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# **THE FUTURE OF CUSTOMS: THE CUSTOMS CONTROL TOWER**

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# Table of Contents

Executive Summary	2
Building a Customs Control Tower – What, who, why, and how?	3
What is a Customs Control Tower?	3
Who needs a customs control tower?	7
Why set up a customs control tower?	8
Visibility, efficiency, and transparency	9
Data supports decision making and optimisation	10
Continuous improvement	11
Compliance	12
How to set up a customs control tower	13
5 key functions of an optimal customs control tower	16
Conclusion	17
About Portorium	18

# Executive Summary

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**You may have heard the term “customs control tower” being used increasingly by various players throughout the supply chain, but what does it actually mean and why is it valuable?** While no single definition has emerged in the marketplace, we believe that the concept of a customs control tower embodies the future of customs and stands to play such a meaningful role that it should not be thrown around as a vague buzz word.

The purpose of this white paper is to define the full potential of a customs control tower and how it can help organisations transform disconnected processes into a customs management epicentre, turning data into information that supports compliance, efficiency, and strategy. These benefits shift the role of customs in an organisation from administrative overhead to a proactive and indispensable business partner that contributes to growth and expansion.

In 2023, many market-leading organisations are using the same or similar processes and systems for managing customs that they have for the past 15 years or more. By nature, customs poses a tricky challenge, as there are so many adjoining—and often disjointed—processes, systems, and players that affect customs clearance, especially for companies with multi-country operations. Add to that the increased complexity of the customs domain due to changes in the political landscape, ever-evolving regulations, and the explosion of global commerce. These combined factors have caused customs managers to lose control and their organisations to fall short of their full potential.

It is clear that these legacy ways of dealing with an increasingly complicated domain will not stand the test of time. Acting now to modernise customs management and future-proof processes and technology will give international traders a competitive advantage. And setting up a comprehensive customs control tower from the very beginning that is capable of scaling as the company grows will save time, money, and headaches in the long run.

In the following pages, we dive deeper into the purpose of a customs control tower, the types of companies that would benefit from it, the value it provides, and how to set one up. In addition, we give you the 5 functions of an optimal customs control tower.

# Building a Customs Control Tower

## – What, who, why, and how?

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### What is a Customs Control Tower?

If you ask 10 people what a customs control tower is, chances are high that you will receive 11 different answers. We will share our understanding further down in this white paper, however, before we define the concept, we would like to dive deeper into the question: “Where does the idea come from?”

The original concept of a control tower comes from the aviation industry, where a physical, centralised control tower is used to manage and coordinate the movement of complex air traffic, which not only requires real-time data to be available at a glance, but a knowledgeable team of experts that can monitor the data and take the necessary actions so that planes can take off, make their journey, and land safely and efficiently.

As the volume and complexity of global trade, along with the laws and regulations surrounding it, have increased in the past decades, this concept of a control tower has been adopted for logistics and supply chain management. Gartner defines a supply chain control tower as a concept that results in combining people, process, data, organization, and technology. Control towers capture and use (close to) real-time operational data from across the business ecosystem to provide enhanced visibility and improve decision making.<sup>1</sup>

<sup>1</sup> “What is a Supply Chain Control Tower – And What’s Needed to Deploy One?”, Gartner, March 25, 2022.

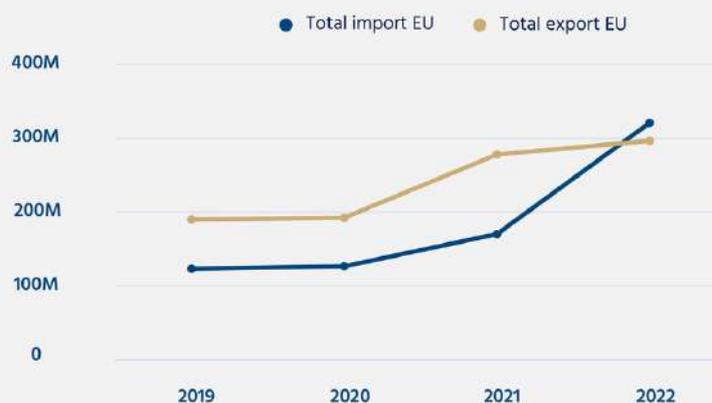
**“A SUPPLY CHAIN CONTROL TOWER IS CREATED BY COMBINING PEOPLE, PROCESS, DATA, ORGANIZATION AND TECHNOLOGY TO IMPROVE VISIBILITY, CONTROL AND DECISION MAKING.”**

*Gartner, “What is a Supply Chain Control Tower and What’s Needed to Deploy One?”*



Today, eCommerce has triggered a customer expectation of faster and more efficient delivery, yet cross-border trade requirements along with a massive increase in declarations due to market-altering events like Brexit impede companies from keeping pace. Between 2019 and 2022, EU import declarations more than doubled and EU export declarations increased by more than 50%.<sup>2</sup>

### **Import and Export Declarations EU 2019 - 2022**



From 2020-2022, the UK’s import and export declarations for the EU alone increased from zero to 38.5 million due to the UK’s exit from the Union. The increase in declarations they experienced from rest-of-world (RoW) imports and exports was of course less abrupt, however at 4.3 million, substantial nonetheless.<sup>3</sup>

<sup>2</sup>Federale Overheidsdienst Financien; [World Customs Organization mondiale des douanes: Zolljahresstatistik 2019, 2020, 2021, 2022](#); Jaarverslag Douane en WCO annual report

<sup>3</sup>[Customs declarations for international trade in goods](#), GOV.UK

## Import and Export Declarations UK 2019-2022



In order to satisfy this eCommerce-led consumer expectation of immediate demand, any exceptions along the supply chain journey need to be handled almost instantaneously. However, this is difficult to do when data is dispersed across various stakeholders and systems, both internally and externally, with very little visibility into the status of a consignment at any given time. This lack of visibility and control has given rise to the need for a more granular view into the crucial role of customs within the supply chain. Indeed, the customs domain is a critical part of the supply chain with dynamics all its own, and a customs control tower can help companies avoid delays, bottlenecks, and disruption, bolstering supply chain resiliency.

**“IN RESPONSE TO THE LESSONS OF THE PANDEMIC, SUPPLY CHAIN LEADERS HAVE BEEN GIVEN THE PRESSING TASK OF BUILDING BACK A MORE RESILIENT, FUTURE-PROOF GLOBAL LOGISTICS INFRASTRUCTURE WITH NEW LEVELS OF VISIBILITY, AUTOMATION, AND SOURCING REDUNDANCY.”**

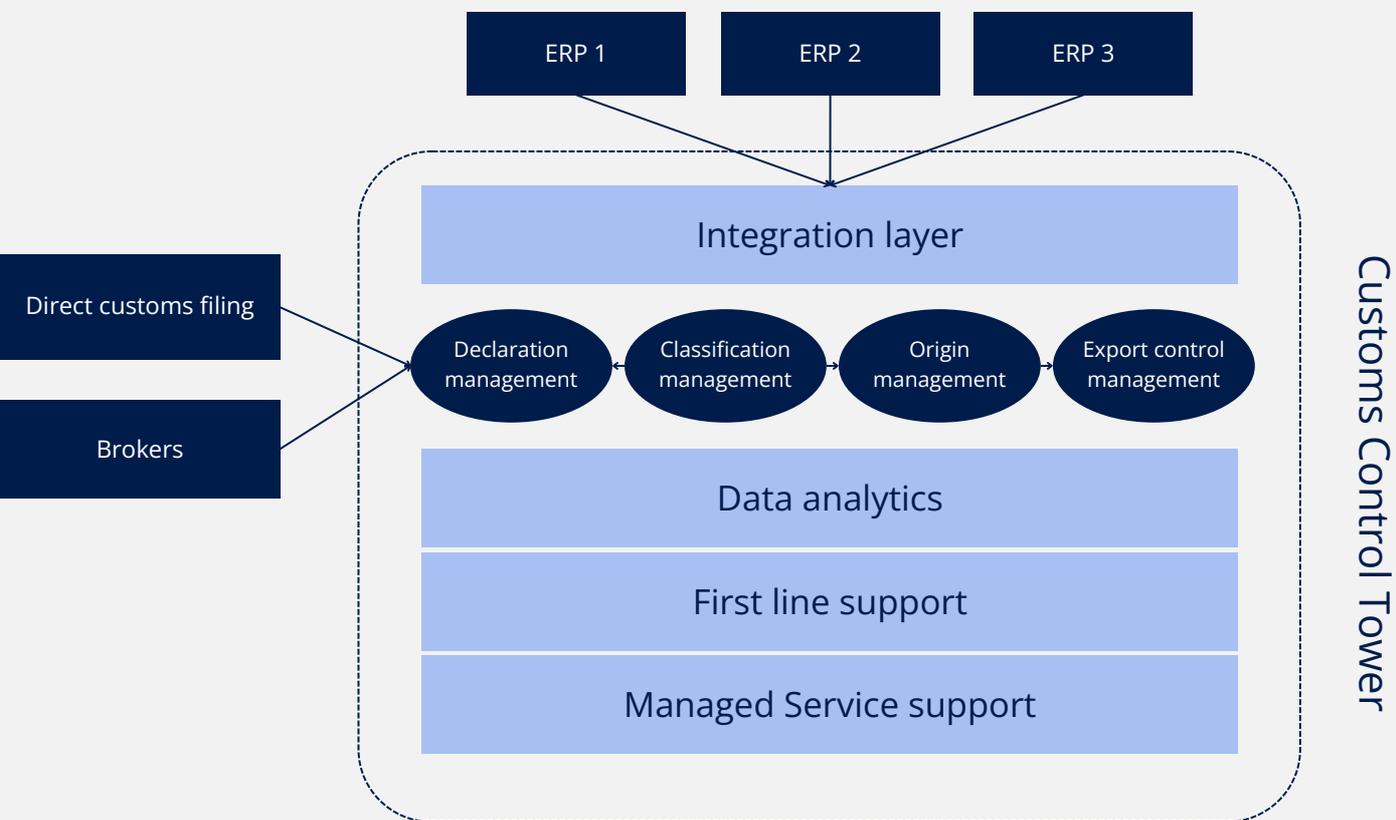
*Menlo Ventures, Perspectives for 2023 from Supply Chain Leaders at Uber, Maersk, and P&G*

But the question still remains, what is a customs control tower? To come to the most accurate and comprehensive description, we conducted interviews with Trade Compliance Managers at market-leading businesses. Commonalities included a tool with functionality such as analytics, reporting, information exchange with partners, and automation. Yet the most mature customs organisations we spoke with have (or expressed the need for) an additional component that increased the value of the software functionality exponentially: a team of customs experts that could monitor, interpret, and act upon the data provided by the control tower software.

Based on our market research and experience, we thus formulated the following definition of a mature customs control tower:

**A customs control tower is a platform used for analytics, reporting, insights, data enrichment, information exchange with external partners, and automation, backed by a team of experts that monitor, analyse, and execute on tasks that cannot be automated.**

This is the definition we will use for the purposes of this whitepaper.



# Who needs a customs control tower?

Not every business that trades internationally has a pressing need for a customs control tower. For those that only operate in a single country, have a single entity, or manage customs either in-house or externally with a single customs manager, investing in customs control tower software and a team to back it is probably overkill.

Candidates that would reap the most benefit from a customs control tower would have several of the following characteristics:

- Multi-country operations
- Multiple entities
- Multiple brokers
- Using multiple local systems to manage customs
- File a large volume of declarations per month
- Multiple external partners that do not have a compliance business model
- Interested in insourcing customs without having to hire more resources
- No central, standardised customs data
- Supply chain maturity is part of the company's mindset, strategy, and vision
- Lack visibility into historic and performance data
- Envision customs operations as having a strategic role
- Want to limit the risk of reliance on multiple parties, both internal and external
- Recognise that noncompliance carries significant risk
- Want to implement (or are already using) cost-saving Customs Special Procedures like Inward or Outward Processing, Bonded Warehousing, Temporary Admission, and End Use
- Actively participate in customs- and trade-related associations
- Looking to proactively standardise to prepare for UCC reform (EU), TOM (UK), and future requirements of customs authorities worldwide

## Why set up a customs control tower?

**“WHILE THE TOPIC OF TRADE COMPLIANCE CAN CAUSE SUPPLY CHAIN EXECUTIVES’ EYES TO GLAZE OVER, IF A COMPANY TRULY WANTS A DIGITAL SUPPLY CHAIN, THEN TRADE COMPLIANCE REALLY NEEDS TO BE PART OF ITS STRATEGY. IN SHORT, CUSTOMS COMPLIANCE MUST BECOME PROACTIVE AND STRATEGIC RATHER THAN JUST FOCUSED ON HAVING THE PROPER DOCUMENTATION AND ACCURATELY PAYING DUTIES.”**

*Steve Banker, Contributor, [Forbes: The Digital Supply Chain Needs To Include Global Trade Compliance Systems](#)*

Based on our definition of a customs control tower and who would benefit from it, the value of building one may already be self-evident. Still, why should companies invest time and money in a customs control tower initiative? What is the business case?

Retrieving and analysing customs information, particularly in real time, is a capability that many companies lack, however the rewards are abundant. Access to centralised customs data helps companies make decisions for long-term vision, interpret trends and patterns, take timely and appropriate action, improve customs procedures and processes, assure compliancy, report in an efficient manner to management and customs authorities, and steer their day-to-day operations.



## ◆ **Visibility, efficiency, and transparency**

One of the main reasons companies are looking for a customs control tower is to create visibility into their processes and operations. Too often, businesses lack these insights because the data is spread across departments, systems, countries, and stakeholders. By creating a central collaboration platform where data from multiple parties and systems can be integrated, companies gain visibility into their supply chain and are able to monitor and manage their activities. This visibility helps identify potential bottlenecks, delays, or errors, enabling proactive action to reduce the risk of goods being blocked. Exception-based functionality ensures only the shipments which require real intervention will be handled, improving efficiency for faster border crossings. In addition, by automating manual processes, collecting data and documents into a centralised repository, and streamlining customs operations, the customs control tower helps reduce paperwork, compliance issues, and delays associated with customs clearance, which in turn can speed up customs processes, resulting in reduced lead times.

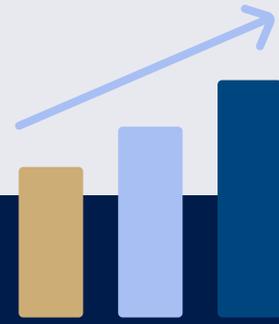
In addition to gaining visibility and improving efficiency, a customs control tower can assist in building stronger and more transparent relationships with internal and external partners. It facilitates collaboration and communication among various stakeholders, such as internal teams, brokers, customs authorities, and logistics partners. By providing a centralised platform, companies can streamline information exchange, share updates and insights, and resolve issues and/or discrepancies in an efficient and transparent way.

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## ✦ **Data supports decision making and optimisation**

We are living in a data-driven world where everyone requests analytics and relies on reports to make decisions on an organisational level. However, while data and analytics on customs processes are often housed in various IT systems, it can be difficult to gain access or visibility for several reasons.

- The data is not always available in a readable format, only in a technical or unstructured format where an experienced user needs to put a 'layer' on it to extract meaningful data.
- The information is very often scattered across countries, systems, and departments within a company. This makes it difficult for companies to collect the data in one place and get a complete view for analysis. If a company operates in multiple countries, different customs systems are often used. However, as a customs manager, you want to have visibility into all data across countries so you can make the right decisions to support streamlining, uniformity, and compliance.
- The data resides with external partners, such as customs brokers, which can pose a challenge to gaining full visibility into data, as these partners might not always share back information. And if they do, it might not be in a format that can be interpreted by your system, for example, e-mails with the customs declarations as a PDF attachment. Additionally, mixing data from various sources can lead to data pollution and wrong representation of the data.
- Only historical data is available, which is not sufficient. Customs data can require immediate action to keep goods flowing, while other data is useful to analyse for optimisations. A complete data component goes beyond reporting to provide real-time performance data, which can be used for planning, forecasting, and risk mitigation.
- The system does not have dashboarding, meaning the ability to visualise data and provide trends and patterns. This functionality is not always available in the systems companies use for their customs management and, even if it is available, it may not be able to interpret data from different systems.



## ◆ **Continuous improvement**

How to get customs data in a structured way so that you can easily interpret it, proactively act upon it, and use it to support day-to-day operational processes and long-term decision-making is a challenge. A customs control tower helps teams analyse data to support strategic decision making rather than react to situations and firefight after a problem arises. Better insights into operations, performance, processes, the total cost of operations, and where the flaws are can help businesses pinpoint process improvement or cost optimisation initiatives and take strategic direction that really moves the needle. Having clear and full visibility into costs throughout the supply chain will help better allocate resources and improve efficiencies. For example, having a clear overview of duties paid for a specific product might lead to the strategic decision of applying for a special procedure authorisation, such as customs warehousing, to save money when re-exporting goods or improve cashflows by paying the duties upon sale and thus release into free circulation.

## ◆ **Compliance**

Another main reason for building a customs control tower is risk mitigation and compliance. Since the dashboarding can show irregularities in customs processes and provide more visibility into customs operations in general, it helps companies comply with regulations. It also enables companies to proactively manage risks associated with customs compliance, duty and tariff regulations, and supply chain security. By actively monitoring processes and data quality, companies can ensure accurate and timely declaration and supporting documentation submissions, reducing the risk of penalties, fines, or shipment delays. In addition, a customs control tower can have security measures embedded, such as export screening and risk assessments.



Next to the fact that irregularities can be checked and resolved, and risk assessments can be performed on day-to-day operations, automated functionality in a customs control tower can be linked to the broader regulation framework of the Union Customs Code (UCC). In the latest draft of the UCC, customs is focusing more on ownership of companies' supply chain and end-to-end data instead of on performing checks on single shipments<sup>4</sup>. Therefore, a customs control tower can help prove to customs authorities that you, as a company, are a trustworthy trader by providing visibility into your data and processes.

When we look across the Channel, we see a similar tendency laid out in the **Target Operating Model (TOM)**. The TOM is focused on new border controls. A few topics that it addresses are Sanitary and Phytosanitary (SPS) goods that require documentation to be shipped, a Trusted Trader status to ensure border security controls through simplification and digitisation, and the UK's new Single Trade Window.<sup>5</sup> All this can be linked back to a customs control tower, which can be used to manage the risks of breaching the control checks that are mentioned in the TOM.

Overall, we are seeing customs authorities requesting more visibility into the entire supply chain in order to perform risk analysis and ensure border controls. This means that building a customs control tower may not only be a business requirement for companies with an expansive trade footprint, but might become necessary to satisfy legal requirements in the future.



<sup>4</sup>Establishing the Union Customs Code and the European Union Customs Authority, and repealing Regulation, p.17, title VI, European Commission, May 17, 2023

<sup>5</sup>The Border Target Operating Model, p.6 (3) , UK Government, April 5, 2023

# How to set up a customs control tower

While a central dashboard that enables end-to-end visibility into data, monitored by a team of experts that can promptly handle exceptions and manage various stakeholders, is the model of the future, putting this in place is easier said than done. Unfortunately, there is no silver-bullet solution on the market, and there may never be, as each company is looking for a customs control tower to solve different pains and needs, and has different systems they need to bring together to feed the centralised platform. However, there are basic best practices and commonalities across companies. We have broken down the process of how to arrive at a customs control tower solution that fits the requirements for customs management now and will scale for the future.

## **First,**

a customs control tower should be split into two parts:

- 1.An operational part**
- 2.A strategic part**

The operational part can be used for monitoring day-to-day operations, overseeing real-time declarations, and acting upon errors, if required. This could ideally be combined with a Managed Services (MS) team that is knowledgeable about which parties play a role and can handle exceptions to keep goods flowing. The advantage here is that you as a company always have access to and visibility into relevant data, without the need to employ an in-house team of customs experts. However, obtaining real-time data poses some technical challenges. Aggregating data from different systems requires a centralised database, which is not only expensive, it also needs initial integration with ancillary systems to set up an extract, transform, and load (ETL) process for data normalisation, as well as ongoing maintenance. Additionally, real-time data can be difficult to achieve because the data being fed into the system by various parties is often historical.

Real-time functionality requires a powerful database that can continually perform the ETL process. Data should be overwritten to reflect the on-ground reality, however, you also want to store logs and changes to analyse afterwards. This means that a database might end up with a very large and complex setup that is difficult to maintain.

The strategic part can give insights into facts and figures over a longer period. These insights can be interpreted to determine actions that will improve, streamline, and optimise processes and flows. This is a critical point, as a customs control tower can only bring value if you take the time to interpret the data that comes out of it and apply it to improve processes and operations in the future. There as well, an MS team can help with data analysis and propose actions that will have immediate impact on cost and efficiency. We should, however, keep in mind that updating processes requires an internal team to execute the updates and carry out the associated change management, as processes cannot change if the people executing the processes are not changing with them. New processes should improve productivity, not just make the processes fit the tool a company is using.

## »» **Second,**

the customs control tower should be customisable, as every industry or company might require different analytics, depending on the nature of their operations, products, and services, as well as how they plan to use the data. This means that a control tower will have a generic part, with graphs and KPIs that make sense for every company, and a customised part, which contains industry or company-specific data.



## **Third and ideally,**

a control tower should include more than just customs-related data. It should also be able to integrate data from other platforms, such as the ERP system and logistics systems. However, this might not always be that easy. Therefore, starting with a control tower focusing on the customs-related data only can already be a big advantage.

## **Finally,**

the data that is feeding the customs control tower needs to be standardised, meaning that you need to be able to compare data from different systems in the same way in order for the data analysis to provide meaningful results. This requires the ETL process to be run for each system before pumping the data into the control tower and using it to make decisions. Again, easier said than done. First, one needs to thoroughly think through the data set to standardise on in the first place. On the one hand, the data model should be broad enough to cover as much data as possible coming in from different systems. On the other hand, the data model should not be so complex that the user can't understand and maintain it from a technical point of view. Finding the balance between the two is key.

At the end of the day, the more unified your customs control tower layer is, the greater your ability to visualise and standardise operations across multiple countries, multiple systems, and multiple environments. This translates to efficiencies and cost savings.

# 5 key functions of an optimal customs control tower

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**1. Centralised visibility monitoring.** In order for teams to take instantaneous action when a shipment is being held up, all organisational customs data should be aggregated and displayed in a readable format, such as a dashboard with graphs and key performance indicators (KPIs). Ideally, this would be a cloud-based solution which integrates multiple systems and can be fed information from different parties and data sources for visibility into the entirety of your customs operations. While the solution should also allow for manual data input, API connections provide the most real-time information on end-to-end processes and statuses. This sort of dashboard allows companies to utilise the control tower for day-to-day operational oversight as well as collect data over longer periods of time to identify trends and patterns for greater optimisation.

**2. Compliance and risk management.** Because all customs-related data is gathered in a centralised place, the control tower helps ensure compliance with customs regulations, laws, and trade agreements by maintaining accurate records, managing import/export licenses and permits, conducting customs audits, and facilitating compliance with customs procedures. By gathering data and displaying analytics, the control tower can help customs teams identify potential compliance risks, flagging outliers in areas such as classification, origin, duty payment, or valuation. These types of analytics support risk mitigation strategies by enabling proactive monitoring, exception handling, and automated alerts for potential non-compliance issues.

**3. Collaboration and communication.** The control tower serves as a central collaboration platform for various internal and external stakeholders involved in customs compliance, facilitating efficient communication, document sharing, and workflow coordination to streamline customs processes and offer transparency, when required.

**4. Performance measurement.** The control tower's dashboard provides analytical insights and metrics, which can help organisations assess KPIs, such as average throughput time until release, customs duties paid and/or saved, and overall compliance rates. These insights enable continuous improvement and optimisation of customs operations.

**5. A team of experts.** Much like an air traffic control tower requires experts on the ground to monitor incoming data and direct the safe and expeditious flow of aircraft, an effective customs control tower requires personnel that can monitor dashboard data and quickly take action if there is a situation that is blocking or delaying a shipment, as well as interpret data for long-term optimisation. Foreseeing the competence behind the software will bring the most value to the technical solution.

## Conclusion

The concept of a customs control tower is popping up everywhere in our data-driven environment and making us rethink how customs efficiencies can influence supply chain resiliency. Even though the concept may not be consistently defined in the marketplace, the major business drivers for building a customs control tower are the same for all, namely, creating visibility and transparency into processes; ensuring compliance and risk mitigation; enabling communication and collaboration between internal and external parties; measuring performance to pinpoint trends and patterns which can support strategic decision making; and taking action that will improve efficiency and optimise costs.

Overall, a customs control tower can enhance the potential for international trade. As long as the data that serves as input into the control tower is meaningful, the data that comes out of it will also be meaningful. By “levelling up” to a sophisticated customs control tower that includes analytics, reporting, insights, data enrichment, information exchange with external partners, automation, and a team of experts that monitor, analyse, and execute on tasks that cannot be automated, organisations stand to gain a competitive advantage in international trade and cross-border operations.

## About Portorium

Portorium blends customs expertise and best-of-breed software to simplify the complexities of customs management. Portorium's comprehensive offering consolidates customs operations under a single umbrella, providing a full-spectrum software + services solution that keeps companies compliant with changing laws, regulations, and requirements while giving them control of and visibility into all aspects of their international trade. This differentiates Portorium from software houses, customs brokers, customs advisors, and traditional consultancies, which only solve one piece of the complex customs puzzle. For more information, visit [www.portorium.solutions](http://www.portorium.solutions).

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