracking system works, the impact of EU FMD, and what insights supply chain companies can gain from others' implementation experiences.

What customers does LifeBee work with, and what expertise do you provide?

LifeBee customers are both international and Italian life sciences companies. The top 10 Italian pharmaceutical companies are customers of ours. For them, we provide management consulting and system integration services. For international companies, we deliver mainly management consulting and project management. We deeply know all the regulated processes within life sciences companies—both in their productions and logistic sites and in their R&D department—providing solutions and consulting for their specific needs.

In Italy, 73 percent of the drug production is exported outside the country. In Europe, that's second behind Germany. We have a lot of small and medium enterprises and about 10 important Italian pharma companies that are also active at the international level.

What is LifeBee's level of experience in life sciences?

Our employees have more than 20 years of average work experience in life sciences. We deliver management consulting and system integration services in the areas of logistics, production, laboratories, quality assurance, pharmacovigilance, regulatory, and R&D. Four of us are current partners of LifeBee and we have all been here together since the beginning in 2004. We were part of a team working together in a multinational consulting company in life sciences before founding LifeBee.

What are some of the challenges that companies face with serialization in Italy?

The big challenge for sure is to be required to manage the Italian Bollino together with many other serialization and track and trace regulations arising all over the world. As said, 73 percent of the Italian drug production is exported, and not only for Europe. Europe is the first target market, but there are also companies that currently produce for the U.S., Turkey, China, Brazil, and many other countries.

Another challenge is the typical size of Italian companies, and their expenditure capabilities. Aside from the 10 big companies, others are small and medium enterprise and they must spend very carefully. The planning stage can be very long to define exactly what is needed and what will be delivered, but with regulation changing, they need to do it.

And last but not least, the challenge here in Italy is the language. International regulations and worldwide vendors require consultants and system integrators to be your neighbors, understanding your language and having someone that can easily come and stay with the user to support the business. Remote connections are useful, but the presence of people being on site is very much appreciated.

What has your experience been in working with some of these companies so far?

We've done many different strategy studies, including market, production data, and packaging lines analysis, as well as process flow analysis, user requirements, vendor selection, and project setup. In working with different pharma companies, we have seen that serialization was underestimated in the beginning, mainly targeting the equipment level and minimizing IT involvement. In the past 6 to 8 months, they changed their mind, so now they are more aware of the risks and criticalities of the implementation of a serialization system. When companies started to think about serialization last year, it was already a bit late. Now we see the increased interest and we are having a peak in our activities.

The national tracking system in Italy is called the Bollino. How does it work?

We have had the Bollino system since 2000, and it is already assuring a very good control of the drug supply chain in Italy. Every company, to be able to sell drugs in Italy, needs to manage the Bollino process, buying and transmitting to the Italian Ministry of Health's database. The Bollino is a single label that is applied on each single packet and is uniquely identified. You have to follow a procedure in order to register with the legal entity for all your products. The Ministry of Health supervises the whole system.

It's a kind of track and trace, but without the real tracking of the single drug package. Each Bollino contains a serial number, but you must buy it and assign it to a lot. It goes on the package and then you have to communicate to the Ministry of Health to say, for example, "Okay, I have shipped this list of Bollino for this lot, and this list has been destroyed."

The Bollino system is used to control the expenditure of the government for public health and monitor the whole supply chain. Every actor in the production and distribution of drugs, including pharmacies, has been tracked and recorded. So in Italy, each actor has been identified and monitored.

The Bollino allows Italy to qualify for "grandfathering" under EU FMD, offering a six-year grace period. How will this impact serialization?

During the grace period, many companies will need to manage both the Bollino and serialization. They need to have equipment that is able to apply the Bollino label. And so this means the equipment is more complex.

If the production is not for Italy, companies should serialize the items, where required. For Italian-only product, companies are not asked to do anything yet, apart from the Bollino. But multi-market companies have certain packaging lines that need to be upgraded for serialization, while their other lines maybe don't.

The Italian Minister of Health is in favor of serialization, but would like to maintain the Bollino, since it is an established mechanism allowing a good control of the drug supply chain. Some pharmaceutical companies could say, "Why do we need to manage the Bollino and the serial numbers differently?" It's an open discussion, and no decision has been made. We have six years past 2019, and it's a complex decision—it's too early to know what will happen.

Is there concern in the industry that Italy could become a destination for storing counterfeit medicines during the possible EU FMD extension?

No, we do not have this concern, because Bollino is something that is already assuring a good control of the drug's supply chain at each stage. Most of the drugs are tracked through the Bollino, a very important element already up and running for the control of counterfeiting. So, it's unlikely this could be a consequence of the delay of serialization.

When should companies start preparing to address the EU FMD requirements?

Many companies already started last year and some that are very clever already kicked off two years ago. Others are rushing right now to start the whole project, even if they already selected the machine-level supplier. For sure, all the projects need to be started within Q2 2017 in consideration of the delivery time of the machines and of the IT system implementation and integration.

What risks do companies face when they decide to postpone their planning?

As serialization is a complex project involving a lot of internal departments and different vendors, the risk in postponing implementation is to have fewer ways to manage issues when they arise. In addition, there is an increased risk of a shortage of vendor resources as deadlines approach. Moreover, negotiation capabilities with CMOs, customers, and 3PLs will decrease. Last but not least, having more time allows organizations to adequately perform change management, allowing for a smoother serialization implementation.

Do you recommend aggregation, even though EU FMD doesn't require it?

From a supply chain point of view, it's better to aggregate because it's more efficient to manage the drug logistics chain. But it's also true that you need to invest more money because of the aggregation machines. It could be an important investment.

Companies are very careful about requirements in Russia and Brazil, because it seems they are moving towards full aggregation requirements.

When should companies in Italy start connecting to the European hub?

For companies producing for Europe, they need to connect to the European hub. If you are a marketing authorization holder (MAH), you have to follow a procedure in order to register for your products. We suggest starting with the subscription procedure because it can take months. If you start too late, you can find a congestion of many other companies working this way. So it's better to start as soon as you have defined your strategy.

What are the biggest technical challenges of serialization implementation?

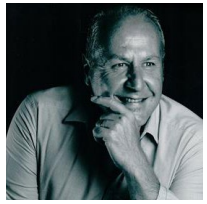
Serialization is one of the few projects that involves all the IT layers in a pharma factory, including ISA levels from 0 to 4: sensors, equipment, lines, plant, corporate. As a consequence, one challenge is the integration between engineering, production, and IT, keeping regulatory, quality, and compliance on board.

Also, the line efficiency will be impacted, in the way operators interact with equipment and the possible increase of discharges. At the beginning, it was thought that serialization was just changing something on the packaging line and that's it.

Another element that is underestimated in the beginning is the contract with the CMOs and third-party logistics or 3PLs. Some companies are using a lot of CMOs—we have customers with more than 100 CMOs. It's an important effort to integrate all these CMOs. Other companies need to deal with 3PLs to be able to control and track the serial numbers. So there are many actors that are impacted within the company—and outside the company.

How can serialization boost business or operational efficiencies?

The main benefit of serialization and track and trace will be the full governance of the supply chain, including better anti-counterfeiting, but also the control and efficiency of logistics processes, such as the recall campaigns and 3PL engagements.



Elvis Graffeo is Operations Manager and founding partner of LifeBee. He oversees planning and execution of the company's professional services and directly delivers strategic studies.

How will LifeBee and TraceLink help customers achieve EU FMD compliance?

Working in the serialization arena, we have seen many of our customers where TraceLink is involved, clearly showing its market leadership. At the same time, LifeBee is locally perceived as the Italian "boutique" pharma consulting and system integration. LifeBee is helping its customers prepare and execute serialization projects by bringing its experience in IT systems and production and logistic pharma processes.

Teresa Minero is CEO and founding partner of LifeBee, Chair of ISPE Italy and Vice Chair of the ISPE European Affiliate Council. As a founding member of LifeBee, Minero has been at the forefront of supporting life sciences companies achieve innovation together with regulatory compliance and business process improvements.

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