

## Traxens presentation

Traxens is a technology company founded in 2012 and supported by the world's top shipping line as shareholder and main client. As one of the main leaders in the smart containers industry, it keeps on increasing its research on new technologies to help its customers (Shipping Line, Freight Forwarders) and Partners (Customs, Law enforcement) to improve their operational decision making.

Traxens is developing its activity on two main axes:

- Transport transparency: end to end visibility whatever the means of transport (truck, barge, rail, vessel), schedules accuracy, operations efficiency.
- Real time risk management: ensure cargo and asset integrity by detecting container intrusion, theft, cargo and asset contamination or deterioration.

Solutions supported by Traxens collect and enrich the flow of evidence from multiple sources of information: IoT, shippers' data, geospatial data...Traxens collects and processes several millions of events per month.

## Hardware products










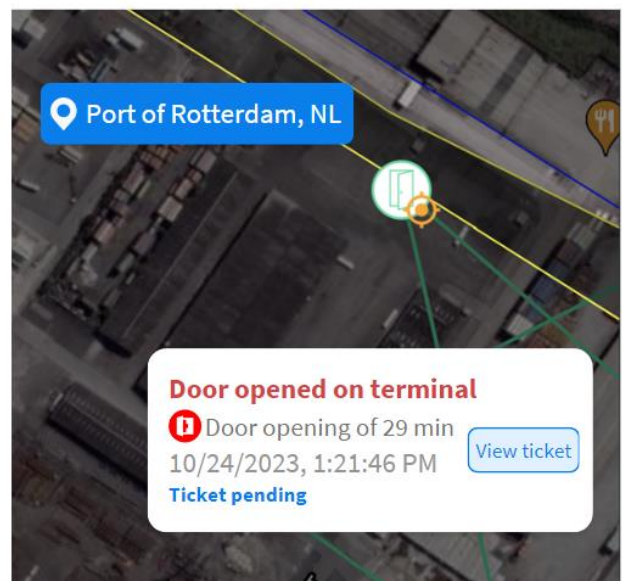
Permanent tracker fixed on the container door.



Removable tracker, snapped to the door thanks to its magnet.

## Monitoring unauthorized door openings

-  Door opening detection
-  GPS position + timestamp
-  Data transmission
-  **Algorithm**
-  Criticality level
-  Notification sent
-  Security officers informed



Our trackers detect and communicate every **time stamped door opening and closing** and their geolocations. If the door opening is labeled as Unexpected by our algorithm and according to the user's notification settings, a **mail notification** can be sent either immediately or at the end of the pre-carriage to have the record of all pre-carriage door openings.

We have detected the following door opening events during the pre-carriage of the following equipment:

- Equipment: [redacted]
- Container type: 45R1
- Booking: [redacted]
- Port of loading: Guayaquil
- Port of discharge: Saint Petersburg (ex Leningrad)
- Vessel Name: [redacted]
- Voyage Number: [redacted]
- ETB: 2024-06-02 05:04:00
- Gate In: 2024-05-31 19:27:00
- Late Gate-in: **9h 28m after closing**

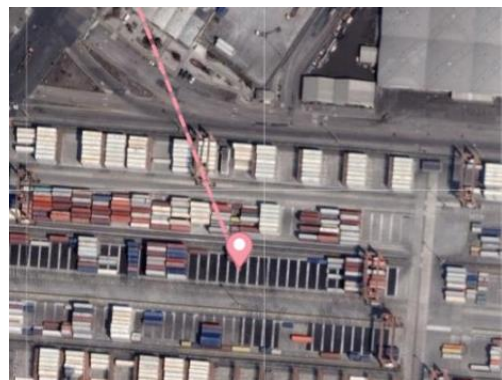
Door openings:

Alert Level	Context	Opening Duration	Event Date & Time	Location	Reference
Suspicious	Container Open after geofencing out depot [redacted]	00:02:47	31/05/2024 05:22:59	Guayaquil	<a href="#">EVT-004884083</a>
Expected	Container Open in Stuffing/Unstuffing site [redacted]	03:37:27	31/05/2024 09:27:51	Alfredo Baquerizo Moreno	<a href="#">EVT-004886234</a>
Unexpected	Container Open after geofencing out SUL [redacted]	01:50:27	31/05/2024 14:25:29	Alfredo Baquerizo Moreno	<a href="#">EVT-004886235</a>

Our web platform is designed to allow accurate analysis and **follow-up** of each alert in a collaborative mode.

The algorithm can also be used on cold data to identify recurring stuffing zones, customs inspection areas and additional services (such as fumigation).

[Seizure video with our tracker highlighted](#)



## Tin Can Operation

Two shipping lines involved in the operation used containers equipped with Traxens tracking devices that provided real-time location tracking and door opening detection. Before the operation began, the shipping lines equipped containers at ports across Latin America that the industry considered high-risk. The data was collected on Traxens online platform, where algorithms were used to identify unexpected door openings. The OCU (Operational Coordination Unit) was granted access to the platform for the entire duration of the operation. The alerts were jointly reviewed by the OCU and the respective shipping line to determine the necessary operational response.

## Other possible usecases

Tin Can Retex highlighted other possible usecases:

- monitoring container movements, for instance when a vehicle unexpectedly enters or leaves a zone or when a container movement appears irregular.
- calculating the average transit time of containers transported by truck between terminals to identify excessive transit times,

– calculating the average dwell time of containers in high-risk ports to identify anomalies in dwell time.

Also, since IoT is particularly utilized for tracking the movement of perishable goods to prevent spoilage and loss, Customs and other relevant border agencies could identify which shipments require urgent release and clearance and prioritize them shipments.

## National Customs partnership

Traxens already has a partnership with one European customs authority based on this model:

1. A tripartite agreement with the shipping line allows the customs team to access our investigation application with the shipping line's smart container data.
2. Smart filters allow the team to select shipments coming to their region/country or other specific zones of interest. An agreement may be made with the shipping line to increase the smart equipments on containers shipped to the customs' zones of interest.
3. The customs team can (is invited to) share information and data to enrich our system and improve our algorithms: suspicious or unsafe zones/shippers, operating modes, data on past seizures....
4. Small financial contribution is requested for us to provide a support team

→ This model already proves efficient, with seizures being made thanks to this tripartite collaboration.

## Conclusion

Smart containers have a lot to offer customs organizations. The technology is mature and is already delivering great results. With more law enforcement agencies pushing for it, shipping lines could increase their deployments and see the benefits of it at a large scale.

## Contacts

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