TRACKING SYSTEM

Dynamic and comprehensive solution for supply chain management

Sommario

myesca is property of

myobject srls

Company operating in the Information Technology (IT) and Software sector, with a background in IT infrastructure, cloud, networking, and cybersecurity, as well as specialized in analysis and programming with a focus on the development of business applications.
Visit the WEB site https://www.myobject.eu for more information.
For more information about the myesca portal and to be contacted by a member of our staff, please refer to the WEB site https://www.myesca.eu.

Mission

With myesca, immerse yourself in a revolution of transparency and trust for your business supply chain. This system presents itself as an innovative tool to unveil every aspect of the supply chain: discovering the origin of raw materials, knowing the suppliers that drive the business, exploring the sustainability of production sites, and easily accessing all the necessary certificates.

The myesca system does not just gather information; it does so with unprecedented efficiency. Thanks to a highly automated and standardized data collection system, myesca draws from reliable sources, integrating standard data already used in business management. The result? A complete and effortless view of your supply chain, from source to sale.

With myesca, every actor in the supply chain, from the raw material producer to the end consumer, becomes part of a shared informational ecosystem. The result is a transparent and reliable narrative of your product's journey, a story that connects producers, companies, and consumers in a virtuous circle of awareness and responsibility.

Discover myesca: the key to a smarter, more sustainable, and connected supply chain.

The logic of the system

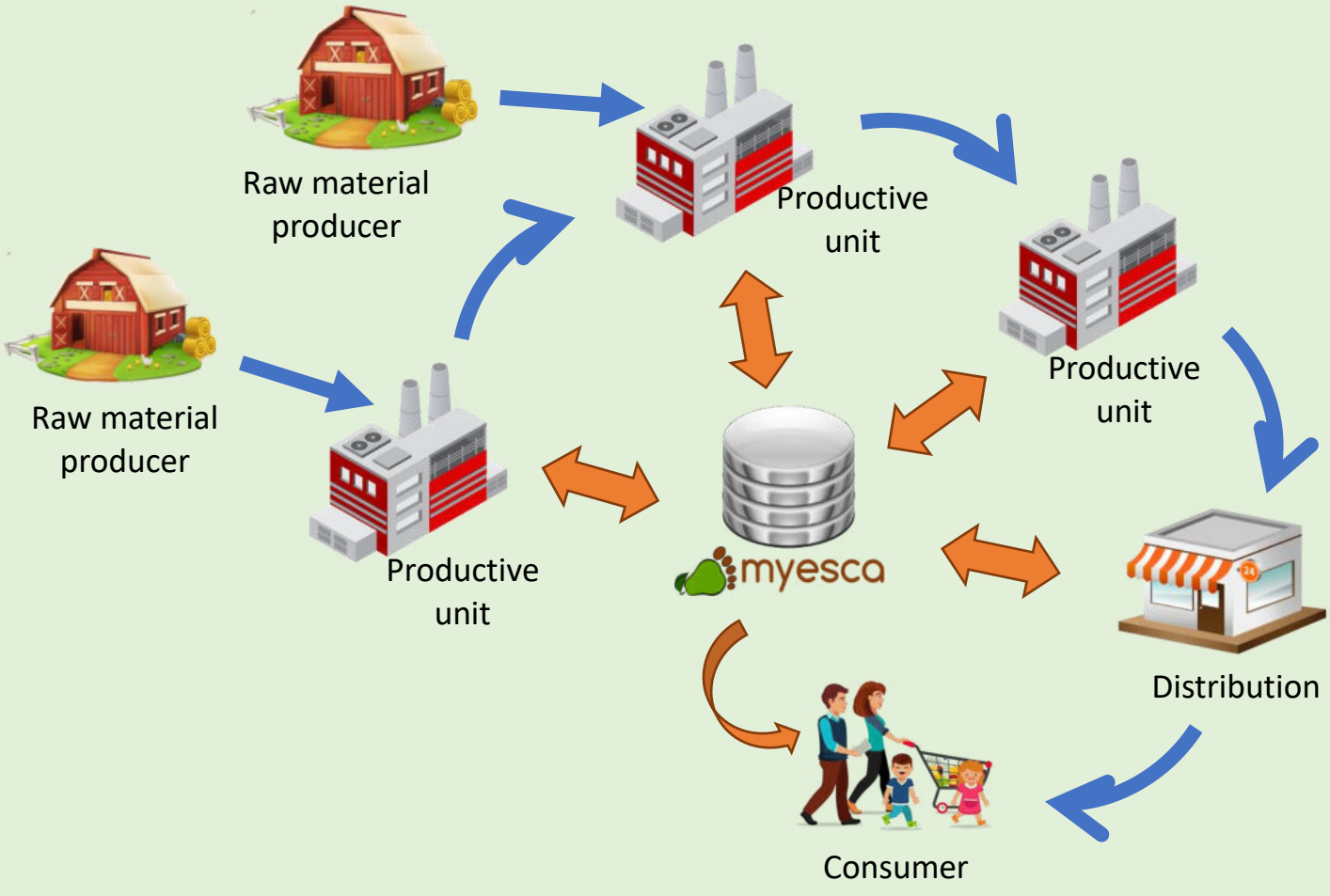
Centralized database

At the heart of myesca's innovation lies a revolutionary feature: a centralized database that acts as a hub for all supply chain information. This powerful core is not just a data repository, but a dynamic central intelligence. With a sophisticated processing engine at the helm, myesca ensures that every piece of collected information is not only stored but also analyzed and distributed with utmost security and precision.

Data collection

The myesca system maximizes efficiency by seamlessly integrating with existing modern systems.

Through specialized modules, specifically designed for myesca, data collection harmonizes with company ERPs, creating a smooth and uninterrupted flow of information. The data collection format is standard and open, designed to accommodate information from diverse heterogeneous systems. This universal approach ensures that every piece of collected information is compliant, regardless of its origin. Where information systems are not applied, or the cost of implementing the ERP module is unsustainable, the CORMI module, specifically designed to fill this gap, comes into play.



The myesca solution

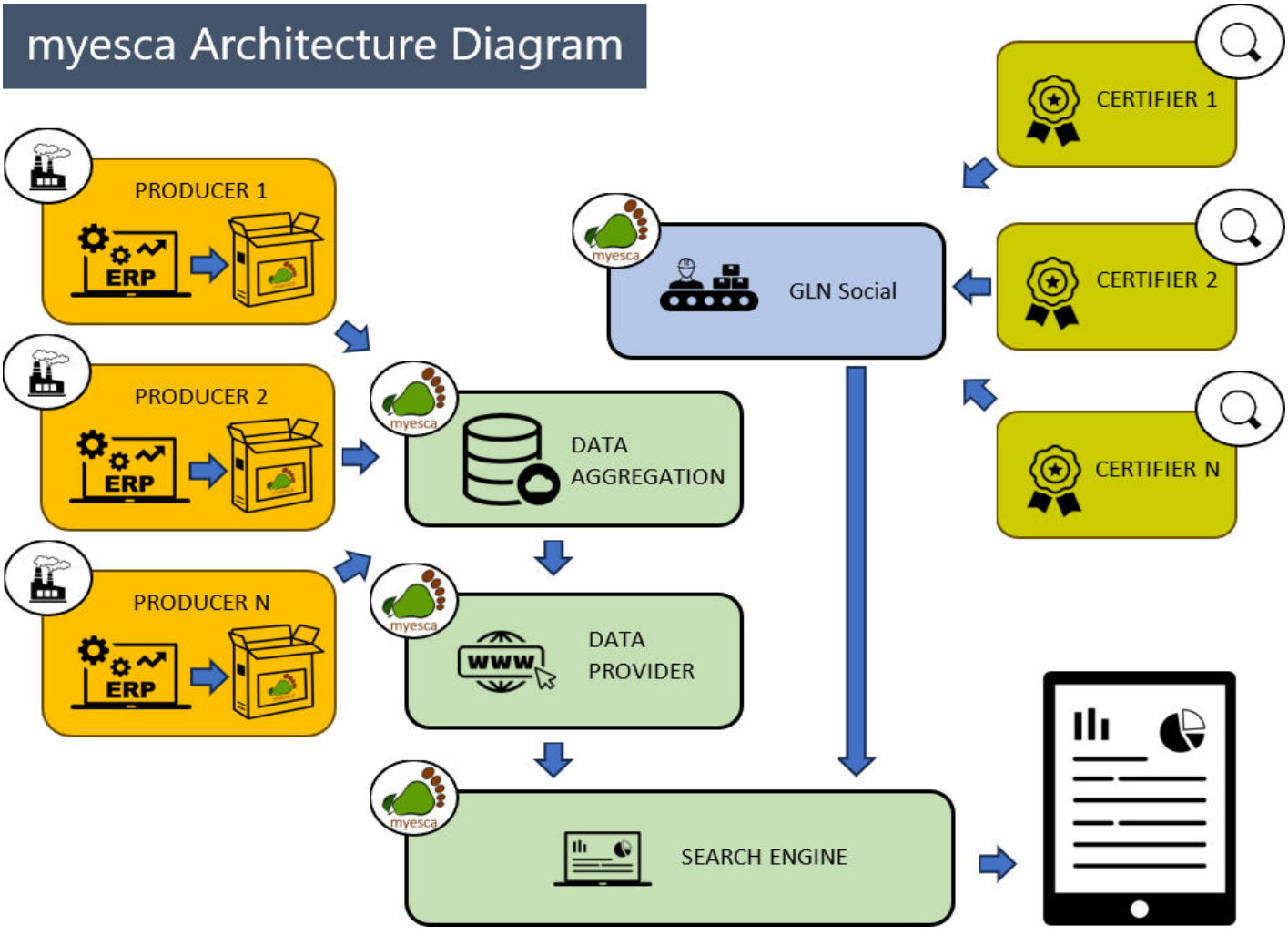
Data aggregation

The common and unified methodology for collecting data related to production allows myesca to aggregate information along the entire supply chain. This approach enables the automatic tracing back to raw material information, in order to compile an accurate assessment of their quality.

Furthermore, thanks to such aggregation, it allows for the establishment of an alert system in case of non-compliance reports of raw materials, facilitating timely and precise intervention for product recall, if necessary.

Evaluation of Production Sites

The formalism used for product identification, inherent in the specifications for data collection, ultimately allows the association of data derived from various production sites, which contributes to scoring the sustainability of these sites. Certification bodies or third parties can integrate such information through GLN Social, a separate and parallel portal.



The system components

Harmony of the Parts

The myesca architecture is divided into various components that aggregate with each other, sharing data, in order to report as much as possible on the characteristics and history of a finished product intended for mass distribution. Each component has precise functionalities, which contribute together for the collection, processing, and presentation of data:

Data Agregation
It allows for the control and analysis of data received from information systems and aggregates them for defining the product's supply chain.

Data Provider
It makes the processed data available for display based on the viewing and sharing permissions assigned to them.

Alert Sytem
It collects non-compliance requests from supply chain entities, redirects them, and, if necessary, allows for the initiation of a report.

Document Management
It manages the storage of documents accompanying the certifications of raw materials and production sites, paying attention to their confidentiality.

Separate Managements

Two different separate managements are integrated into the myesca portal, which contribute to the collection of data useful for documenting the supply chain but have been distinguished from the main portal due to the special type of actors they interact with:

CORMI

(Collection Of Row Material Information)
Through CORMI, it is possible to collect data related to raw materials in a supply chain without the need for direct interaction with the data of an ERP or any other similar database.
It was designed for those actors for whom the development of the myesca module, for importing data from the ERP, turns out to be too costly or economically disadvantageous. Or for those producers who do not use an ERP for business management.

GLN Social

The GLN Social, operating in synergy but independently from the myesca portal, is specifically designed to collect data and certifications of production units. This strategic separation allows GLN Social to focus exclusively on the needs of certification bodies, thus becoming a dedicated and specialized hub for this purpose. The entities, acting on behalf of the producers, can use GLN Social for direct and efficient communication, facilitating the declaration and contribution of essential documentation related to the certifications of production units.

Data Agregation

Data loading

The functions of the component related to Data Aggregation contribute to collecting data from various ERPs and, thanks to the particular formalism with which they have been classified, aggregate them with those from CORMI and GLN Social to form the entire supply chain of each finished product uploaded.

Controll and validation

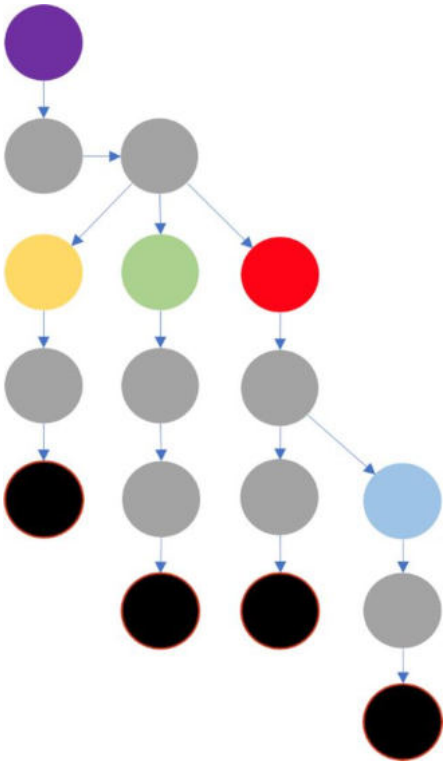
The data upload includes a control that verifies the correct placement of the data in context with those already uploaded and the information present in the GLN Social.
Any incompatibilities are reported to the user performing the upload, so they can intervene to correct or add further information.

Once the control is passed, the data can be confirmed and are integrated into the central database of myesca.

Unity is Strength.

Periodically, myesca processes the data received from various supply chains and aggregates the various details, starting from the finished product to the related raw materials, and connecting all the details together.
This aggregation serves both to trace back to the raw materials and to disseminate any non-conformity reports with precision and speed.
The aggregation only takes place when the formalism imposed by myesca is respected and the checks for validation have been passed.

Sample schema of the aggregation of statements belonging to a finished product "Packaged Jam Croissant"



Productive unit 1234567891234	Type	Codes GLN	Product	Lott
Packaged jam croissant	Finished product	1234567891234	80123211214	L12345
Unpackaged jam croissant	Semi-finished	1234567891234	SL12345677	L12343
Puff pastry	Semi-finished	1234567891234	SL12345676	L12342
Soft wheat flour type 00	Semi-finished	5432109876543	8054321098	L54321
Packaged organic butter derived from milk 10 KG	Semi-finished	2345678901234	8033344455	L33344
City Spring Water	Raw material	1234567891234	MP001	18122017
Packaged strawberry jam	Semi-finished	9876543219876	80984859489	L98765

Productive unit 5432109876543	Type	Codes GLN	Product	Lott
Soft wheat flour type 00	Semi-finished	5432109876543	8054321098	L54321
Refined bulk soft wheat	Semi-finished	5432109876543	SL34343	L54320
Raw soft wheat	Raw material	5432109876543	MP21431	10052017

Productive unit 2345678901234	Type	Codes GLN	Product	Lott
Packaged organic butter derived from milk 10 KG	Semi-finished	2345678901234	8033344455	L33344
Organic butter derived from milk	Semi-finished	2345678901234	SL999888	L33343
Pasteurized whole organic milk	Semi-finished	2345678901234	SL999887	L33342
Raw whole organic milk	Raw material	2345678901234	MP44433	L11112

Productive unit 9876543219876	Type	Codes GLN	Product	Lott
Packaged strawberry jam	Semi-finished	9876543219876	80984859489	L98765
Bulk strawberry jam	Semi-finished	9876543219876	SL19191919	L98764
Bulk strawberry puree	Semi-finished	9876543219876	SL19191918	L98763
Seasonal strawberries	Raw material	9876543219876	MP17171717	10102017
Packaged thickening sugar for jams	Semi-finished	1029384756000	80564738291	L19283

Productive unit 1029384756000	Type	Codes GLN	Product	Lott
Packaged thickening sugar for jams	Semi-finished	1029384756000	80564738291	L19283
Bulk thickening sugar for jams	Semi-finished	1029384756000	SL73645	L19282
Sugar beet mash	Semi-finished	1029384756000	SL73644	L19281
Raw sugar beet	Raw material	1029384756000	MP95867	30092017

Data Provider

Research and Visualization

The functions of the component related to the Data Provider allow for the display of data related to the supply chain of finished products, previously uploaded to the system and subjected to myesca's aggregation processing. It is sufficient to enter the product code (or a different identifying code of the same, such as the EAN, for example) in the myesca portal, followed by the batch or serial number, to obtain information related to its supply chain.

DVPS (Data View Permissions System)

The information is carefully filtered by the DVPS, which selects what to display as a result of the search based on the permissions assigned by the producer to the type of user making the query. The permission management system allows the creation of certain user groups, such as distributor users or end consumers. Assign to the groups the information that such a user can view, like the expiration date, supplier, certificates, etc., and assign users to groups via the email address with which they are registered on the portal. The permissions concern only the products of the producer who assigns them.

Example of a search result from the myesca portal for the finished product "Packaged Jam Croissant"

myeca.org/search/80123211214%20L12345

SEARCH | ABOUT PROJECT | CONTACT US | SIGN UP | LOGIN

myesca

Insert product code and lot number separated by a space

Search results:

Code	80123211214
Product description	**Packaged jam croissant**
Lot number	**L12345**
Manufacturer	**Mr. Croissant Italia**
Expiration date	**04/01/2024**

List of row materials:

Raw soft wheat

Origin Mulino Del Porto Spa - ITALIA
Expiration date 10/12/2023
Certifications

Name	Released by	Number	Emission	Expiration
Prodotto italiano di qualità	Consorzio Italiano DOC	127764883	10/04/2006	20/12/2025
NO OGM	Controllo OGM Italia	AB8812898	22/11/2015	31/12/2025

Raw whole organic milk

Origin Caseificio Monti Albani - ITALIA
Expiration date 12/11/2023
Certifications

Name	Released by	Number	Emission	Expiration
Latte BIO Italiano	Dipartimento di Qualità Latticina	377590-567	12/03/2008	20/04/2025

Seasonal strawberries

Origin Isparta Farm - TURKEY
Expiration date 12/12/2023

Raw sugar beet

Origine Green Valley Farm - GERMANY
Expiration date 12/04/2024
Certifications

Name	Released by	Number	Emission	Expiration
European Certificate of Origin	PUV Italia	22/12/45664	13/06/2022	20/04/2027

City Spring Water

Origin Acquedotto Comune di Moretta

Packaging list:

Corrugated cardboard boxes 30x24x45
PVC food wrap
EPAL wooden europallets

Alert System

Non-conformity alert

The non-conformity alert, also known as a non-conformity alert, represents an effective notification system that sends alert messages directly to the involved parties, should problems or anomalies be identified within the supply chain. This mechanism ensures rapid communication and intervention to manage and promptly resolve any issues encountered.

The problem can be related to raw materials or a processing of a semi-finished or finished product.

Non-conformity alerts are mainly spread to ensure public safety and health. In addition, they are dictated by compliance with specific regulations and the commitment to maintain an image of transparency and reliability. This approach strengthens the trust of customers and distributors, ensuring that the company always acts in the best interest of its clientele and the public.

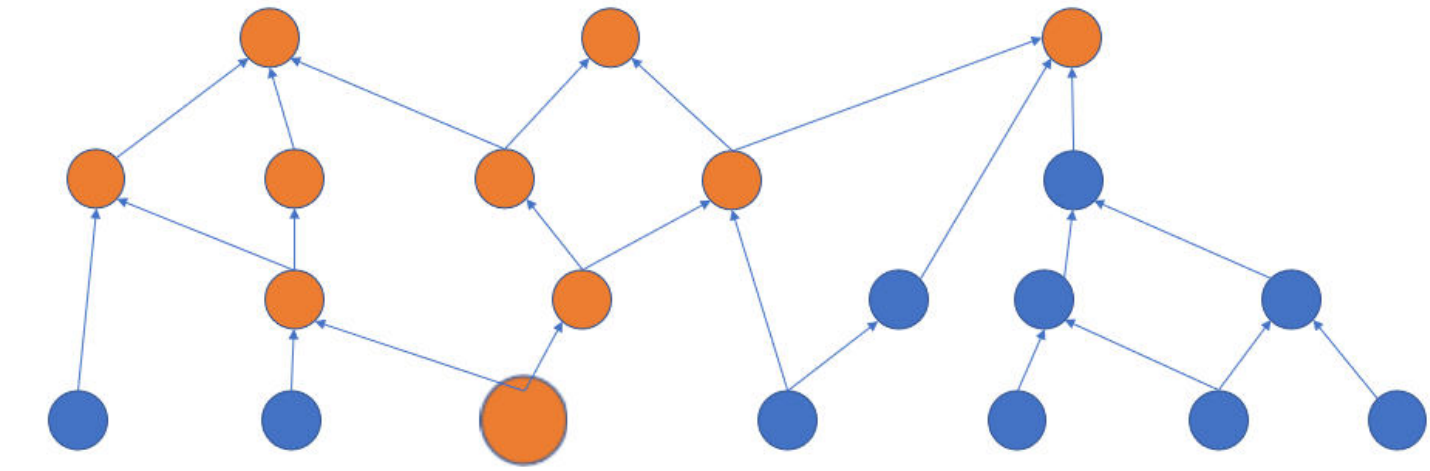
Propagation of the Alert

Leveraging the advanced functions of aggregating the bill of materials of the supply chain, and by tracing it backwards, the alert system is capable of identifying and effectively reaching in real time all the entities impacted by the non-conformity. These are promptly informed through various communication channels: email, notifications via the myesca application, or SMS, thus ensuring a rapid and coordinated dissemination of the issue.

Controlled propagation

After a non-conformity report, the alert system is designed to disseminate the information up to the distribution and the end consumer. However, it is important to emphasize that extending the alert to distribution requires prior validation by the manufacturer of the finished product. Additionally, before proceeding with notification to the end consumer, coordination with the distribution is also advisable.

Diagram of how the notification propagates across various bills of materials, thanks to their aggregation, starting from a detection of non-conformity in a raw material (represented by a large orange circle).



Document Management

The reasons for the document management

Integrating a Document Management system with the myesca traceability system is essential for various reasons. This approach allows for easily providing all the necessary documentation to certify the materials and production units involved in the supply chain. Moreover, it greatly improves operational efficiency by simplifying compliance with regulations and speeding up the process of presenting certifications required by customers.

Types of Certification

In the production and distribution supply chain of a product intended for mass distribution, there are materials and processes that are subject to certification. The myesca system is capable of managing certifications related to the raw materials used and the production units involved.

The types of certifications pertaining to raw materials can be related to product quality (organic, non-GMO, vegan certifications, etc.). For production units, on the other hand, they involve environmental, ethical, social responsibility, and energy certifications, among others.

The myesca system manages the certifications related to raw materials directly from the import of data from the Data Aggregation component and CORMI, while those related to production units from GLN Social. However, the system for managing documents associated with both types of certifications is identical.

Characteristics of the document management

Since the documents that the myesca portal aims to archive are of a confidential nature and fall into the category of business information, their archive is designed to meet key essential characteristics for the protection and management of sensitive data.

Among these, we include security through measures such as encryption, role-based access control, and traceability of user actions. Document versioning with tracking functionality and management of different versions, allowing for the viewing of the change history and restoration of previous variants, if necessary. Backup and data recovery, with reliable procedures to prevent loss caused by hardware failures, human errors, or disasters.

Furthermore, the system makes use of and is open to external databases for consulting documents of the same type, offering both storage and retrieval of certifications for their association and possible consultation. Access to new databases is in constant evolution and development.

CORMI

What is CORMI
(Collection Of Row Material Information)

The CORMI is a process for collecting data related to the raw materials of a supply chain, initiated by the myesca system towards the producer of the raw materials themselves, in order to integrate and certify the information regarding their origin and certifications.

It was conceived for those producers who cannot afford the cost of implementing the myesca module in integration with their ERP, or precisely because they do not use an ERP for their business management.

How does CORMI works?

A CORMI related to one or more materials used in a finished product can be initiated by the Data Aggregation procedures during the upload and validation of a bill of materials for a semi-finished product that uses a particular raw material. The CORMI, therefore, has a sender, a producer of the semi-finished product, and a recipient, namely the producer of the raw material used in such semi-finished product.

The initiation of CORMI mainly requests the input of data related to the origin and certifications of the raw material, marked by the GLN relative to the place of production, the product code, and the batch number.

The delivery of the CORMI request to the producer occurs via the myesca app or by email and can be completed and authenticated directly on the myesca portal. Beside is the example of the CORMI form and the information that can be reported in it.

CoRMI module (Collection of Raw Material Information)
For the procedure on collecting data related to the origin of the raw material

myesca

	Description	Code	Lot
Product that initiated the procedure			
Referenced raw material (if different)			

a. Place of origin of raw material

Nationality (code)	County	GLN	
Address	Company name		

b. Quality certifications

Designation	Issued by	Number	Date	Attachment

c. Fair trade certifications

Designation	Issued by	Number	Date	Attachment

d. Animal welfare certifications in farming (for raw materials that require it)

Designation	Issued by	Number	Date	Attachment

e. Environmental certifications

Designation	Issued by	Number	Date	Attachment

f. Primary processing or harvesting site (if present and if different by the origin)

Nationality (code)	County	GLN	
Address	Company name		

g. Other certifications from institutions and organizations involved in the analysis of raw materials or the processes for their production (if not already specified as certification issuers)

Designation	Released by	Number	Date	Attachment

h. Appearance and characteristics of the product

i. Signature

With my signature on this form, I confirm that all provided information is complete, accurate, and truthful, including any attachments. I acknowledge personal responsibility for the accuracy of the entered information, including attachments, and am aware that any omissions or false statements may result in civil and legal liabilities, including actions against the company I represent.

Date	Location	Signature

Once the CORMI is filled out and confirmed, the producer who initiated it has the authority to accept or reject it. The rejection could be justified by the fact that the product does not conform to what was declared during the purchasing negotiation. Or due to incompleteness or lack of clarity of the data entered (copies of certifications that are obscured or illegible). Once the CORMI is accepted, the data it contains will become part of the supply chains of the respective bill of materials where the raw material has been used.

GLN Social

GLN Social functions

The GLN Social is a separate management system within the myesca portal, primarily dealing with all information related to the production units involved in a supply chain managed by the myesca system.

The term "production unit" generally refers to a physical location or entity within an organization where production processes take place.

The main functions of the GLN Social include associating and certifying production units involved in myesca management with their respective companies and a specific GLN (Global Location Number), if previously assigned by GS1. Additionally, it collects information related to the certifications of these production units.

MYEGLN assignment function

Since not all production units are equipped with a GLN code, GLN Social provides a similar and complementary code called MYEGLN.

The GLN or MYEGLN is an essential part of the identifier for a production batch, whether it is raw material, semi-finished, or finished product. Furthermore, the identification of the production unit is mandatory and dictated by the formalism imposed by the myesca data collection system, ensuring aggregation throughout the entire supply chain.

A MYEGLN code is automatically assigned to a reference GLN code upon data upload and is complementary, meaning that both the GLN and MYEGLN can be used for the identification of a production batch.

If there is no reference GLN code for the production unit of a certain batch, it must be declared at the GLN Social level, which returns a new MYEGLN, and then assigned to the batch.

Production units can be assigned MYEGLN codes at any time, but these are periodically checked by the myesca staff and confirmed or rejected if they are duplicate or do not match the assigned data (address, VAT number, etc.).

The certification upload function

Through GLN Social, it is possible to upload certifications related to the entered production units. Since production units are associated with multiple production batches, it made more sense to separate the assignment of certificates to them rather than entering these certificates each time during the bill of materials data upload. This is why the separate management of GLN Social was created.

Certifications for production units can be assigned not only directly by the using producer but also by third-party entities, such as organizations or companies specializing in certification. GLN Social provides the option to entrust the management and updating of certifications to these third parties, establishing clear responsibilities for the maintenance and validity of such certifications. This specific function allows the producer to delegate the management of certifications related to production units, completely freeing themselves from this activity and providing the delegated party with an additional tool that streamlines and empowers the process.