



SUPPLY CHAIN OPTIMIZATION

HOW TO CALCULATE
YOUR RETURN ON INVESTMENT?

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03

PUTTING THINGS INTO PERSPECTIVE

Supply chains can be complicated, but once optimized, you will minimize costs, increase customer satisfaction and improve the overall performance of your business. Industries like automotive, aerospace (e.g., Airbus), machinery (e.g., Atlas Copco), and other manufacturing companies of (large) machinery, vehicles, and other large and high-value components use different types of containers to transport components and finished products between different manufacturing sites. As the complexity of the supply chain grows, so do the issues and inefficiencies, like overspending on container purchases, maintenance costs, too many stakeholders, and lack of visibility and control.

One of the solutions to help you avoid unnecessary delaying or stopping production lines, penalties, long Work-in-Progress times, etc., lies in tracking devices on the RTP (Returnable Transport Packaging) containers. RTPs are special containers used for the transportation of production parts. They are a great source of valuable data to help you make better business decisions.

When you connect your RTPs and manage them in a unified and scalable cloud-based platform, you get visibility, automated inventory management, and supply chain analytics.



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COST BREAKDOWN

To help you understand the value of investing in a tracking system with AI-driven data analytic software, we'll show you the rundown of the steps and exact numbers based on an example of a fictional company that invests in 1000 tracking units.

The actual cost of deploying the solution depends on many factors, e.g. the type and volume of tracking devices ordered and the sophistication of the required software plan. In our example, we'll work with the following assumptions and round numbers:

1. One-off cost to purchase the trackers: $1\ 000 \times 100$ EUR = **100,000 EUR**
2. Yearly fees for communication networks and platform license: $1\ 000 \times 30$ EUR = **30,000 EUR per year**

This means a cost of **100,000 EUR** for the first year and **30,000 EUR** for every subsequent year.

NOTE:

Before we dive deeper into our business case and RoI calculation, it is important to mention there will be other factors, such as installation costs, battery replacements, and possible damage.

For details on how to calculate your RoI, please visit our [website](#).

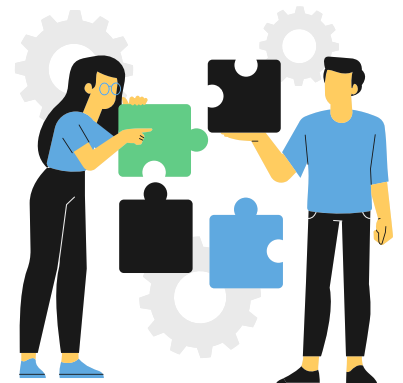
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INITIAL INVESTMENT COST

DESCRIPTION	PRICE	QTY	AMOUNT
TRACKERS	€100.00	1000	€100 000.00
YEARLY FEES/LICENSES	€30.00	1000	€30 000.00
SUBTOTAL (FIRST YEAR)			€130 000.00
(EVERY SUBSEQUENT YEAR)			€30 000.00

NOTE:

Find more details about the total cost of ownership [here](#).



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“

We are now building a huge database, from which we gain factual insights that allow us to make well-founded business decisions. That makes the investment in the Sensolus platform more than worthwhile.

”

*Philip Salaerts
(Senior Operations Manager at Distrilog)*

The actual gains to be realized depend on a number of use-case specific parameters, such as:

- the cost of the container to be traced: **2 000 EUR** in the example below
- the typical lifetime of a container: **8 years** in the example below
- average maintenance cost of the containers on a yearly basis: **100 EUR per container** in the example below.

The actual return will be accomplished in 2 main areas:

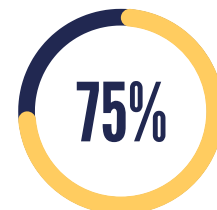
- **reducing the cost associated with the management of the RTP containers**
- **financial gains related to optimizing logistics operations and supply chain flows.**

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MANAGING RTP COSTS

Through the ability to geolocate containers in real-time, the yearly loss ratio can drastically decrease.

The companies we work with, claim that the implemented tracking solution reduces the RTP yearly loss by 75%.



1000 containers
 x 2000 EUR (cost of a new container)
 x 3% loss yearly
 x 75% loss reduction

= €45 000

+ EXTRA YEARLY SAVINGS:

- ✓ Manufacturing companies can reduce their container fleet size by **10 to 20%** after an optimized allocation of containers. **€37 500**
- ✓ Out-of-contract use is **reduced by 80%** after deploying the tracking system. **€15 000**
- ✓ Companies can attribute repair and replacement costs to subcontractors and logistics partners instead of paying them themselves. **€8 000**
- ✓ Companies can avoid both late maintenance as well as yearly maintenance, leading to a **reduction of up to 20%** of the yearly maintenance costs. **€10 000**
- ✓ Companies can avoid both late maintenance as well as yearly maintenance, leading to a **reduction of up to 20%** of the yearly maintenance costs. **€20 000**
- ✓ By taking better care of the containers, the effective lifetime of a container can be extended by **17%**. **€36 325**

TOTAL SAVINGS: €171 825.00

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MANAGING RTP CONTAINERS: BREAKDOWN

Let's look more in detail at the benefits and financial returns attained after deploying a tracking solution for RTPs (based on the data from the previous page):

A RTP containers are often not perceived as very valuable by the people using them as they are not at the core of the manufacturing company's business. As a result of this, companies are confronted with a high yearly loss ratio: they lose containers on a yearly basis.

Through the ability to geolocate containers in real-time, the yearly loss ratio can drastically decrease. The companies we work with, claim that the implemented tracking solution reduces this yearly loss by 75%. In our example, the company used to lose **3%** of their containers on a yearly basis, and with the tracking solution, this is drastically reduced by **75%**, resulting in a yearly cost saving of **(1000 containers x 2000 EUR x 3% loss x 75% loss reduction) = 45,000 EUR**

B Being able to correctly estimate how many containers are needed in the different logistics flows is a difficult exercise, and is mostly based on the expected lead times and the demands of the different logistics managers. We've found that manufacturing companies with large numbers of containers can reduce their container fleet size by 10 to 20% after an optimized allocation of containers based on the analysis of the effective usage of all containers.

For our example, assuming a reduction of **15%** of the total number of containers, this translates into a reduced yearly acquisition cost for new containers of **37,500 EUR** each year and a reduction of the yearly container maintenance costs of **15,000 EUR** each year.

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MANAGING RTP CONTAINERS: BREAKDOWN

C A recurring complaint from manufacturing companies is that the RTP containers are designed and ordered specifically for the transport of their goods, but often they are used by both their own teams and by contractors and suppliers for other purposes than what they are meant for (“Out-of-contract use”).

In this example, the company estimates that the containers are used for other purposes on average for 10% of their time and that out-of-contract use is reduced by **80%** after deploying the tracking system. This results in a yearly cost-saving of **8,000 EUR** in maintenance costs.

D RTP containers are normally treated with care in order to protect these valuable goods. Deploying a tracking solution on the containers has two clear effects in this respect:

- containers are treated with more care when people know they are being tracked
- it is much easier to find out who is responsible for the damage.

In this example, the company calculated that their yearly maintenance costs were reduced by **10%** because they could attribute repair and replacement costs to subcontractors and logistics partners instead of paying them themselves. This results in **10,000 EUR** additional yearly savings.

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MANAGING RTP CONTAINERS: BREAKDOWN

E While we've already highlighted some reductions to the container maintenance costs, these can be even more reduced because of the ability to better plan maintenance of the RTP containers. Instead of planning maintenance purely in a periodic manner (typically 1 time per year), the tracking solution allows one to plan maintenance based on effective use of the containers and based on reported issues.

This helps avoid both late maintenance, high repair costs, as well as redundant maintenance, leading to a reduction of up to **20%** of the yearly maintenance costs, or **20,000 EUR** fewer maintenance costs per year in this example.

F By taking better care of the containers by repairing them in time, treating them better during transport, and making all involved parties accountable and responsible, the effective lifetime of a container will be extended.

The manufacturing company in this example can extend the lifetime by **17%**, leading to a yearly cost saving of **36,325 EUR** due to reduced yearly new container purchases.

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OPTIMIZING SUPPLY CHAIN FLOW

The following benefits and financial returns are attained in the context of applying optimizations in the Supply Chain flows after deploying a tracking solution.

The companies we work with, claim that with the tracking solution they increased their turnaround time and reduced Work-in-Progress time. They also reduced the searching time by 90%.



20 h/week
 x 40 €/h
 x 52 weeks
 x 90%

= €37 440

+ EXTRA YEARLY SAVINGS:

✓ With the tracking system, wrong pick-ups or deliveries are reduced by 90% **€16 200**

✓ As software provides real-time visibility on stock levels at all sites of interest to all parties involved, manual stock or inventory counting isn't necessary anymore. **€20 800**

✓ Empty containers are timely shipped to the right location based on real-time stock counts and proactive alerts, reducing the number of express transports by 75% **€18 000**

✓ The process of picking up empty containers and shipping them back has been greatly improved based on actual counts of how many empty containers are available at which locations. **€9 000**

TOTAL SAVINGS: €101 440.00

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OPTIMIZING SUPPLY CHAIN FLOW: BREAKDOWN

The added visibility provided by the tracking solution, helps the company identify and remove bottlenecks and other causes of delay, and allows for better control and increased supplier and transport provider performance, all leading to a faster and more coordinated supply of products and services across the chain.

Let's look more in detail at the benefits and financial returns attained after deploying a tracking solution for RTPs (based on the numbers from the previous page):

A Knowing exactly where a container is at any moment in time, saves a lot of labor time. The company in our example calculated that they spend 20 man-hours per week searching for containers, at different sites. They claimed that with the tracking solution they could reduce this searching time by **90%**, leading to a yearly gain of **20 hours/week x 40EUR/hour x 52 weeks x 90% = 37,440 EUR** each year.

B One of the most important financial returns after introducing a tracking system for the RTPs is the overall reduction of the total time to manufacture the end product (WIP - Work in Progress Time). The total cost of manufacturing end-products in these industries is confidential, but even minor reductions by reducing the WIP time have a huge (financial) impact on the business.

The added visibility helps the company identify and remove bottlenecks and other causes of delay, allowing more control, and increased supplier and transport provider performance, which leads to a faster and more coordinated supply of products and services across the chain.

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OPTIMIZING SUPPLY CHAIN FLOW: BREAKDOWN

C Many supply chain processes that involve different parties, work well when everything goes as planned, but have a hard time recovering from mistakes. The company in our example estimated that on average 5 wrong pickups or deliveries happen each month, costing them 300 EUR each time. With the tracking system, these scenarios are reduced by 90%, resulting in 16,200 EUR additional yearly savings.

D One of the most obvious cost savings realized by a container tracking solution is the fact that manual stock or inventory counting isn't necessary anymore as the software provides real-time visibility on stock levels at all sites of interest to all parties involved. The manufacturing company in this example could remove the manual container stock counting process (counting containers 5 times a week in 8 different locations that took on average 15 minutes per site), leading to a reduction of the labor cost of **20,800 EUR** per year.

E Transport costs represent a substantial monthly cost for manufacturing companies and will be more and more scrutinized for their ecological impact. Making sure that empty containers are timely shipped to the right location based on real-time stock counts and proactive alerts, helped the company reduce the number of express transports by **75%** for a total saving of **18,000 EUR** per year.

In addition, the process of picking up empty containers and shipping them back to the source of the flows has been greatly improved based on actual counts of how many empty containers are available at which locations. This resulted in an additional yearly reduction of these costs for transporting empty containers of **9,000 EUR**.

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TOTAL RETURN

In this particular example, the manufacturing company could reduce operational costs by **273 265,00 EUR per year**.

However, over the years the investment will result in other positive results, besides financial ones.



average yearly return
200,000 €



cumulative gains after 11 years
2 200 000 €

Qualitative gains:

- ✓ competitive differentiation
- ✓ waste reduction
- ✓ brand image
- ✓ ecosystem relationships
- ✓ corporate sustainability



ABOUT SENSOLUS

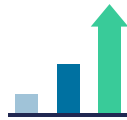
Industrial companies typically have hundreds or thousands of valuable assets such as containers, trailers, boxes, equipment, or dollies. Often, you have very little data on these non-powered assets: where they are, how they are used, or even how they can be utilized better. That's where Sensolus comes in.

Connecting these assets to the internet enables you to know where specific assets are, detect issues in your processes and ensure complete visibility when working with contractors or customers. You access the collected data on our powerful analytical platform, ready to use from day one.

The battery-powered trackers are easy to install and work anywhere for five years. They don't require any infrastructure, and you can quickly scale from small proof of concept to a full-sized project.



+ 150.000 trackers
in the field



+ 20 stock listed
companies
among our customers



7 Years
of deep IIOT
expertise



1 stop shop
solution for your
asset tracking

Want to have an in-depth study for your use case?

Schedule a demo!

