



***Global Supply Chain
Visibility for Manufacturing
& Distribution***

2023

- Introduction
- Tracking & Booking Federative Services
- Innovative, Federative & Customs Services
- References
- Ongoing developments

Lack of dialogue

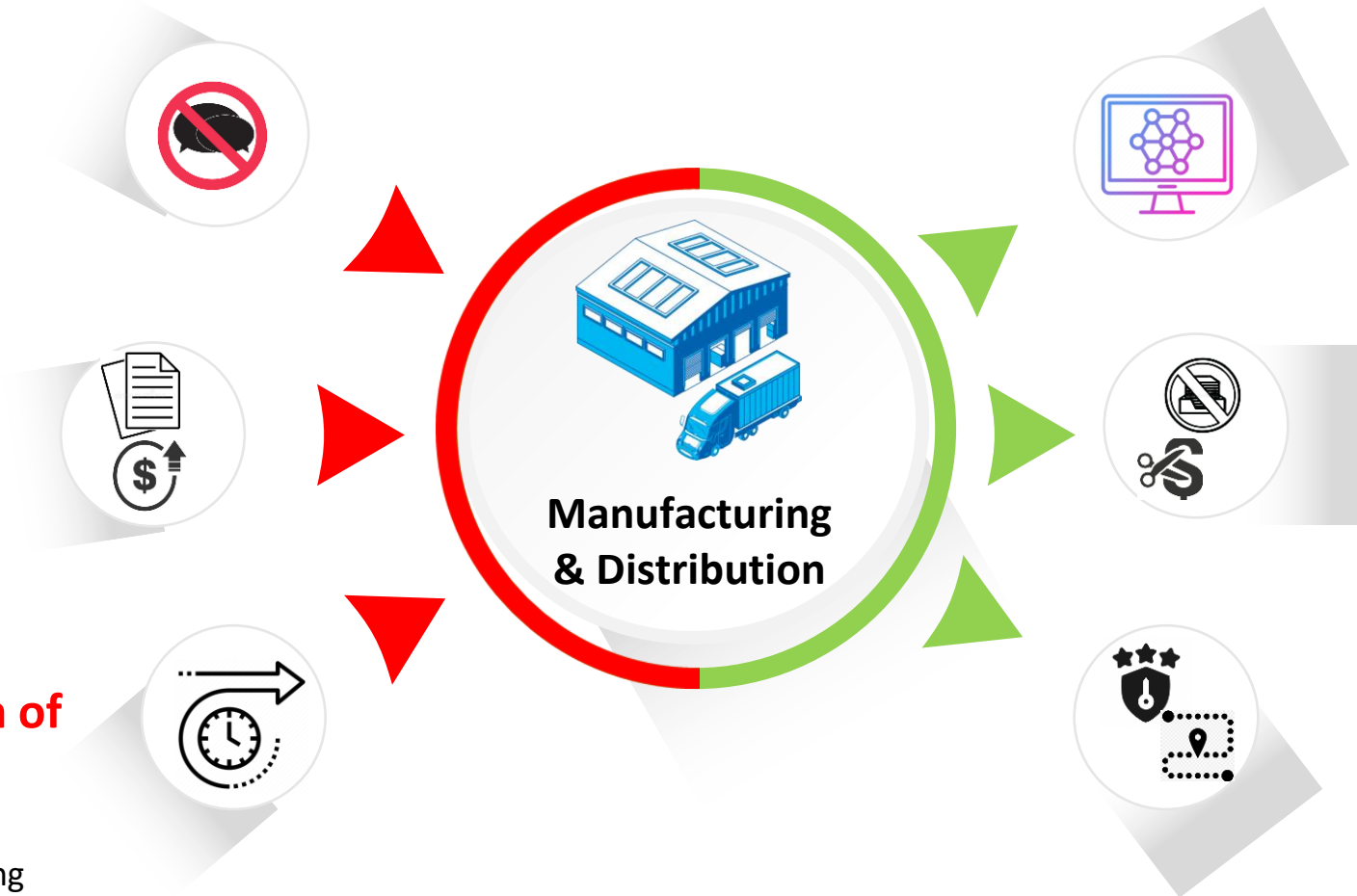
between the actors
involved into the process

High cost & paper document

related to the
operative and customs
activities

Efficiency reduction of the logistic process

in terms of activities
performance and long waiting
times



Complete visibility & control of supply chain

thanks to the
implementation of a Digital
Platform and IoT devices
integration

Operative, customs costs reduction & paperless

thanks to the digitalisation of
documental flows and the
improvement of the logistic process
in terms of service quality and
security level

Increase of efficiency through a complete cargo and e-document T&T

and improvement of service quality
and security level

*Circle Group's products and software solutions are compliant with the requirements of the European GDPR.

Global Supply Chain Visibility - introduction



**Shipping Line
Shipping Agency**



Carrier

ACTORS



**Multimodal
Transport Operator**

INVOLVED



**Freight Forwarder
(Air – Road – Sea)**



Customs Agency

Global Supply Chain Visibility Suite Components

**Booking Info
&
Data**

**Track & Trace
Platforms
(i.e. TFP – TAP)**

**ERP Connector
&
KPI Dashboard**

**IoT devices
&
Blockchain**

**International Fast
& Secure
Trade Lane**

**Customs
Innovative
Procedures**

KEY

SUCCESS

METRIC

100%

Paper reduction

- 60% / 90%

Dwell time reduction

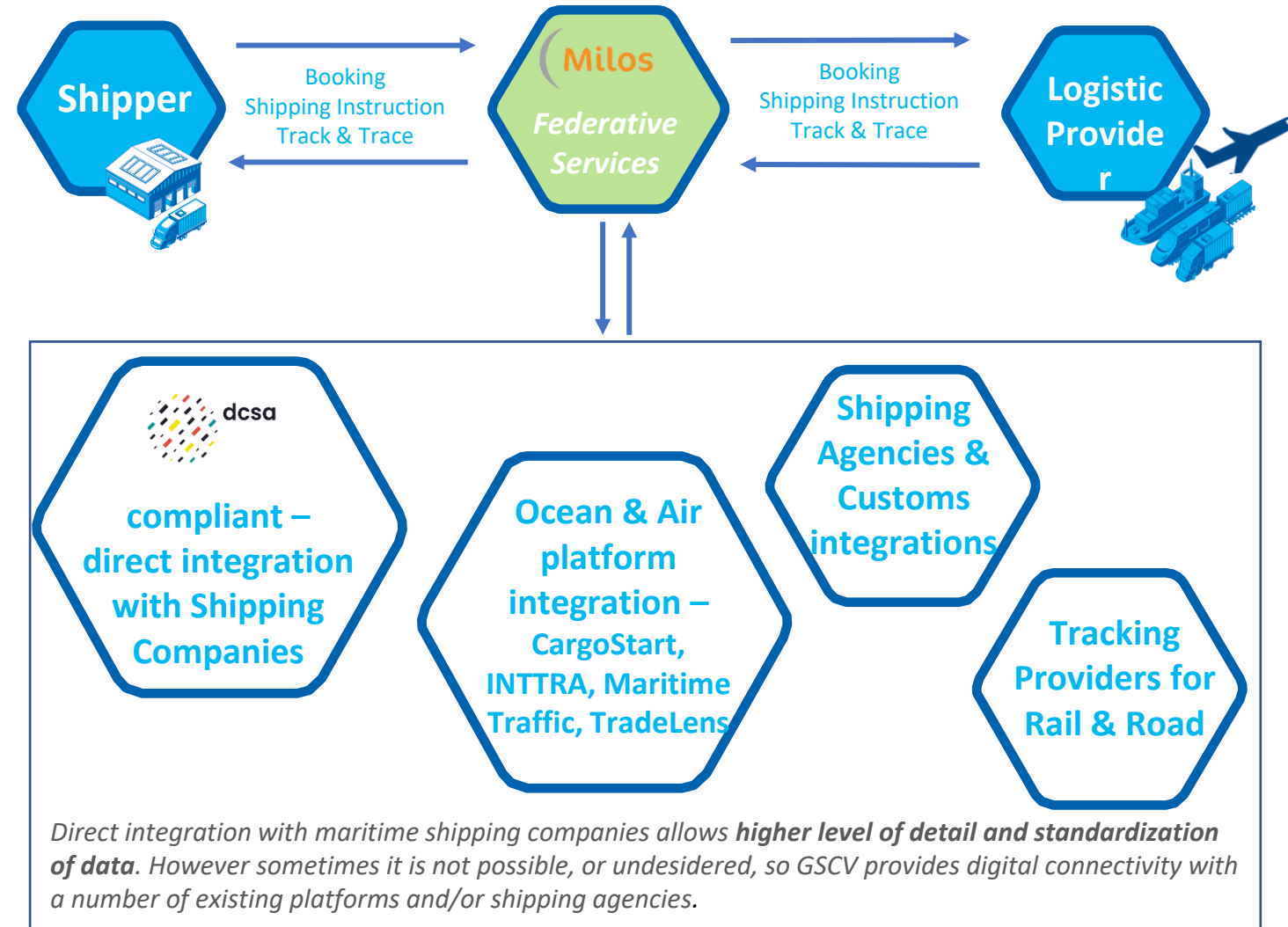
- 20% / 30%

Direct cost reduction / TEU

Tracking, Booking Info & Data Services

Benefits:

- ✓ **Integration:** immediate and simplified access to services offered by different carriers / shipping companies such as fully digital Track & Trace of containers and/or booking
- ✓ **Reduction of cost & complexity:** less manual errors, fewer calls thanks to the digitalisation of the information flow
- ✓ **Proactive approach:** you can reduce unnecessary downtimes, demurrage costs and achieve better organization of your warehouse. Focus on exceptions and react fast
- ✓ **Process automation:** thanks to integration with shippers' ERP systems, it is possible to automate some business processes, like proof of delivery, invoicing, allocation of costs
- ✓ **KPI & analytics:** visibility can help to gain insights on aspects such as shipping costs, CO2 emissions, quality of service, carrier performances, carrier quality report, etc.



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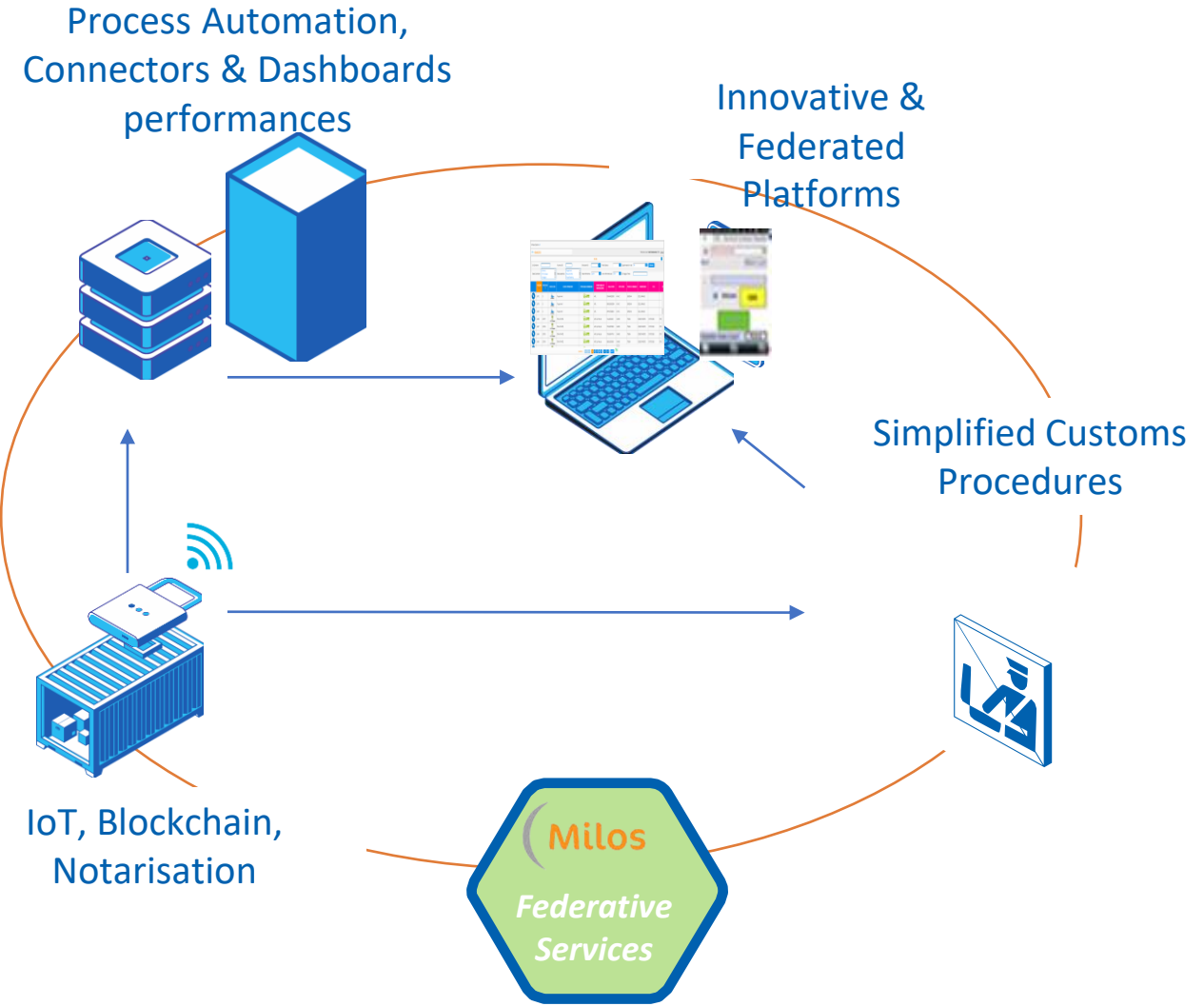
Milos® Federative & Customs Services (Customs Registers, e-Manifest etc.) is a **set of tools and services** enabling easy and up-to-date interoperability among different actors of the logistic chain and customs processes.

These services allow to share **customs information** between the parties involved in the import/export process, guaranteeing **data security** and **reliability**.

The integration with the latest services provided by national Customs (consistent with EU e-Customs 2025 Plan) makes the most advanced tools available to Shippers, Freight Forwarders, Carriers and MTOs.

Benefits:

- ✓ Overall **control of data** and information
- ✓ Improvement of **service quality and security level**
- ✓ **Security and operative costs reduction**
- ✓ **Transit and dwell time** reduction
- ✓ **Environmental positive** impacts



The Transport Federative Platform is a software-based equipped with a dashboard for the **active monitoring of the units** and **interoperable with the operator's IT systems**.

The solution includes the provision of a specific **Mobile APP**, provided to the operator and the drivers of the road transport company, which allows the operational management of the orders received and the sharing of related events (arrival, loading, unloading, delivery, ancillary operations, any accidents) as well as the uploading of documentary information or images.

The system created is characterized by **application to application interoperability** (thanks to specific ad-hoc connectors).

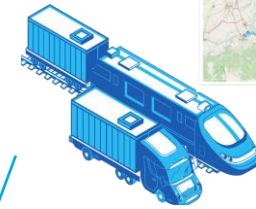
Furthermore, in the event that the Trucking Company does not equip itself with the **Mobile APP**, the software system is made interoperable with the Company's IT system, in order to allow the latter to transmit the events associated with the trip and the position of the UTI.

Interoperabilities of Transport Federative Platform

IOT MODULES & PLATFORMS

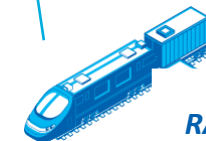
- Passive tag/eSeals IoT
- Active tag/eSeals
- IoT Tracking specialised hardware

TRACK & TRACE PLATFORMS



CUSTOMS

- Customs Corridors (i.e Italian Fast Corridor)

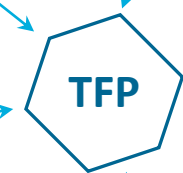
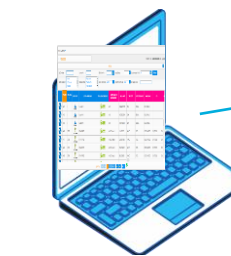
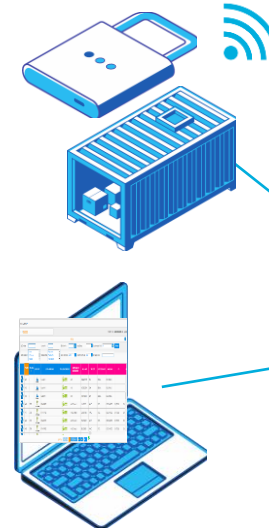


PIC INFRASTRUCTURE RAIL MANAGEMENT PLATFORM

- Infrastructure Companies (i.e RFI – Italy)

CORRIDOR MANAGEMENT PLATFORM

- Rail
- Intermodal
- International



TAP, Truck Appointment Platform, is the solution for industries and distribution centers to create and approve dock door appointments. It allows a more effective planning of deliveries and/or pick-ups, thanks to better utilization of warehouse resources and personnel.

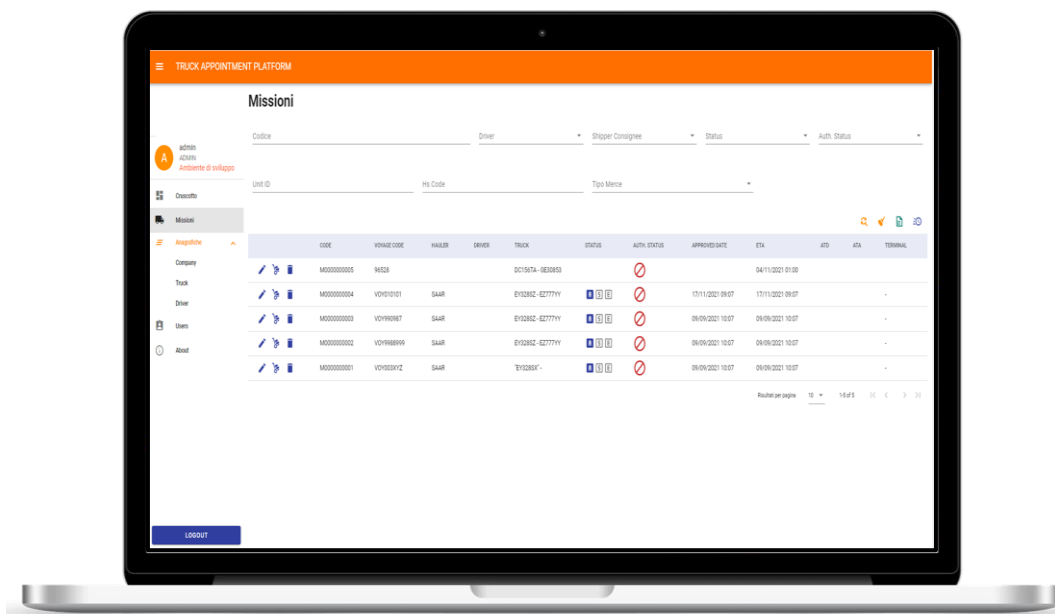
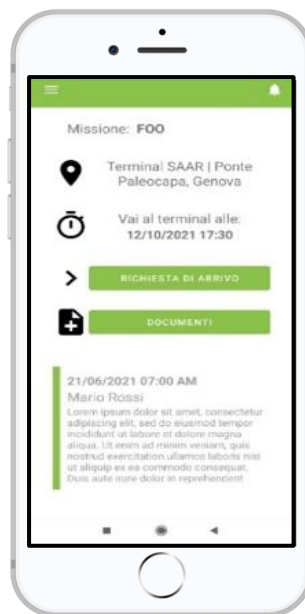
Carriers can book their appointments by themselves using a dedicated web interface or mobile app, so ensuring maximum visibility and flexibility to warehouse operators, customers and suppliers.

Also, it is possible for carriers to receive notifications on mobile phones (SMS, Email, Mobile app alerts, ...)

TAP provides seamless integration with 3rd party systems by means of a dedicated set of APIs to (create/confirm appointments).

Benefits:

- ✓ Increased effective planning and resource utilization
- ✓ Reduced waiting times
- ✓ Faster turnaround of goods
- ✓ Coordinated & automated communications
- ✓ Save on process costs



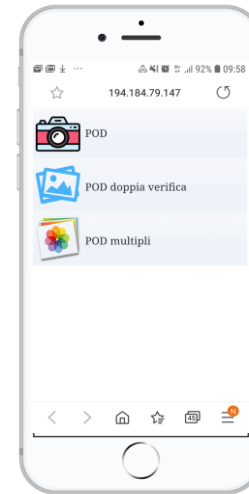
Proof of delivery (POD) is a mobile software solution for real-time driver performance monitoring and delivery confirmation. It can be used to streamline the delivery process and speeds up back-office procedures like customer notification, claim management and invoicing. It's out-of-the-box features include GPS vehicle tracking, digital signature, custom delivery notifications, and electronic proof of delivery (ePOD) template.

Optional features include:

1. Using the Mobile App as a QR Code/Barcode scanner for load control
2. Taking pictures to populate your digital delivery note and confirming that the shipment was successful

Benefits:

- ✓ **Faster delivery execution:** by using the tablet, document handling time is reduced and the process is faster and more accurate.
- ✓ **Real-time visibility of delivery status:** possibility for the client and sender to track the progress of the shipment, receive notifications on devices, view the name and signature of those who accepted the delivery
- ✓ **Dematerialization of document processes:** elimination of paper documents reduces compilation errors, costs.

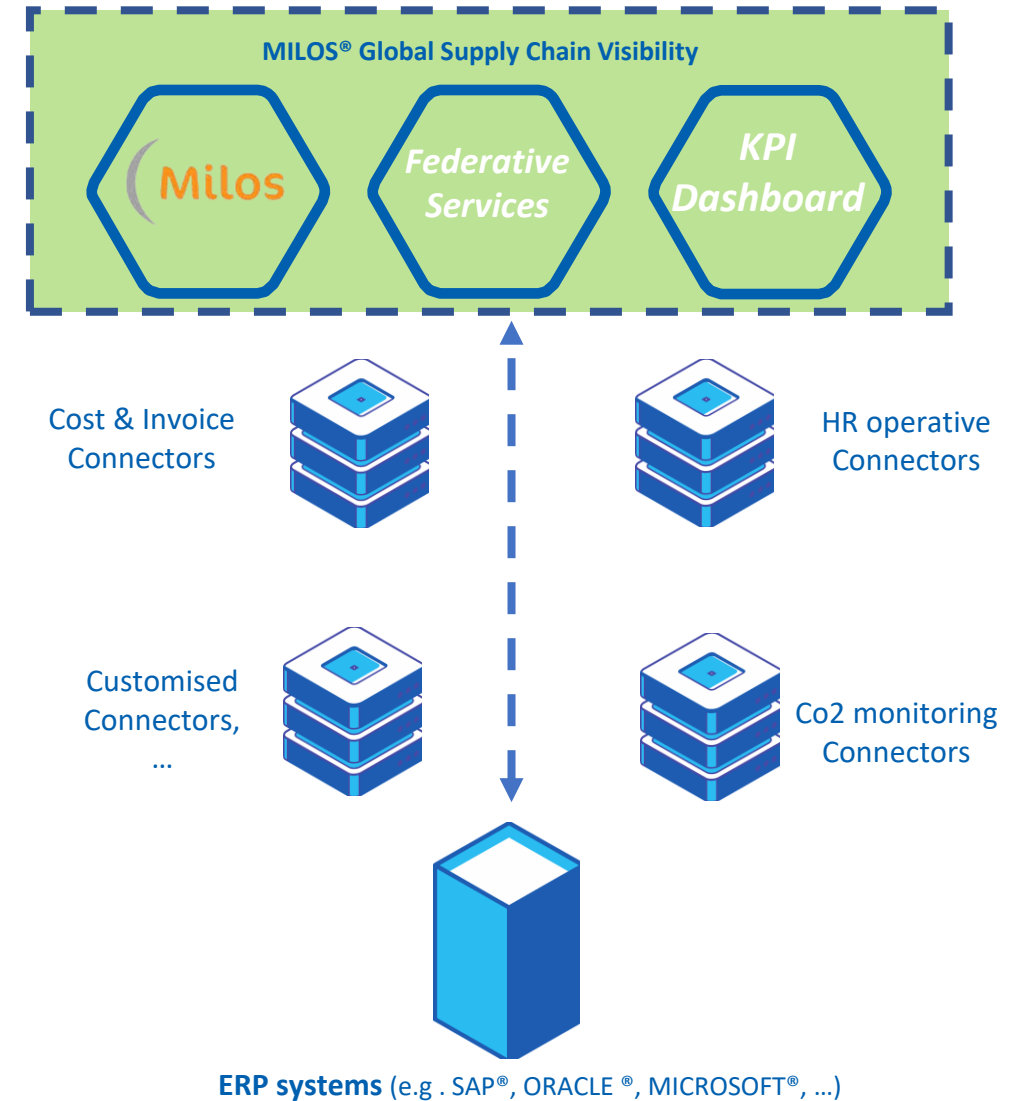


Process Automation & KPI Analytics

Thanks to integration with shippers' ERP systems, Milos® Global Supply Chain Visibility allows the development of **specific dashboards for analytics & reporting** and ensures **process automation**.

Benefits:

- ✓ Cost savings
- ✓ Workflow visibility
- ✓ Reporting/analytics/comparisons
- ✓ Regulatory compliance & data security
- ✓ Risk management
- ✓ Scalability
- ✓ Flexibility
- ✓ Customisation



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We support organizations and private companies in the path to integrate sustainability principles into their business strategy and operations. Our **Carbon Footprint Federative Service** is the flexible solution for automatic calculation of customer-specific transport chains.

- ✓ **Multimodal supply chain:** calculation of entire transport chains (air, ocean, rail, road, waterways), transshipments and warehouse
- ✓ **European standard & ISO compliant:** Global Logistics Emissions Council (GLEC) Framework, EN 16258, GHG Protocol (Corporate Standard); ISO compliant
- ✓ **Software-as-a-Service (SaaS):** native integration both with products of Circle Group, both with third parties ERP
- ✓ **Future Proof:** agile, constantly updated and adaptable to new regulations and standards
- ✓ **Analytics & Dashboard:** we support to create custom dashboards and "green reports" to achieve your strategic ESG plan



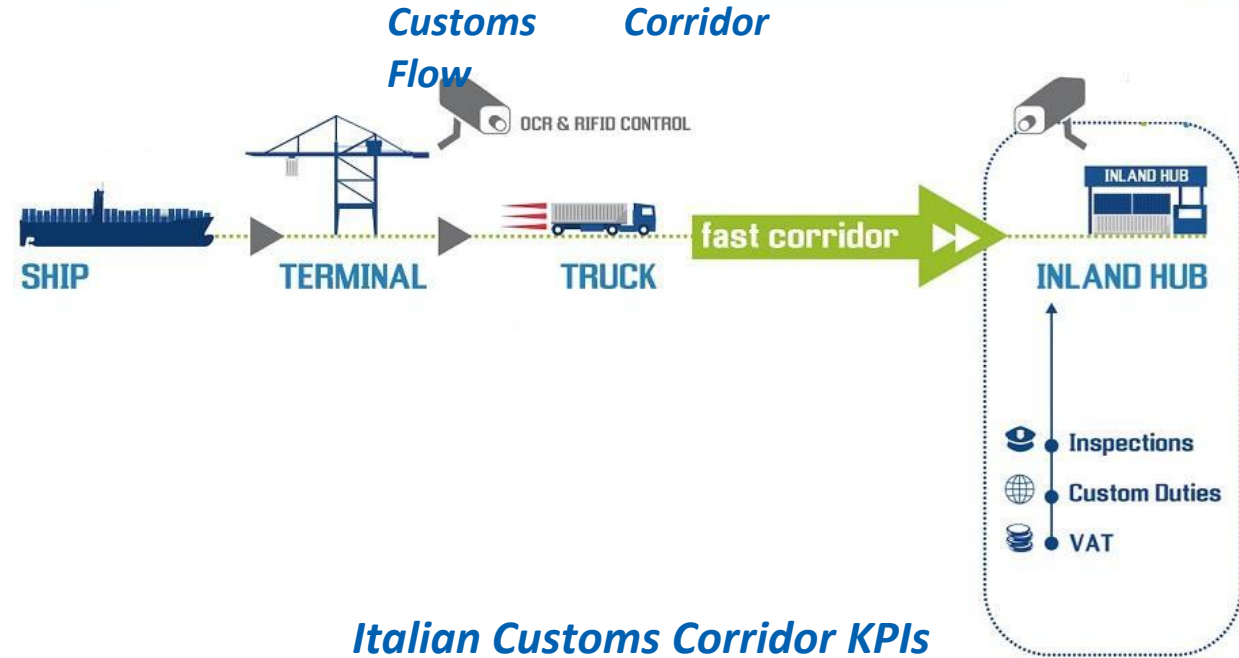
The concept of **Custom Corridors** (*Fast Corridor in Italy*) was born to decrease the costs relate the import / export cycle converging towards the complete traceability of the goods forwarded in the multimodal logistics chain.

The containers are moved between ports and places of destination (always under the control of customs agency offices) where are complete the custom clearance procedures.

Benefits:

- ✓ **Decrease the permanence of goods** in ports, berth and storage area, **reduction of port congestion** and **idle time at entry port**
- ✓ **Improved safety**, through a continuous monitoring of cargo movements
- ✓ **Digitalisation of logistics processes** to integrate customs operations with internal procedure
- ✓ **Reduction of supply-chain environmental footprint**

Customs innovative procedures



Italian Customs Corridor KPIs

- ✓ **20 corridors opened**
- ✓ **+ 2 500 km covered**
- ✓ **+ 16 400 containers handled 2021**

Pilot projects on International Fast & Secure Trade Lane

Circle Group is working on the development of International Fast & Secure Trade Lane projects, **End to End solution** aiming at **optimising** maritime, logistic and transport processes, **simplifying** and **integrating** information flows thanks to the use of **Internet of Things** and at **standardising** and **digitalising** documental flows

Benefits:

- ✓ **Full visibility of goods, reduction of manual errors and speed boost** for shared documentation thanks to the digitalisation of information flows between actors involved in the process
- ✓ **Security guarantees** thanks to the integration of new technologies and digital tools to create information flows with control of operations and events occurring
- ✓ **Exploitation of simplified customs procedures** by exchanging information with and between customs administrations
- ✓ **Automation, speed up of operations and reduction of containers break-ins** thanks to the implementation of IoT devices

International Corridors Italy Vs Morocco – Turkey - Egypt

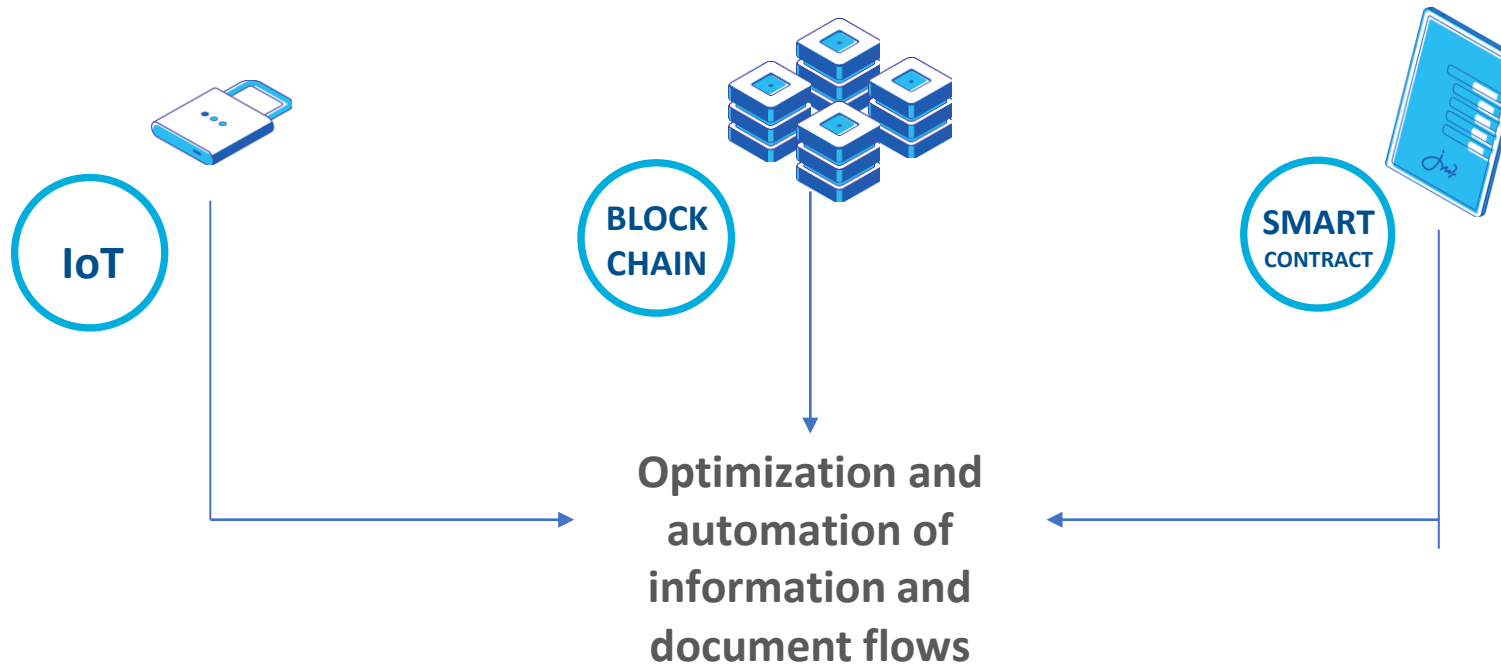


Photos of pilots projects



Innovative technologies for integrated & connected logistics

The **Internet of things (IoT)** is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to connect and exchange data. The combined use of smart devices, **IoT** and digital tools such as **Blockchain Platforms** and **Smart Contracts** has the purpose of dematerialize the transport procedures and relative contracts leaving traces of all operations and events occurring within the Logistics Chain.



MILOS IOT & Blockchain is a solution designed to integrate these innovative solutions

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Challenge

IKEA, multinational company that designs and sells home furnishings, has a strategic logistics hub in Piacenza (Italy). From this place goods are distributed to Italy, North Med and Middle East.

The process of customs clearance, for goods coming from non – EU countries, must occur at the time the container is discharged, so the time of arrival at destination, and their availability in the warehouse, is heavily affected from customs and port activities.



Solutions

- Implementation of the suite “**Global Supply Chain Visibility**”
- Development of specific integration among IT systems of IKEA and port, customs and logistic actors
- Implementation Track & Trace and simplified customs procedures

Benefits

- ☐ Information in real time on a single dashboard
- ☐ Integration with Customs and Port Security information
- ☐ Digitalisation of custom procedures in import and export
- ☐ Full digital platform able to share documents
- ☐ “Certified Information” arising from the use of IoT devices

Direct cost
reduction x TEU

- 30 %

Paper usage

- 100 %

Shipped
container's volume

80 %

Reduction of the
transit time

35 %

Dwell time
reduction

80 %

Milos eCustoms

CRUSCOTTO

Welcome, Ikea Sede Selezionata: IKEA Logout

FILTRI

Id Container: Numero A3: Emissione A3: Porto Sbarco: Quadrimestrali inviati: Refresh

Stato Container: Stato operativo: Mese riferimento: Anno riferimento: dal ID Viaggio Treno:

	PRG INT	PRG DOG	STATO CTR	STATO OPERATIVO	TIPOLOGIA CORRIDOIO	COMPAGNIA DI NAVIGAZIONE	SIGLA CNTR	TIPO CNTR	PORTO DI SBARCO	NOME NAVE	ETA	ET
1471	0		In Arrivo	Fuoco Arrivi		APL	CMAU4525590	40 HC	GENOVA	CSCIL URANUS		
1470	0		In Arrivo	Fuoco Arrivi		APL	BMOU5423394	40 HC	GENOVA	CSCIL URANUS		
1469	0		In Arrivo	Fuoco Arrivi		APL	APHU7028840	40 HC	GENOVA	CSCIL URANUS		
1468	25757		In TC Virtuale	ETA-ATA PCS		APL Co. Pte Ltd	TLLU4510523	C40HC	ITGOA	COSCO PACIFIC	07/07/2019	07/07
1467	25756		In TC Virtuale	ETA-ATA PCS		APL Co. Pte Ltd	TCNU5570892	C40HC	ITGOA	COSCO PACIFIC	07/07/2019	07/07
1466	25755		In TC Virtuale	ETA-ATA PCS		APL Co. Pte Ltd	TCNU5547742	C40HC	ITGOA	COSCO PACIFIC	07/07/2019	07/07
1465	25754		In TC Virtuale	ETA-ATA PCS		APL Co. Pte Ltd	SEGU5239358	C40HC	ITGOA	COSCO PACIFIC	07/07/2019	07/07

(1 OF 5)

Implemented Services

- ☐ Track & Trace
(Transport Federative Platform)
- ☐ Simplified Customs Procedures
(Fast Corridor)



WorldWide



2014

Challenge

ITALIANSPED is a **SACMI Group** company specialized in shipping, transport and integrated logistics services.

The company, a benchmark in the field of **logistics engineering**, is committed to concentrating its activities in the main logistics areas, so as to enhance the synergy between the territory and the services offered, guaranteeing ever greater punctuality, precision and attention to its customers..

The **federated tracking project** goes in the direction of obtaining more proactive information, speeding up data exchanges among its partners, increasing the efficiency of operations.



Solutions

- Improve the communication flow with other Supply Chain partners
- Development of Unified Dashboard for real-time tracking of multimodal transportation

Benefits

- ☐ Real time visibility of information flows
- ☐ Immediate data access and simplification of procedures
- ☐ Improvement of the logistic process
- ☐ Digital integration with Supply Chain partners

Challenge

Alpe Adria is an Italian logistics company, equally owned by the Port Authority of Trieste, Friulia and Mercitalia Rail. It provides **intermodal services** by combining road, rail and sea modes.

It operates through an **integrated network of connections to and from North-Eastern Italy and Central-Eastern Europe.**

As part of its eco-sustainability strategy, the customer has decided to adopt a carbon footprint tracking system for multimodal shipments.



Solutions

- Identification of CO2 tracking solution service provider (GLEC standard)
- Automatic «green» reporting generation and ESG dashboard
- Digital integration of informative system (MILOS MTO Suite) with 3rd party service API

Benefits

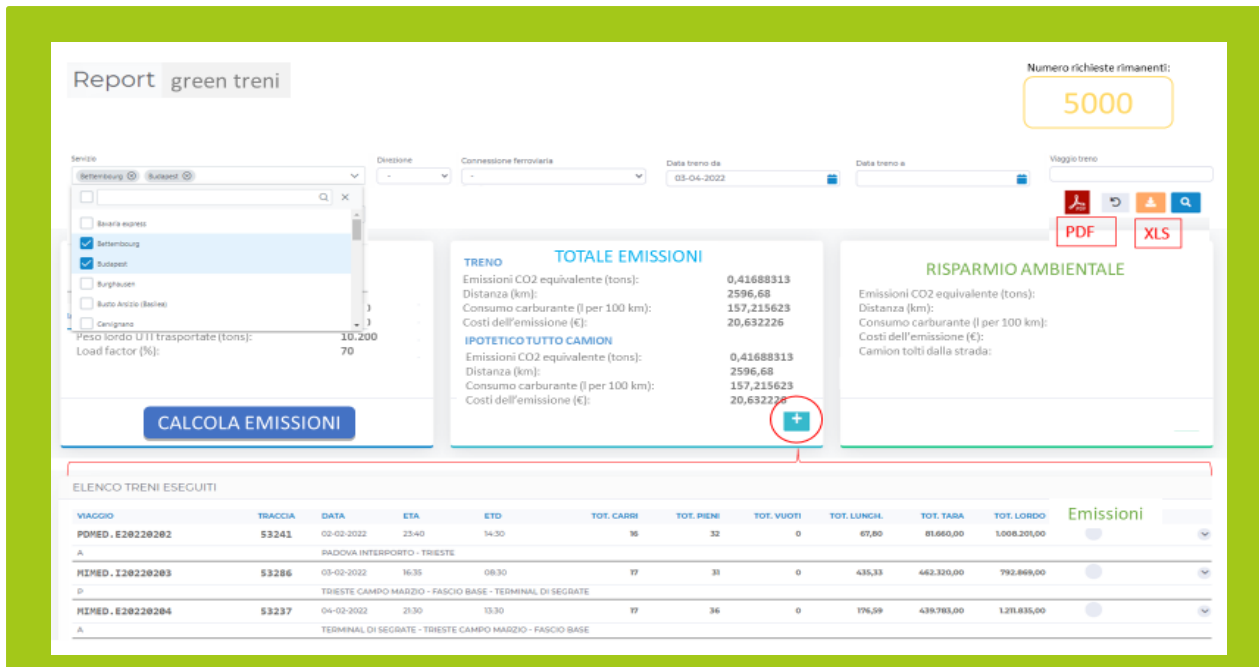
- Real time visibility of the carbon footprint
- What gets measured, gets managed
- Consistent calculation for global, intermodal transport chains
- Future proof. CO2 emissions calculation is subject to regular methodical updates and adjustments to current standards and sources



The solution, developed for the customer, reads information such as: Transportation mode, Type of goods, Quantity, Handling, Origin and Destination for each leg of the transport.

A green report is generated for each shipment and results can be exported in several formats (PDF, Excel, CSV).

GLEC Framework, EN 16258 as well as GHG Protocol (Corporate Standard); preparation for ISO 14083 currently under development.



Report green treni

Numero richieste rimanenti: 5000

Servizio: Destinazione: Connessione ferroviaria: Data treno da: Data treno a: Viaggio treno:

☐ Benaria express
☒ Benaria
☒ Salsobad
☐ Burghausen
☐ Auto Anzio (Belini)
☐ Cavigliano

Peso lordo U/I trasportate (tons): 10.200
Load factor (%): 70

CALCOLA EMISSIONI

TRENO TOTALE EMISSIONI

Emissioni CO2 equivalente (tons): 0,41688313
Distanza (km): 2596,68
Consumo carburante (l per 100 km): 157,215623
Costi dell'emissione (€): 20,632226

IPOTETICO TUTTO CAMION

Emissioni CO2 equivalente (tons): 0,41688313
Distanza (km): 2596,68
Consumo carburante (l per 100 km): 157,215623
Costi dell'emissione (€): 20,632226

RISPARMIO AMBIENTALE

Emissioni CO2 equivalente (tons):
Distanza (km):
Consumo carburante (l per 100 km):
Costi dell'emissione (€):
Camion tolti dalla strada:

ELENCO TRENI ESEGUITI

VIAGGIO	TRACCEA	DATA	ETA	ETD	TOT. CARRI	TOT. PIENI	TOT. VUOTI	TOT. LUNGH.	TOT. TARGA	TOT. LORDO	Emissioni
PIED. E20220202	53241	02-02-2022	23:40	14:30	36	32	0	67,80	81.660,00	1.008.205,00	
A RADOVA INTERPORTO - TRIESTE											
PIED. I20220203	53286	03-02-2022	16:35	08:30	17	31	0	435,33	442.320,00	792.869,00	
D TRIESTE CAMPO MARZIO - FASCIO BASE - TERMINAL DI SEGRATE											
PIED. E20220204	53237	04-02-2022	21:30	13:30	17	36	0	176,59	438.783,00	1.211.835,00	
A TERMINAL DI SEGRATE - TRIESTE CAMPO MARZIO - FASCIO BASE											

Implemented Services

- ☐ Carbon footprint tracker
(Native integration with MILOS MTO Suite)
- ☐ Automatic Green Reporting & Dashboard
(CO2 emissions reporting)



Italia



2022

- In November 2019 **Circle** was cited in the **Supply Chain Vendor Guide of Gartner** with the suite **Milos® Global Supply Chain Visibility** integrated with MasterSped. This will allow us to further enhance our presence on the market.



Supply Chain Operational Visibility Vendor Guide

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Analyst(s): Christian Titze, Bart De Muynck

This research provides a compendium of the operational visibility solutions categories and providers that Gartner covers. Supply chain technology leaders can use this research to help develop a comprehensive supply chain visibility technology portfolio strategy.



Circle (Milos)	www.circletouch.eu	Modular solution for the transport optimization of containers, trailers, cars and general cargo through the logistic intermodal chain; focus on automated port logistics and customs procedures
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- Thanks to the acquisition of the software house Progetto Adele, Circle Group has expanded the portfolio of solutions offered with a focus dedicated in particular to **Freight Forwarders**. The integration between the solutions, allows to offer customers **innovative products** in terms of **tracking, internet of things and intermodal transport**, which contribute to a **huge recovery of efficiency, cost reduction** and **performance increase**, as required by large international importers and exporters in view of supply chain visibility.



- Moreover, Circle Group has been committed for years to the challenge of **simplifying customs procedures** thanks to its services, which allow to completely **digitalize information and documental flows** for all the actors of the supply chain. In this way, the company accompanies its customers on a constant **path of innovation**, offering added value in terms of **quality of service, security and better customs management**. The goal is to create a supply chain that is increasingly usable, smart green, federative and that uses intermodal components able to reduce costs, pollution and energy consumption



- Thanks to the Joint Venture with the partner Log@Sea and Optimeasy, Circle Group is looking for develop an internal line of business specifically dedicated to the development of **optimization** tools for the port and logistics sectors as a whole and the benefits arising from the implementation of **Digital Twin**





International Fast & Secure Trade Lanes Project - stakeholders



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Thank you



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