

Can Control Towers Improve Supply Chain Coordination?

Evidence from a Case Study at Lindab

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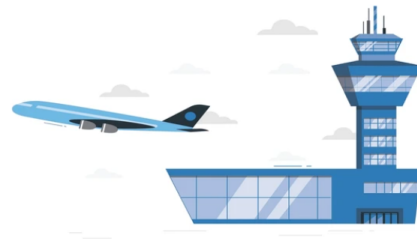
A truck leaves the warehouse half empty, and a day later another truck departs from the same warehouse following the same route without being fully loaded either. Such inefficiencies are common in complex supply chains, where a lack of coordination across areas and sites leads to significant operational and financial costs. This is where Control Towers come into play: a solution that provides coordination and visibility across the entire global supply chain.

Imagine a supply chain as a busy airport, where dozens of aircraft are constantly taking off, landing, and moving around. Each aircraft represents a shipment, while the different areas of the supply chain, production, transportation, and warehousing, are like the different actors in an airport that coordinate operations in the airport like pilots and air traffic controllers. Now imagine that there is no global view of what is happening at the airport. Each actor focuses solely on their own task, working in isolation from the others. As a result, an aircraft may land without an available gate, or be ready for take-off while another aircraft is still occupying the runway. This results in delays, congestion and inefficient use of resources. In this context, having a central point of visibility and coordination becomes essential for everything to run as it should.

When this same logic is applied to supply chains, the consequences are similar. In companies with complex and decentralized structures, where different areas and sites pursue their own local objectives without a shared view of the whole, opportunities for coordination are missed. Trucks travel partially empty, inventory piles up in the wrong locations, and shipments to the same destination leave on different days without anyone realizing they could have been combined. The result is not just poor performance: it is significantly higher costs. And just as passengers feel the effects when an airport operates chaotically, companies bear the consequences too, through longer lead times, lower product availability, and a reduced quality of service.

This was precisely the situation identified in a case study at **Lindab**, a European manufacturer of ventilation and steel products. The root causes of these inefficiencies were clearly identified through interviews conducted with Lindab employees and an in-depth analysis of shipment data from the company's central site. Because production is distributed across multiple sites throughout Europe and the company operates in a de-

centralized manner, each facility plans its shipments independently, with no mechanism for coordinating or consolidating transportation activities across locations. As a result, significant inefficiencies arise: trucks often leave production sites with unused capacity, the analysis showed that the number of shipments could potentially be reduced by approximately 30% if this empty space were utilized more effectively. The lack of coordination also affects inventory management. Each local warehouse manages its replenishment activities in isolation, maintaining around 45 days of unnecessary safety stock without visibility into the inventory held at other locations. This highlights the need for a centralized perspective that provides visibility across the network and coordinates these areas of the organization.



Therefore, one way to obtain this is through the implementation of a Control Tower, a concept that can be applied both in airports and in supply chains. A Control Tower acts as a centralized hub that provides end-to-end visibility and monitoring capabilities, enabling organizations to make informed decisions across their processes and operations. This is achieved by integrating data from different levels and systems to provide a single view of the company's operations.

Lindab already launched a Proof Concept (PoC) for this system in 2024 at the central site, this initiative involved a single planner coordinating shipments from this site to three different markets: the United Kingdom, Norway, and Sweden. Even though no system automation was in place, the results were highly encouraging, the benefits amount of approximately SEK 1 million. These results demonstrate that if a single planner working manually can achieve such improvements, a fully integrated and automated solution could multiply the impact considerably.

But the question still arises: Is the Control Tower the solution to address all the challenges shown in the case company? While they can provide significant improve-

ments and create substantial operational benefits, as shown in the PoC, successful implementation requires more than technology alone. Factors such as data quality, system integration, and organizational readiness are critical. At Lindab, the main barriers identified were poor master data quality and resistance to relinquishing local authority within the company's decentralized structure. As implementing a Control Tower often involves a considerable investment, it's essential for companies to carefully assess their readiness beforehand to ensure that the system delivers its full potential.

The case showed that visibility and coordination are not optional in complex supply chains. It is impossible to imagine an airport functioning without a central coordination: without visibility over every movement, anticipating delays, and ensuring that everything runs smoothly. So Why is this still accepted in supply chains?

This popular scientific article is derived from the Master Thesis: *Enhancing Supply Chain Visibility and Coordination through a Control Tower*, written by Henar García & Zaira Arenas.