CURRENTS

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The magazine of a port in motion

MULTIMODALITY: FROM RESILIENCE TO SOVEREIGNTY

HAROPA PORT
Le Havre
Rouen
Paris

HOW DOES MULTIMODALITY CONTRIBUTE TO LOGISTICAL RESILIENCE AND SOVEREIGNTY? WHAT ROLE DO PORTS PLAY?

TWO DISTINGUISHED EXPERTS SHARE THEIR INSIGHTS AND ANALYSIS:

Anne-Marie IDRAC, chair of France Logistique.
Antoine FRÉMONT, lecturer at the Conservatoire National des Arts et Métiers (CNAM) and holder of the Chair in "Transport, Flows and Sustainable Mobility".

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Why do transport networks need to be considered across the EU as a whole?

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editorial

The current context, marked as it is by a dual climate and geopolitical crisis, is reshaping the way we view multimodality. That is because in addition to being a key instrument for decarbonisation, multimodality plays a vital role in strengthening the resilience and agility of transport and logistics chains, the economic, social and environmental resilience of regions, and national sovereignty. This explains not only why it is an integral part of both national and European strategies, but also the current emphasis on its development — development driven by proactive public policies, supported by very substantial investment, and championed by a committed ecosystem of stakeholders.

Ports are at the forefront of those stakeholders. Due to their position at the heart of supply chains and at the interface between land and sea trade flows, they have a crucial role to play in fostering connections between transport modes and accelerating modal shift. A role that HAROPA PORT has embraced from the outset as part of its strategic vision. Two highly symbolic projects bear witness to this commitment. The first is the construction of a navigation channel linking Port 2000 directly to the Seine, thereby completing the logistics corridor that enables goods to be carried directly by waterway into Paris — which brings with it increased traffic. The second is Port Seine-Métropole Ouest (PSMO), the first inland port of this size to be launched in France in 40 years. It will provide triple access via river, rail and road, and will eventually be connected to the Seine-Nord Europe Canal.

In this fourth issue of Courants — enriched, as always, by insights from experts from every discipline — we have set out to shed light on this new chapter in the story of multimodality and on the key developments currently unfolding on the ground.

We hope you enjoy reading it.

Benoît ROCHET,
Managing Director and Chairman
of the Board HAROPA PORT

Robust supply chains for a sovereign economy

RESILIENCE AND SOVEREIGNTY ARE NOW CENTRAL TO THE ECONOMIC STRATEGIES OF FRANCE AND THE EU. HOW CAN GOODS TRANSPORT AND LOGISTICS CONTRIBUTE TO THOSE STRATEGIES? ANNE-MARIE IDRAC, CHAIR OF THE FRANCE LOGISTIQUE – A NON-PROFIT THAT BRINGS TOGETHER PRIVATE SECTOR STAKEHOLDERS – OFFERS SOME INSIGHTS.

Anne-Marie IDRAC

In France, as in Europe, goods transport and logistics are essential for a dynamic economy. Firstly, because they create jobs and wealth: in 2021, with its 2.1 million-strong workforce and a turnover of €200 billion, the sector was the fifth-largest employer in France and accounted for 10% of its GDP. But also—and above all—because in an economy driven by trade, the competitiveness of every business is dependent on them. Anne-Marie Idrac points out that "*this is even truer in these times of climate and geopolitical crisis, as we face major challenges such as reindustrialisation and the rise of the circular economy.*" She goes on to say that "*indeed, the return of war to Europe returns the term 'logistics' to its original meaning: under Napoleon it was theorised to be the art of transporting essential equipment to the battlefield. And in fact, we have never had this much interaction with the Ministry of the Armed Forces! Which proves that our security, in the strictest sense of the term, depends on logistics. More generally, a strong and sovereign economy requires robust, properly structured logistics*"

Anne-Marie Idrac has notably served as CEO of the SNCF and Secretary of State for Transport. She has headed France Logistique since its creation in 2020. This non-profit acts as a representative of the logistics sector as a whole for public authorities and aims to improve the industry's attractiveness and competitiveness.

CONSOLIDATION AND MULTIMODALITY: TOOLS FOR OPTIMISATION

Robust logistics means using mass freight transport. She adds: "*The job of a logistics operator is to optimise resources. And mass freight transport is an important tool for optimisation, and it also helps meet the challenge of the ecological transition. Personally, I believe strongly in river transport, because unlike rail, it is not at maximum stretch. It has potential for development, even if it will always be a supplement to road transport.*" As chair of France Logistique, she sees no incompatibility between mass transport and another strong trend in modern logistics: increasingly rapid, just-in-time flows correlated with the advent of e-commerce and parcel delivery. "*It is true that, historically, mass goods transport modes have had three broad customer bases: agriculture & agri-food, construction & public works, and industry. But that need not stop operators from targeting other markets, such as furniture or textiles, which can also complement the traditional ones, particularly by avoiding empty returns. This requires the implementation of long multimodal, or even intermodal, chains, with increasingly smaller links. In practical terms, goods are first carried using mass modes, with the last mile making use of others. River/bicycle combinations might even be considered!*" For Anne-Marie Idrac, it is even possible for multimodality to make supply chains still more robust by limiting dependence on a single mode of transport. She notes that "*in recent years, manufacturers have been trying to enhance sovereignty through multi-sourcing. It's possible that multi-sourcing at the transport/logistics service level could be a factor for resilience.*"

"Personally, I believe strongly in river transport, because unlike rail, it is not at maximum stretch and has potential for development."

Good to KNOW

Mass modes are transport modes that move large volumes of goods while emitting minimal greenhouse gases.
Multimodal transport involves moving goods using a succession of different modes of transport.
Intermodal transport is similar to multimodal transport, but the goods are moved without changing the transport packaging (in shipping containers, for example).

DEVELOPING PORT HINTERLANDS: A PRIORITY

Nevertheless, a number of conditions need to be met to encourage development of strong, secure multimodal chains. Is this the case today? "*It's impossible to say at the level of the EU as a whole, because we are in the middle of a period of transition, with many uncertainties linked to factors external to the sector, such as US politics,*" says Anne-Marie Idrac. "*In France, we have good transport infrastructure and can rely on technological innovations to reduce costs and improve operational efficiency. But apart from the question of the overall economic competitiveness of our country and our operators, I believe there is one major weakness: our port hinterlands. Ports must be locations for freight consolidation. Maritime transport is inherently a mass mode, so you might think moving the cargo inland using mass freight modes would be fairly straightforward. But you still need enough rail and river links, and enough transhipment and storage facilities to take the goods inland. As things stand, we are not there yet. The contrast with Chinese port hinterlands is striking! We need to work on this as a priority.*"

Ports at the heart of MULTIMODAL strategy

Antoine FRÉMONT

Antoine Frémont lectures at the Conservatoire National des Arts et Métiers, holding both the high-level agrégation qualification and the Chair in "Transport, Flows and Sustainable Mobility". He is also co-author of Maritime Ports, Supply Chains and Logistics Corridors.

PORTS ARE STRATEGIC LOCATIONS FOR A NATION'S FOREIGN TRADE. AS LAND-SEA INTERFACES, THEY ARE PART OF END-TO-END LOGISTICS CHAINS THAT TRAVERSE MULTIMODAL CORRIDORS, OFTEN ACROSS CONTINENTS. PORTS THEREFORE PLAY A PIVOTAL ROLE AS CONDUCTORS, ORCHESTRATING THOSE CORRIDORS IN FURTHERANCE OF SEAMLESS TRADE FLOWS.

Bulk cargoes such as crude oil and ore are processed directly within port industrial areas – which now compete globally – via petrochemical and steel complexes. While revenues from bulk traffic will be increasingly marginal for European ports, port industrial areas may evolve into major sites for the production of decarbonised forms of energy, potentially reshaping port hierarchies.

Containers continue to be the strategic instrument for the internationalisation of value chains. Located in the immediate vicinity of ports, warehouses where containers are stuffed and stripped enable multimodality through palletisation and onward transfer of goods by truck. Intermodality via inland waterway or rail enables large volumes of containers to be carried over long distances, contingent on consolidation both at the port and in inland metropolitan areas, by means of combined transport facilities from which last-mile logistics are organised.

Such multi- and intermodal deployment requires a comprehensive vision of the land-side corridors for the siting of logistics zones. The availability of real estate thus becomes a critical issue. It falls to the port authority to assert itself as the conductor orchestrating the different regional levels in order to shape these corridors.

By reducing transport costs, mass freight modes strengthen ports' positioning relative to their competitors in the adjacent hinterland as well as in more distant catchment areas. This modal shift is also a response to the challenge of the ecological transition and promotes complementarity between transport modes, making the system more robust, more capable of withstanding disruption.

International geopolitical upheavals, which began with the 2008 crisis and are now severely impacting global trade, make the resilience of international transport chains more essential than ever. Ports play a crucial, newly affirmed role in ensuring the continuity of trade flows and adapting to major changes in them.

EQUIP

Twin perspectives on the future of multimodal infrastructure

AS MANAGERS OF FRANCE'S WATERWAY AND RAIL NETWORKS, FRANCE'S NAVIGABLE WATERWAY AUTHORITY (VOIES NAVIGABLES DE FRANCE – VNF) AND SNCF RÉSEAU ARE COMMITTED TO ADVANCING MULTIMODALITY. CÉCILE AVEZARD AND MATTHIEU CHABANEL TELL US HOW AND WHY.

Cécile Avezard has been chief executive of the French waterways authority (VNF) since 2024. She is a senior bridges, waterways and forests engineer. She joined the VNF in 2018 as director for the Rhône-Saône region, before becoming the organisation's head in 2024.

Cécile AVEZARD

Matthieu CHABANEL

Matthieu Chabanel has been chairman and CEO of SNCF Réseau since 2022. A graduate of École Polytechnique and the national school of bridges and roads, he moved into the rail sector in 2012 when he joined Réseau Ferré de France.

What is your role as a network manager?

Cécile Avezard: *the VNF oversees 6,700 km of navigable waterways, accounting for 80% of France's national network. In addition to infrastructure management, our core remit covers development of freight traffic and river tourism and enhancement of the public waterway domain, in addition to regional development associated with waterways and the management of water resources, among much else. We also manage 14 concession agreements for freight river ports.*

Matthieu Chabanel: *SNCF Réseau manages the national rail network, covering nearly 28,000 km of track used daily by 15,000 trains, 1,000 of which are carrying freight. This means that we bear some crucial responsibilities: not only for the operation of the rail infrastructure, but also for its maintenance, modernisation and expansion to meet growing demands for mobility and decarbonisation.*

In what ways is the infrastructure you manage, as used to transport freight, strategically important for France and the European Union?

C.A.: *Historically, our network has been used to carry freight. This is essential – indeed vital – for the primary sectors of our economy — agriculture and construction, among others — and for parts of industry, with significant growth potential in areas such as containerised goods. In the current context of the decarbonisation and reindustrialisation of our economy, this high-capacity, low-carbon, quiet, safe mode of transport that helps ease road congestion is a major asset for our country.*

Arnaud PASSALACQUA
lectures on regional and town planning.
He is an engineer and historian specialising in urban and transport issues.

"A little history..."

Multimodality is not a modern invention. "*There have always been combinations of roads and navigable waterways for moving goods, but with limitations — long-distance transport did exist, but it remained marginal,*" explains engineer-historian Arnaud Passalacqua. In the 18th century, while England — a geographically narrow, maritime-oriented country — invested heavily in canal building, France prioritised development of its road network. The key need was to enable the king's mail service to reach every corner of the country. A century later, trains changed everything. Arnaud Passalacqua adds: "*At first, railways were seen as dry canals. Then people realised they were more powerful, had greater carrying capacity and could go anywhere. So rail eclipsed the other modes, especially as there was ever more freight to be carried, especially coal.*" The arrival of the heavy goods vehicle in the early 20th century marked another turning point. He goes on to say that "*road transport then experienced such a major boom and provided such strong competition for rail and waterway that following the 1929 economic crisis in France, the government regulated the cohabitation of the different modes by decree, reserving certain activities for rail and waterway transport*" The 1950s and 60s — a period of economic growth and expanding trade — saw another boom in road haulage... until new challenges such as road congestion and the energy transition brought multimodality to the fore once again.

"The freight transport of tomorrow will inevitably be multimodal. That is the prerequisite for a successful ecological transition and meeting regional requirements for competitiveness."

Matthieu CHABANEL

The river and waterway network also plays a crucial role in the broad water cycle: it ensures regular availability of water resources, helping meet regional water requirements.

M.C.: *The French rail network is vital infrastructure positioned at the interface between economic and environmental priorities. Rail freight drives local and national development, serving industrial and logistics zones via almost one thousand branch terminals and forty combined transport hubs, as well as helping enhance port competitive performance. At EU level, our lines are the backbone of four of the eleven European freight corridors.*

"In the era of decarbonisation and the reindustrialisation of our economy, inland waterways — mass freight transport, low-carbon, quiet, safe, and able to ease road congestion — are a major asset for our country."

Cécile AVEZARD

What importance do you give to developing multimodality?

M.C.: *We have made it an absolute priority. Tomorrow's freight transport will inevitably be multimodal. That is a condition to be met for a successful ecological transition and for meeting regional requirements for competitiveness. Concretely, SNCF Réseau is taking action on several fronts. Under government leadership, we have co-developed — alongside the 4F Alliance comprising rail freight sector stakeholders — a €4 billion investment programme for 2023–2032 to modernise and adapt our freight facilities. We are continuing to develop combined transport: for example, on the Seine Axis, we have signed a strategic agreement with HAROPA PORT to expand rail's modal share. We support economic players and work with ports, shippers and logistics firms to gain an understanding of their needs, anticipate traffic and expand rail access to sea and river terminals. We are also computerising our operations to boost performance.*

C.A.: *The use of river transport requires an integrated service offering that includes road haulage for transport to and from ports, freight handling facilities, and even goods processing capabilities in some cases. River and rail are two heavy-duty, complementary modes that can, working together, meet the needs of industry. They are founded on uncongested infrastructure networks with major potential for growth in traffic — rail for long distances, and waterways for transport into the heart of urban centres — providing both local service and international and European connectivity. That is why we have partnered with SNCF Réseau. We are collaborating day-to-day, sharing information and exploring how our logistics and port infrastructure should develop to provide enhanced service to our customers.*

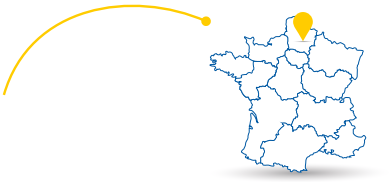
How do you see multimodal development on your networks in the coming years?

M.C.: *The future is bright, with real prospects for traffic commensurate with the investments that will be directed to its support. Our goal is to provide a network capable of absorbing just such a ramping up of capacity. Multimodality is the winning formula for massively decarbonising long-distance freight flows and building a more energy-efficient, more resilient logistics system. Working with all stakeholders, we are fully committed to making this vision a reality.*

C.A.: *At the heart of urban centres as well as on the major European corridors, waterway transport will provide practical solutions for sustainable mobility, energy supplies and climatic resilience. This is illustrated by the rollout at inland and urban ports of multi-fuel service stations, which we are currently developing. These stations will provide common refuelling facilities for alternative fuels across different transport modes. They are the "multimodal energy hubs" of the future, combining logistics, transport and renewable energy production.*

Major projects: key drivers for modal shift

DEVELOPING MULTIMODAL TRANSPORT NECESSARILY REQUIRES THE RIGHT INFRASTRUCTURE TO BE IN PLACE. IN FRANCE AND ACROSS EUROPE, MAJOR CONSTRUCTION PROJECTS HAVE BEEN INITIATED IN ORDER TO ACCELERATE MODAL SHIFT, IMPROVE TRANSPORT NETWORK CONNECTIVITY AND ENSURE MORE RESILIENT LOGISTICS CHAINS.



A high-capacity inland waterway corridor

The Seine–Escaut project is the largest European initiative to develop a high-capacity inland waterway network. By linking the Seine, Nord, and Escaut (Scheldt) river basins, it aims to create a 1,100 km river & sea corridor capable of accommodating freight convoys of up to 4,400 tonnes. The project is based on a partnership between France and Belgium, with support from the European Union (EU). It represents an investment in the region of €8 billion and involves a vast programme of construction work for the regeneration, expansion and modernisation of the existing navigable waterways.

A key component of the project is the construction of the Seine–Nord Europe Canal, overseen by the Société du Canal Seine-Nord Europe (SCSNE), which has been given official public interest status. The 54-metre-wide canal will connect the French towns of Compiegne and Aubencheul-au-Bac over 107 kilometres by 2032. It will link the Seine and Escaut/Scheldt basins and become an integral part of the 20,000 km European high-capacity inland waterway network. This will connect the ports of Le Havre, Rouen, Paris, Dunkirk, Antwerp and Rotterdam, the goal being to bring about a massive modal shift from road to water.

“Ulysse fret” program for rail freight

Launched in 2023, the “Ulysse Fret” programme is part of France’s national strategy for the development of rail freight. Designed collaboratively by France’s central government, SNCF Réseau and the 4F alliance (Fret Ferroviaire Français du Futur / French rail freight of the future), alongside the whole range of stakeholders in the sector, it pursues two goals: to double rail freight’s share by 2032 and to make rail a driver for decarbonised goods transport.
Over ten years the programme will bring to bear an unprecedented €4 billion investment funded by central and local government, the EU, and private partners. This major financial effort is aimed at renovating local lines vital to regional economies, modernising the network to accommodate longer and heavier freight train sets, strengthening combined transport modes, digitising processes to improve performance, and implementing long-term planning. Now in its operational phase, Ulysse Fret embodies a political commitment to making rail a competitive alternative to road transport.

Nogent-sur-Seine connected to Europe

The goal of the Bray–Nogent project is to extend the high-capacity waterway network to include the town of Nogent-sur-Seine, linking its port to the Paris Basin, the Seine Axis and the broader Seine–Escaut river corridor.
Managed by the French Waterways Authority (Voies Navigables de France - VNF), navigation capacity will be increased over 28.5 km, enabling continuous navigation for craft up to 2,500 tonnes – as compared with 650 tonnes currently. The project includes the creation of a new 9.2 km bypass canal and deepening the existing riverbed over 19 km, as well as building and modernising a number of waterway structures.
With an estimated budget of €460 million, the project is funded jointly by central and local government and the VNF. After being granted official public interest status in 2022, it is now in its operational phase, with commissioning scheduled for 2030.

A direct access channel to the river

In 2024, HAROPA PORT began work on a river access channel, a major project for direct inland waterway access to Le Havre’s Port 2000. Currently, only 13% of containers arriving at or departing from the port of Le Havre are carried inland via the river, while 80% go by road. River transport’s competitiveness is currently limited by restriction of access to Port 2000 to a certified type of barge due to the need for a sea crossing. River access to this key maritime facility for container traffic must be improved, which is the goal of the direct access project, which involves creating a channel to allow river craft to enter and exit Port 2000 regardless of weather and tidal conditions. The 100-metre-wide channel will be protected from swell by a breakwater 1,800 metres long running between the historic port’s outer harbour and the entrance to Port 2000. This project, which is essential if the number of containers transported by river to and from Le Havre is to be increased, represents an investment of €197 million funded by Normandy’s regional administration, HAROPA PORT, the EU, and central government.

The multimodal platform: a strategic ASSET for our local communities

Denis ÖZTORUN

Denis Öztorun is the mayor of Bonneuil-sur-Marne, home to the second-largest multimodal platform in the Greater Paris region. As deputy chair of the association of French mayors, he also leads a multimodality working group.

IN BONNEUIL-SUR-MARNE (94), THE MULTIMODAL PLATFORM IS A MAJOR ASSET FOR AN ATTRACTIVE ECONOMY. IT ALSO ENABLES THE REGION TO ACCELERATE ITS DECARBONISATION. DENIS ÖZTORUN TELLS US WHY BELOW.

What are the advantages of hosting the Greater Paris region's second-largest multimodal platform?

It is a key driver for economic development in surrounding municipalities. It connects businesses to the whole of Europe via rail, to world markets via inland waterways, and provides a number of points of access to the motorway network. The platform benefits over 150 companies based at the port, as well as the thousand or so businesses operating in Bonneuil-sur-Marne.

What kinds of businesses does the platform attract?

Today, river transport appeals particularly to firms in the construction and environmental sectors – in waste management, for example. However, the facility's layout is designed to enable it to act as a hub for quadrimodal and urban logistics. Indeed, it is just a stone's throw from the Rungis major national wholesale food market, Orly Airport and the Villeneuve-Triage rail station. Setting up warehouses on brownfield sites in the area can facilitate the loading of freight for river transport – a low-carbon urban logistics solution on the doorstep of Paris, and one that addresses the national environmental challenges.

How does multimodal transport contribute to local resilience?

Firstly, it directly supports regional decarbonisation. One barge can carry the equivalent of 220 trucks, and a train the equivalent of 80: these transport modes dramatically reduce CO_2 emissions per tonne carried. The use of rail and river transport produces less pollution and alleviates congestion on the region's roads. Secondly, the diversification of economic activities such as logistics goes hand-in-hand with the diversification of the jobs and skillsets required to "keep the system running" (notably providing employment for the local population).*

What is your vision for the future of multimodal transport?

Currently, road transport accounts for 89% of freight, rail for 8%, and waterways between 2–3%, which means that the potential for growth in inland waterway transport is enormous. The platform hosts a major retail company that delivers to 150 shops by barge every day: 7,000 fewer trucks on the roads every year. All stakeholders, including the VNF (the French inland waterways authority), are working to encourage businesses to adopt rail and waterway transport as environmentally-friendly and cost-effective options for transporting large volumes of goods: that is the rational way forward for the future.

**Waterway transport emits five times less CO_2 per tonne carried than road haulage (source: ADEME/VNF)*

Less fossil-fuel transport, more urban warehousing

THE SHIFT TOWARDS LOW-CARBON OR SOFT TRANSPORT MODES AND THE SETTING UP OF URBAN WAREHOUSING TO SUPPORT IN-CITY LOGISTICS IS SIGNIFICANTLY RESHAPING URBAN PLANNING. BELOW, LAETITIA DABLANC EXPLAINS WHY.


Laetitia DABLANC

Although the concept of urban logistics emerged some twenty years ago, its development and the rise of in-city multimodality are responses to much more recent challenges. As Laetitia Dablanc explains: "*In 2020, at the height of the Covid crisis, B2C online purchases rose by 32%, with new demands emerging: quick commerce and instant delivery*," adding that "*at the same time, cities have accelerated the implementation of low-emission zones, restricting the use of diesel vehicles in urban centres. Today, even though these measures are being reconsidered, expectations remain high regarding the reduction of both emissions and environmental harms in such areas. These factors have driven the growth of multimodal urban logistics and more innovative delivery models.*"

Electric heavy goods vehicles and light utility vehicles, cargo bikes, bicycles, and electric scooters: the key players in e-commerce have adopted low-carbon forms of transport, both to anticipate future legislation and reduce their carbon footprint. Given all this, warehouses have had to move closer to city centres. "*In major cities like Paris or Lyon, urban hubs have emerged: goods arrive in bulk by truck – or by river transport – and are then dispatched for local delivery by cargo bike or other means.*" This trend continues to grow: today, lumping all deliveries together – including food and meal services – a quarter of urban couriers use forms of transport other than trucks or vans. When this transport is low-carbon or soft (not always the case for cars and motorbikes, these being increasingly used for deliveries), they help reduce pollution and noise, ease congestion, and improve neighbourhood safety.

Laetitia Dablanc runs the Logistics City chair at Gustave Eiffel University in Paris. Her research focuses on urban logistics, warehousing, e-commerce, and their impact on cities.

ADAPTING WAREHOUSES TO THE URBAN ENVIRONMENT

The new logistics platforms located within or just outside cities are designed to optimise real estate and tax costs relating to scarce, expensive space. We are now witnessing a trend towards densification: multi-level structures, compact storage systems and automation are increasing the ratio of stored goods or pallets per square metre. The issue of public acceptance of such storage is more complicated. "*In the immediate surroundings, there is a need to manage urban truck traffic, which causes disturbance, as well as aligning these facilities with the local aesthetic*," says Laetitia Dablanc. The aim must therefore be to involve local stakeholders – specifically, shopkeepers and residents – in pre-implementation consultations in order to gain an understanding of the context and their concerns... and adapt the warehouse to the city. "*To avoid noise pollution, floors and ramps must be treated, attention needs to be paid to visual design to ensure satisfactory local integration, and most importantly, all operators must comply with traffic regulations.*"

SECURING KEY SUPPLY CHAINS

Once these adjustments are made, urban storage facilities can offer real opportunities. "*They create low-skilled jobs in urban centres, particularly for transshipment operations, something that meets a genuine need.*" At the broader regional level, siting these platforms in urban centres or on brownfield sites helps prevent land artificialisation in more rural locations. Because they cover substantial areas, they can also accommodate roof-top solar PV panels to generate clean energy. The Green Dock project in Gennevilliers is one such example (see sidebar). Finally, in times of crisis, the presence of storage facilities with truck access located near the general population could prove highly valuable. "*In Tokyo, such urban warehouses can serve not only as storage sites for essential goods, but also as shelters for the population in the event of a disaster, because they are robust and provide access for all vehicle types*": an unexpected example of the services that logistics infrastructure can provide. Laetitia Dablanc concludes that "*one thing is certain: logistics and intermodality have a future in urban centres because there is room to develop certain transport modes – river transport in particular.*"

Green Dock: A LOW-EMISSION WAREHOUSE?

Adrien Beziat, Martin Koning (SPLOTT laboratory) and Laetitia Dablanc (LVMT) from Gustave Eiffel University co-authored a greenhouse gas emissions assessment of the Green Dock urban warehouse project in May 2025. The study evaluates building-related emissions based on the proposed design, and those arising from transport, applying a range of usage scenarios, notably including upstream transport (river, rail, road). It highlights an overall emissions reduction of around 33–35% compared to the alternatives, based on three factors: the use of river transport upstream (which must be in effective operation when the facility is in use), shorter downstream delivery distances due to the warehouse's proximity to destinations, and employees commuting from home via public transport.

To find out more: A Greenhouse Gas Emissions Assessment of an Urban Warehouse Project: Green Dock in Gennevilliers
https://hal.science/hal-05071100v1

Multimodality: an investment for the future

PORT MANAGERS AND THEIR PARTNERS ARE INCREASINGLY INVESTING IN THE DEVELOPMENT OF MULTIMODAL TRANSPORT. GOING FORWARD, THE BATTLE BETWEEN PORTS WILL BE WON ON LAND.


Marc BOURDON

In a highly competitive market, gains in competitiveness and attractiveness are primarily achieved through landside transport. A port can truly stand out by strengthening its hinterland connections via road, rail and inland waterways, because that allows it to leverage the strengths and areas of excellence of each mode, as well as their complementarity. "*Ports must be connected — including internally*," confirms Marc Bourdon, MSC director for France. "*Especially in today's context, in which multimodality is making supply chains more resilient to the major challenges we face. Here I have particularly in mind the congestion caused by the increasing size of vessels and the volumes carried, which is becoming critical in Northern Europe and has significant economic repercussions. I can also point to the rising frequency of unforeseen natural adverse events, making reliance on a single transport mode increasingly risky, as well as to the energy transition in industry, which is accelerating under pressure from governments and major corporations in response to the issues arising from decarbonisation. Change is inevitable,*" he continues. "*Any port that hasn't invested in multimodal capabilities risks being left behind.*"

INVESTING IN INFRASTRUCTURE…

It is a fact that In recent years ports have significantly increased their investment in infrastructure aligned with modal shift. HAROPA PORT has made this one of its strategic priorities (see sidebar). A clear example of this is the nearly €200 million allocated to the construction of a direct river access channel at Le Havre to make Port 2000 accessible to the entire inland barge fleet. So too is the decision to allocate €12 million by

Marc Bourdon has built his career in maritime transport, holding strategic international roles with major global shipping companies. He is currently Managing Director of MSC France.

Antoine Berbain,
deputy CEO of HAROPA PORT | Paris

A strategic growth area for HAROPA PORT

From its inception, HAROPA PORT has made multimodality central to its development model. This is reflected in major infrastructure investments, with two priorities: improving direct access to maritime terminals for trains and river barges and expanding the capabilities of multimodal inland platforms in the Greater Paris region. *"Our efforts are paying off because we have almost reached the target set in our first strategic plan: 20% modal shift to rail or river transport for containers by 2025,"* explains Antoine Berbain, deputy CEO in charge of multimodality. *"We need to continue down this path if we want to compete with the 50% modal shift claimed by Antwerp, Rotterdam or Hamburg. That will be one of the key objectives of our 2026-2030 strategic plan."*

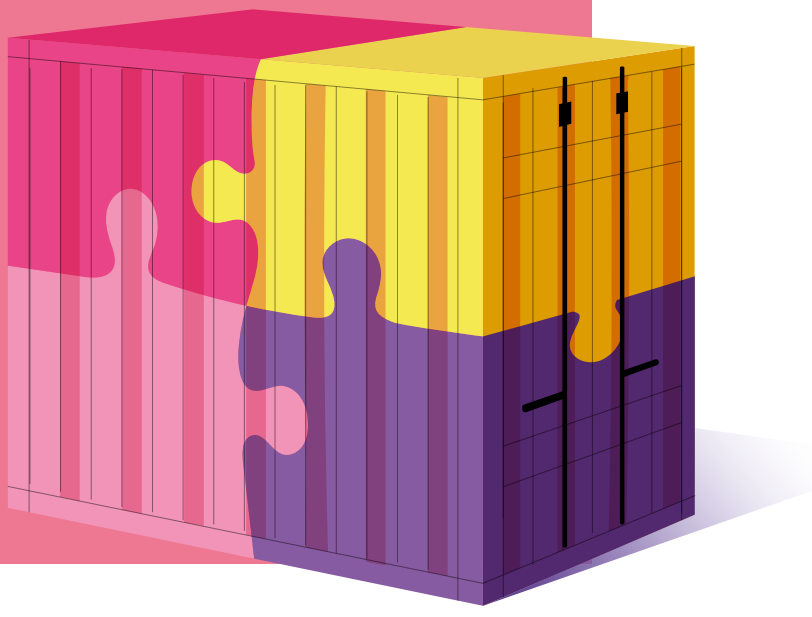
2026 to expanding the main container terminal at the Gennevilliers platform.
HAROPA PORT's customers and partners share this proactive approach. MEDLOG, a subsidiary of the MSC Group, began operating an inland terminal at Bruyères-sur-Oise in 2025. Marc Bourdon explains that *"this is one of the country's few trimodal platforms. Located 40 kilometres from Paris, on the corridor linking the ports of Le Havre and Antwerp-Bruges, it is dedicated to supplying goods — currently by truck and river barge, and by rail in the near future — to the Greater Paris region and further afield."*

...AND IN SERVICES

Since its official opening last June, the Bruyères-sur-Oise platform has attracted strong interest from MSC's customers, for both imports and exports. Especially as in addition to its equipment — which includes a crane capable of lifting 80 tonnes — it offers value-added services such as container repair and empty container storage. *"The enhancement and further development of these services are essential if we are to provide our customers with the support and integration appropriate to each link in their logistics chain"* he adds.
With this new terminal, MSC is extending the investments it has already made at Le Havre to increase its container throughput. To advance its growth, this shipping company — which is already well served by multimodal infrastructure in France — has launched a major expansion of its offering, particularly along the Seine Axis.

Marc Bourdon concludes by saying: *"We plan to improve rail connectivity in Normandy, bringing with it higher massification, a greater reduction in logistics costs and more flexibility. This will allow us to better harness the enormous potential of this key logistics corridor for France and Europe."*

COOPE-RATE



"Combined transport has MAJOR development potential"

Aurélien BARBÉ

HAULIERS, OPERATORS, PLATFORM MANAGERS, PORTS, RENTAL COMPANIES, MANUFACTURERS... THE GNTC (NATIONAL ASSOCIATION FOR COMBINED TRANSPORT) REPRESENTS ALL FRENCH STAKEHOLDERS IN THE SECTOR. WE SPOKE WITH AURÉLIEN BARBÉ, ITS DIRECTOR GENERAL.

Aurélien Barbé worked in public and political affairs before joining the GNTC in 2018 as its director general.

What is combined transport and what are its advantages?

Combined transport is a form of intermodal transport that links road with rail and inland waterways. Goods are delivered door-to-door in ITUs – intermodal transport units – such as swap bodies, containers or semi-trailers. Trucks are used at both ends of the chain for pre- and post-carriage, while trains and river barges handle long-distance transport, typically upwards of 450 to 500 km. The value of combined transport lies in leveraging the complementarity of these modes, rather than competition between them. This allows each mode to play to its strengths. The main advantage of rail and river transport is massification, which offers economic and environmental benefits. Road transport, meanwhile, provides flexibility, responsiveness and optimum service quality, especially in terms of punctuality.

"The value of combined transport lies in leveraging the complementarity of different modes, rather than competition between them. This allows each mode to play to its strengths."

The GNTC was founded in 1945 to promote combined transport. Eighty years on, is such development still relevant?

More than ever! Firstly, because combined transport is a powerful tool for decarbonisation, thanks to massification and the excellent energy efficiency of rail and river transport. Rail, for example, uses six times less energy and emits nine times less CO_2 than road transport. Indeed, over the past fifteen years, in the face of the climate crisis, shippers have increasingly sought to reduce the carbon footprint of freight transport. This encourages them to turn to modal shift. That being said, the rise of combined transport isn't due solely to its environmental performance. It also offers economic advantages, such as lower delivery costs, which can make businesses more competitive. It reduces the negative impacts of transport on society, for example by reducing the number of accidents, noise pollution

“Shippers have increasingly sought to reduce the carbon footprint of freight transport. This encourages them to turn to modal shift.”

and road congestion. This explains the sustained growth in modal shift. In 2024, the volumes carried rose by 10% for rail/road – which accounts for two-thirds of the market – and by 5.5% for river/road. This momentum is partly due to the involvement of ports, which are facilitating the setting up of multimodal logistics infrastructure in their hinterlands to connect maritime flows with road, rail and river networks. This trend is expected to continue. Rail/road combined transport, in particular, has major development potential, with the national strategy for rail freight aiming to triple transported volumes over the next ten years.

According to GNTC members, what conditions need to be in place to encourage modal shift to rail and river?

We believe in a winning trio: capacity, quality, infrastructure. Capacity means the ability to run trains and barges that meet operator demand. This requires collaboration with SNCF Réseau (the rail network manager) and the VNF (France’s waterways authority) to optimise routes, for example by expanding rail slot availability. Quality is quality of service: we need to improve it for mass transport modes to match road transport. Infrastructure refers to the multimodal platforms and combined transport terminals where ITUs are loaded and unloaded. However, current facilities are ageing and insufficient. Investment is needed to modernise and expand them, establishing a dozen new facilities over the next decade. Given the significant investment required – estimated at €1.1 billion – and current pressure on public finances, we aim to encourage the private sector to contribute to funding. We have already approached stakeholders such as banks and construction groups. Over and above these three key conditions, it is essential to keep the economic support and financial incentive measures in place. Here I have mind, for example, the €47 million in annual transshipment subsidy (“aide à la pince”) the sector gets, and Energy Savings Certificates (CEE), a scheme that helps fund various investments. Programmes like REMOVE CEE, launched in 2023 to promote modal shift, must also continue to operate effectively. The GNTC remains actively engaged in removing barriers and promoting technical, economic and regulatory solutions. Among other measures, we argue for the adaptation of the rail network to accommodate longer trains capable of carrying the equivalent of 60 trucks.

Funding logistics in TRANSITION the regions

Céline SENMARTIN

Céline Senmartin is Regional Director of the Banque des Territoires in Normandy.

STRENGTHENING FRANCE'S SOVEREIGNTY ALSO MEANS RETHINKING OUR MODES OF TRANSPORT. BUT HOW CAN PROJECT LEADERS FUND SUCH A TRANSITION? THE BANQUE DES TERRITOIRES SUPPORTS PUBLIC AND PRIVATE STAKEHOLDERS IN DEVELOPING LOGISTICS THAT ARE MORE AUTONOMOUS, GREENER AND RESILIENT.

What is the Banque des Territoires?

It is a division of the Caisse des Dépôts, a public financial institution, and its name already clearly expresses what it does for its clients: it acts as a source of finance for operations essential to development and planning in France's regions, aiming to make them greener and more inclusive. This involves both public bodies and private investors.

One of its three strategic objectives is defending sovereignty. What does this entail?

We defend sovereignty by focusing on three key areas. The first is digital sovereignty, which is the capacity France must have in place for control of its digital data, efficient networks, resilient infrastructure, and robust data protection. Next is energy sovereignty: this is our country's ability to remain energy-independent. The Banque des Territoires therefore invests in renewable energy production and is currently working on the financial requirements linked to new nuclear energy. Lastly, industrial sovereignty involves preventing industrial offshoring and encouraging the establishment onshore of new industries. The Bank helps industry to invest in productive real estate and adopt cleaner processes.

"The challenge is to continue to be the masters of our own future: if we do not control core processes, [...] our economy and our society will be weaker."

Why defend these forms of sovereignty?

This is vital for economies that have become increasingly vulnerable. Governments have become aware of their heavy reliance on other countries and the need to remain strong. The challenge is to continue to be the masters of our own future: if we do not control core processes – energy production, management of key infrastructure, control over digital data – our economy and our society will be weaker.

How does multimodality fit into this?

Multimodality stands at the intersection of these aspects of sovereignty. It requires rethinking how land, sea, river, rail, and air transport all coordinate, as well as financing fleets that are greener, and investing in production facilities that are more sustainable. Transport also relies on the real-time data management essential to optimised flows, reduced delays and lower costs, as well as ensuring the safety of property and people. Moreover, the development of multimodality is conducive to the creation of attractive hubs for industry.

What are the Bank's priorities for investment in ports to develop multimodality?

Our investment priorities are those of the stakeholders in the local region: projects for decarbonising industry and transport, setting up green energy production facilities, and greening the whole range of transport operators' fleets, and more. In Normandy, we support major HAROPA PORT projects: establishment of an urban distribution terminal for "last-mile" logistics in Rouen, electrification and power supply connections for cruise ship docks in Le Havre, Rouen and Honfleur, development and modernisation of the Radicatel terminal in Saint-Jean-de-Folleville to encourage maritime container transport to and from Ireland and the UK, and construction work to optimise rail operations at Port 2000.

Does the Bank support projects aimed at reducing France's dependence on foreign infrastructure?

Our investments in multimodality help reduce this dependence. We need to give logistics operators the resources to use French infrastructure and transport providers, making them less likely to rely on European ports that are cheaper or provide better funding for modal shift. In developed countries, the greening of companies is increasingly required by product importers. The Banque des Territoires is in discussions with transport stakeholders on this front. And we are making progress.

Does the Bank work with European institutions on multimodality issues?

We are partners of the European Investment Bank (EIB) and, in addition to our loans, we are making use of European tools and funding to optimise the financing for programmes (fixed-rate loans for local public bodies). We also partner with the European Commission through the Connecting Europe Facility (CEF), which supports major transport infrastructure projects. When a funding project submitted to the Banque des Territoires is eligible for the CEF, we facilitate its access to European subsidies. Likewise, as an implemented partner, we help with access to the InvestEU guarantee mechanism for green and innovative projects aimed at lowering the cost of bank guarantees as far as possible.

"Industrial sovereignty involves preventing industrial offshoring and encouraging the establishment onshore of new industries."

"Ports have every interest in JOINING FORCES to develop MULTIMODALITY"

Bruno DELSALLE

Bruno Delsalle, a maritime geographer, contributed to the founding of the International Association of Cities and Ports (AIVP) in 1988 before becoming its Director General.

AS A GLOBAL NETWORK OF PORT CITIES, AIVP SUPPORTS JOINT CITY/PORT SUSTAINABLE DEVELOPMENT STRATEGIES. SUCH DEVELOPMENT HINGES ON MULTIMODALITY, AS BRUNO DELSALLE EXPLAINS.

Multimodality is one of the goals of your association's 2030 Agenda: what role does freight transport play in your work?

This topic has invariably been part of our thinking because it has both economic and societal implications. With the rise of logistics and globalisation, the pursuit of freight massification and the advent of "just-in-time" delivery, it has taken on even more importance. Today, for example, we have a working group on river port cities and urban logistics.

Are partnerships between ports a good way to develop multimodal freight transport?

Generally speaking, ports have every interest in joining forces to tackle shared challenges. This is especially true when it comes to developing a multimodal offering given that no port can do it alone. That is why, for instance, Amsterdam and Rotterdam have established several rail corridors between them. Such an approach involves both cities and ports, which have evolved from simply acting as technical tools to full stakeholders in their regions. It relies on dialogue, formalised or not, between decision-makers.

What are the most effective models of cooperation between ports?

There is no ideal model, but rather different approaches driven by political decisions, economic interests and societal pressure. The MAGPIE project, which brings together 45 participants including Delta Port in Germany and HAROPA PORT in France to promote green, smart and connected ports, is the result of a call for proposals from the European Union. Nevertheless, one ingredient is essential to the success of these collaborations: trust between the participants.*

How can cross-border operations be reconciled with national sovereignty requirements?

If political trust exists, such reconciliation is totally possible. As proof of this, Copenhagen in Denmark and Malmö in Sweden form a single port entity. Conversely, given the mistrust that has emerged in recent months between Canada and the United States, there is no guarantee that inter-port cooperation within the Saint Lawrence–Great Lakes system won't experience some turbulence!

**MAGPIE (sMArt Green Ports as Integrated Efficient multimodal hubs) notably includes a component focused on developing river and rail connections in port hinterlands.*

Digital innovation in support of transport sector stakeholders

AT A TIME WHEN IT IS BECOMING MANDATORY TO DIGITISE TRANSPORT DOCUMENTS AND IN A LOGISTICS MARKET MADE INCREASINGLY COMPLEX BY A PROLIFERATION OF STAKEHOLDERS, DIGITAL INNOVATION HAS A BRIGHT FUTURE AHEAD OF IT. THE TWIN CHALLENGES? ENHANCING THE SECURITY OF CARGO AND PORT COMMUNITY SYSTEMS AND STREAMLINING TRANSPORT PROCESSES.


Cyrille BERTELLE

The term "*consignment note*" might still be in use, but long gone are the days of handwritten signatures on pieces of paper passed between transport operators! Since the entry into force of the European eFTI (Electronic Freight Transport Information) regulation on 15 July 2020, the transport sector has been going through a digital revolution. As Cyrille Bertelle explains: "*The use of certified digital platforms to transmit or provide access to transport documents is now compulsory, leading to the harmonised sharing of logistics information between businesses and public authorities across the EU.*" The "*cargo community systems*" and "*port community systems*" interconnecting operators along the transport chain are now highly strategically important tools carrying sensitive information – which needs to be protected! He adds that "*we need to strengthen cybersecurity and provide total traceability for events within these systems, and it is with that in mind that we are exploring the use of ultra-secure blockchain technology.*"

BLOCKCHAIN: THE GOLD STANDARD FOR CYBERSECURITY

Indeed, since 2023, SOGET — a provider of port community systems — and LITIS, the research lab at Le Havre Normandie University, have come together to integrate blockchain technology into these platforms. The goal of their joint lab, SmartLogiLab? To develop proof-of-concept models to explore innovative blockchain-based solutions. The intention is to incorporate them into forthcoming generations of logistics and port information systems. "*Specifically, we're working on the certification of port documents and on smart contracts — using blockchain mechanisms to automatically execute contractual clauses, such as instant invoicing based on weights or volumes*

Cyrille Bertelle is a lecturer in computer science at Le Havre Normandie University. He heads the ANR LabCom SmartLogiLab and SFLog, a federated logistics research entity. He also serves as President of the GIS (a smart logistics institute in the Seine Valley).

registered in real time," Cyrille Bertelle explains. At the SmartLogiLab proof-of-concept stage, integration of this technology into the tools provides stronger security and traceability, but its real-world deployment continues to be hindered by high cost.

AI FOR SHIP ARRIVAL PREDICTION

Another technology seen as highly desirable in the transport sector is artificial intelligence for extracting contractual clauses from agreements to translate and harmonise them across digital platforms. AI is also proving to be very effective as a predictive tool, particularly for calculating arrival times for ships, and therefore cargoes (see the interview below). With consumers expecting fast, responsive service, and against the backdrop of expanding multimodal transport, managing delivery timetables is increasingly a major challenge for all transport operators. Providers of cargo and port community systems understand this: to stay competitive, they need to make their digital platforms genuinely effective decision-support tools.

Three questions for OLIVIER JEAN-DEGAUCHY, head of AI Strategy at SOGET

Looking beyond its port community system solution, how is SOGET contributing to port-related innovation?

We've partnered with HAROPA PORT as members of the GIE easyport consortium to develop innovative tools perfectly tailored for their specific port-related challenges.
Together, we have created a tracking tool for monitoring port movements — "my T&T" — and a ship arrival prediction tool — "MyETA" — powered by artificial intelligence. We have also joined forces with HAROPA PORT to conduct research into using a blockchain network for our port community system.

How does blockchain technology address the challenges faced by transport operators?

Port procedures are extremely cumbersome, and are even more so when multimodal transport is involved. In this context, port community systems are increasingly important for sharing information between those involved. This raises a security issue for these tools: blockchain offers maximum levels of security and traceability, but it does so at a cost, and this is slowing its real-world implementation.

How do technological innovations support the development of multimodal transport?

Artificial intelligence is a powerful predictive tool, and it can be very useful in a multimodal context with increasing numbers of transport sector stakeholders. At SOGET, we are developing a new tool that will, among other things, recommend the best freight transport method based on the available multimodal options.

CON-TROL

Multimodal transport: a major ASSET for shippers

Patricia Sberro is head of Import Operations at Carrefour. She oversees the sourcing of own-brand products such as Tex and Carrefour Home (covering textiles, electronics and general merchandise), both in France and internationally.

PATRICIA SBERRO SHARES HER VIEWS ON MULTIMODAL TRANSPORT: NOT ONLY IS IT MORE COST-EFFECTIVE AND ENVIRONMENTALLY FRIENDLY, IT ALSO GIVES THE CARREFOUR GROUP FLEXIBILITY — A KEY ADVANTAGE IN MANAGING SUPPLY CHAINS.

How do you use multimodal transport for importing Carrefour's own-brand products?

Our products arrive by sea from Asia or Turkey. Once they reach the port of Le Havre, most are carried by river to the port of Gennevilliers before delivery by truck to our Paris area warehouses. Only our warehouse in the south of France is supplied directly by road. Similarly, we prioritise multimodal transport for our other markets: rail in Spain, Poland and Romania, river in Belgium, and so on.

What are the advantages of multimodal transport?

Using river transport allows us to move large volumes quickly given the very substantial barge capacity on the Seine axis. It is a solution that also provides us with flexibility: we can store containers at the port of Gennevilliers at competitive rates, enabling us to manage road traffic to our warehouses in proximity to these storage areas. It's a more economical option.

How does multimodal transport help secure your supplies?

By giving us flexibility! Thanks to our buffer storage space in Gennevilliers, we can optimise our schedules for container delivery to our warehouses, enabling us to smooth our teams' workload. In fact, since September 2024, we've gone further in planning container arrivals using Wakeo, a container tracking tool. Managing warehouse intake capacity is increasingly crucial in an uncertain maritime context.

How do you see the future of multimodal transport?

Eco-friendly, economical, and flexible — multimodal transport can only expand! Its development needs to go hand-in-hand with the digitalisation of parcel tracking, which is vital! Given the requirement for product traceability and the digitisation of customs procedures, shippers need to implement high-performance information systems. This is even more key when using multiple transport modes.

How can multimodal transport be a response to economic sovereignty issues?

In our case, we focus more on multi-sourcing to underpin our sovereignty, with an eye towards Africa to avoid certain maritime routes. Where France is concerned, if multimodal transport is to become a lever for enhanced sovereignty, it needs to be considered at a more national level, seeking to ensure that no region is left isolated.

Economic security for ports: a matter of national sovereignty

GIVEN THEIR ROLE AS INTERFACES BETWEEN MARITIME AND LAND-SIDE TRADE FLOWS, PORTS ARE BOTH ECONOMIC SPRINGBOARDS AND WEAK POINTS FOR SECURITY.

Fabien LAURENÇON

"This is directly linked to their openness to globalisation," notes lecturer and researcher Fabien Laurençon. *"They are economic springboards because, in a context in which trade is global-ised, with over 95% of goods travelling by sea (globalisation is essentially maritime), ports are central to supply chains running to and from their hinterlands. But they are also a weak link for security because their activity as hubs makes them operators of vital importance and therefore strategic assets exposed to numerous risks, especially in today's climate of trade wars and heightened geopolitical tensions."*

FROM FOREIGN INTERFERENCE TO DRUG TRAFFICKING

There are several categories of risk that can compromise the economic security of ports. First, there is foreign interference, i.e. influence exerted by external entities such as private companies or foreign states' intelligence agencies in pursuance of their own goals. He explains that *"this can occur through various channels, including capital investment, and may result in the acquisition of effective control. In Europe, the ports of Piraeus, Genoa, Valencia and Hamburg have, at least partially, come under Chinese control."* Ports are also targeted by criminal organisations, which use them as hubs for their illicit activities: trafficking in counterfeit goods, drugs and human beings among them. Added to which are the risks of espionage, corruption, sabotage, and cyber threats, leaks of confidential data, for example, allowing organised crime and government agencies to exploit port vulnerabilities for their own purposes. Russia and its teams of hackers are at the forefront in this regard, whether as military intelligence (GRU) units or "*mercenary*" mafia groups. Fabien Laurençon adds: *"Their operating methods are constantly evolving. With the advent of the Internet of Things, it is for example possible to imagine surveillance and hacking operations being carried out via connected cranes or containers."* In her April 2024 study for IFRI, "*German ports facing China*," Marie Krpata highlights a number of vulnerabilities in Germany's port ecosystems, vulnerabilities equally applicable to other major ports along the Atlantic and Mediterranean coasts.

Fabien Laurençon teaches defence and security studies at Sciences Po Paris. He is also an associate researcher at IRSEM (the Strategic Research Institute of France's Military Academy).

A REGULATORY FRAMEWORK...

While ports are prime targets, every link in the transport and logistics chains is under threat to varying degrees. Some, such as transshipment operations, can be seen to be more crucial than others. All are therefore the focus of public efforts to prevent and counter risks. This approach is built on a core foundation: regulations. For example, the EU's FDI regulation, which came into force on 11 October 2020, calls on member states to strengthen the screening of foreign direct investments in sensitive sectors and infrastructures, including ports. In France, ports are also covered by Article L. 151-3 of the Monetary and Financial Code, which makes foreign investments that may affect essential national interests, transport activities included, subject to prior authorisation procedures.

... AND A MULTITUDE OF ACTORS

Regulatory tools are applied by a multitude of actors that together form a far-reaching ecosystem. They play a role in identifying and addressing threats, leading and coordinating efforts, raising awareness, providing support and carrying out operations on the ground. They include national services such as the police (particularly OFAST), the judiciary, customs (DGDDI), and the Directorate-General for Competition, Consumer Affairs and Fraud Control (DGCCRD), as well as specialised entities such as SISSE, the Strategic Information and Economic Security Department. "*SISSE is attached to the directorate-general for enterprises within the Ministry of Economy, Finance and Industrial and Digital Sovereignty, and its mis-sion is to protect France's strategic assets from foreign threats; it contributes to, among other things, the screening of foreign investments in France,*" Fabien Laurençon explains. It plays a coordinating role across ministries and government departments.

HEIGHTENED MOBILISATION

Public authorities have intensified their efforts in recent years in response to rising risks. France and the EU are putting in place increasingly sophisticated regulatory instruments. This is exemplified, says Fabien Laurençon, by "*the massive cyber-attacks that led the EU to tighten its cybersecurity requirements for businesses. This resulted in the adoption of the NIS2 directive in 2025, which is far broader than its predecessor, NIS1.*" At the same time, police and intelligence services tasked with combating organised crime are stepping up their inspection and enforcement activities. In this context of heightened mobilisation, is the development of multimodal transport an asset? "*Multimodality's primary purpose is not to enhance economic security,*" he reminds us. "*Nonetheless, it is valuable for resilience in that it provides an ability to diversify transport routes. The blockage of the Suez Canal by a container ship in 2021 clearly demonstrated how risky relying on a single mode of transport can be!*"

** "German Ports facing China: how can openness, resilience and security be reconciled?", available on the IFRI website*

"With the advent of the Internet of Things, it is possible to imagine surveillance and hacking operations being carried out via connected cranes or containers."

SAF and pipelines for a sovereign aviation sector

THE PIPELINES THAT CONNECT LE HAVRE TO PARIS' AIRPORTS ARE AN INTEGRAL PART OF THE PORT MULTIMODAL ECOSYSTEM. BY ENABLING THE TRANSPORT OF SUSTAINABLE AVIATION FUELS (SAF), THEY CONTRIBUTE DIRECTLY TO OUR ENERGY SOVEREIGNTY, WHICH COULD IN THE FUTURE INVOLVE THE DEVELOPMENT OF A "MADE IN FRANCE" SAF INDUSTRY.


Yannaël BILLARD

70% SAF in aircraft flying in Europe by 2050: the trajectory set by the European ReFuelEU[1] aviation regulation (see sidebar) is ambitious! Indeed, the share of these next-generation fuels in French air transport, standing at 2% in 2025, will need to accelerate significantly. The aviation sector has every reason to aim high as it embarks on its green transition. "*It's simply a matter of survival for airlines,*" summarises Yannaël Billard, the ADP Group's director of sustainable development. "*The aviation sector needs to demonstrate its alignment with sustainable development and, more concretely, with the European regulatory trajectory.*" Deeply committed as it is on this issue, ADP is acting on both supply and demand. It has for example invested in LanzaJet[2], a SAF producer, and in the Sustainable Flight Fund launched by United Airlines Venture[3]. It is also exploring the introduction of financial incentives based on environmental criteria for airlines (based on differential aeronautical charges), as well as support for a model that aggregates sustainable fuel purchases for airlines. The motivations behind this interest are ecological, but also economic and... political. "*Developing a French sustainable fuel industry would help reduce our dependence on oil-producing countries — an attractive prospect in a highly unstable geopolitical context,*" says Yannaël Billard. Moreover, the resources already exist in France: waste for biofuels, and low-carbon hydrogen and biogenic CO_2 for e-fuels (i.e. synthetic fuels). Finally, the transport infrastructure is already in place: ports and airports are already connected by pipelines. "*All that's missing now is a new multiannual energy programme to create the national visibility needed to structure the industry,*" explains Yannaël Billard. With investment costs in the nine-figure range, future fuel production projects need to be backed by a robust long-term vision and national funding. Only then can SAF take off!

1. Adopted in 2023, this regulation sets a clear direction for the development of sustainable aviation fuels (SAF) in the European Union.
2. LanzaJet is an American company and a leading player in the alcohol-to-jet fuel sector.
3. The Sustainable Flight Fund is a venture capital fund formed and managed by United Airlines Ventures. It is dedicated to identifying and investing in start-ups developing the technological building blocks required to produce sustainable aviation fuels.

"*Yannaël Billard is director of sustainable development at ADP (Paris Airport Group).*"

Thinking European SOVEREIGNTY through interconnections

Catherine TRAUTMANN

"Catherine Trautmann is coordinator of the North Sea-Baltic European transport corridor. Her main objective is to facilitate coordination between Member States involved in cross-border projects linked to the Trans-European Transport Network (TEN-T)."

IN RESPONSE TO CURRENT GEOPOLITICAL UPHEAVALS, EUROPE IS STRENGTHENING ITS SOVEREIGNTY BY INVESTING IN INFRASTRUCTURE. CATHERINE TRAUTMANN REFLECTS ON THE PIVOTAL ROLE OF THE TRANS-EUROPEAN TRANSPORT NETWORK (TEN-T) AND THE IMPORTANCE OF CROSS-BORDER CONNECTIONS BETWEEN MEMBER STATES.

Can you describe TEN-T for us? What is France's role in it?

The TEN-T policy is the EU's infrastructure planning strategy for transport. We want to build a European transport network that is more than the sum of its 27 national components and connects its most important hubs – our cities – and its strategic entry points such as ports, airports, terminals and stations. This is vital: citizens need it to travel freely across the European Union, and businesses need it for their supply chains. The EU is a global logistics leader, a status to which this network is crucial. And ports are among its vital elements, ensuring connectivity within the EU and to our outermost regions and islands, especially as 75% of our external trade travels by sea! France also plays a central role, hosting three European transport corridors. It links to the Iberian Peninsula and boasts assets such as high-speed rail and inland waterways.

Why is it necessary now to think about sovereignty at the European level?

Even the largest EU Member States lack full sovereignty without the European context. To defend our way of life – whether French, German or Polish – we must be connected within the EU: intellectually, ideologically and physically via roads, railways and waterways. In practical terms, Europe gives us access to far more resources and services than any single Member State can provide. We need resilient transport networks and logistics chains, which can only be built collectively. And in light of the vast extent of its territory, journeys should ideally be multimodal, and this requires well-equipped multimodal terminals.

"The EU is a global logistics leader, a status to which this network is crucial."

In today's geopolitical climate, how does the TEN-T contribute to European sovereignty?
To safeguard our sovereignty, we need a robust multimodal transport network. Specifically, ports play a major role in military mobility, for example by taking delivery of materiel arriving from abroad. The Commission works closely with NATO on this issue. We aim to ensure that infrastructure built for our civil activities and our economic development can also be used to defend us if needed. This means that some parts of our network must meet strict military mobility standards: axle load requirements, for example.

The European Commission is preparing a European Port Strategy. What are its main focuses, and how does it fit in with TEN-T policy?
The EU's port strategy is expected to be published in early 2026. Competitiveness will be its core focus, but the strategy will address a wide range of issues relevant to ports.
The TEN-T regulation recognises ports as cross-border multimodal hubs within a European maritime and land space, and as gateways for trade, military mobility, industrial clusters and energy hubs. The new concept of a European Maritime Space (EMS) gives heightened prominence to TEN-T's maritime dimension, covering all infrastructure requirements for ports in both the central and overall networks.
The EU port strategy will build on TEN-T policy to define overarching priorities that ensure harmonisation and coherence across its port infrastructure.

European Transport Corridors

EFFECTIVELY MULTIMODAL HIGHWAYS, THE CORRIDORS FORM THE BACKBONE OF THE TRANS-EUROPEAN TRANSPORT NETWORK (TEN-T). THEY LINK PORTS, PLATFORMS AND INDUSTRIAL ZONES TO STREAMLINE TRADE, BOOST THE UNION'S COMPETITIVENESS AND STRENGTHEN ITS ECONOMIC SOVEREIGNTY.

European transport corridors are strategic routes that structure the Trans-European Transport Network (TEN-T), launched in 2013 by the European Commission. This initiative serves a dual purpose: to facilitate the movement of goods and people across the continent and to enhance the economic competitiveness of local regions. Today, nine major corridors — combining roads, railways, navigable waterways and ports — form the backbone of this policy. Each corridor crosses several Member States and connects key logistics centres, industrial zones and port hubs. They enable a coordinated shift at the European level towards rail and inland waterway transport, improved connections between seaports and their hinterlands, and development of low-carbon logistics.

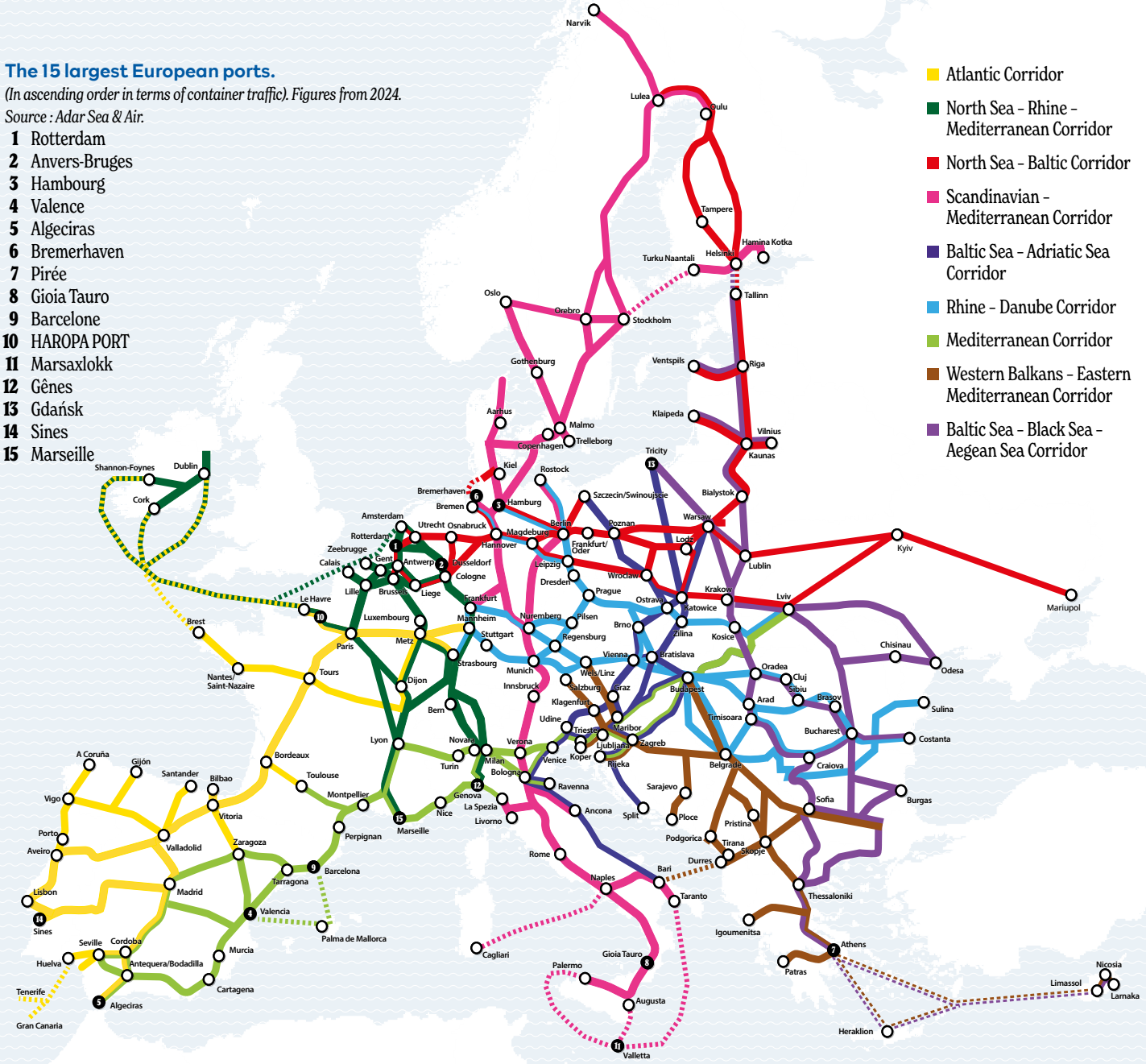
A RESILIENT FRAMEWORK IN TIMES OF CRISIS

For the European Union, these infrastructures are more than just technical instruments: they embody a vision of economic integration, territorial cohesion and resilience in the face of crises.

The 15 largest European ports.

(In ascending order in terms of container traffic). Figures from 2024.
Source : Adar Sea & Air.

1 Rotterdam
2 Anvers-Bruges
3 Hambourg
4 Valence
5 Algeciras
6 Bremerhaven
7 Pirée
8 Gioia Tauro
9 Barcelone
10 HAROPA PORT
11 Marsaxlokk
12 Gênes
13 Gdańsk
14 Sines
15 Marseille



(Source : Commission Européenne)

Governance of the corridors is entrusted to European Coordinators — independent figures responsible for fostering dialogue between Member States, operators and regions. Their role is crucial in ensuring project coherence and alignment with Brussels' objectives, particularly the decarbonisation of transport by 2050. France plays a central role in this framework, with four of the nine corridors crossing its territory and serving its major ports.
By linking Le Havre, Rotterdam, Antwerp and Hamburg to inland consumption and production areas, the European corridors help secure supply chains, stimulate intra-European trade and embed the Union's logistical sovereignty for the long term.

"Our ability to deter and defend depends on our capacity to manage troop and materiel movements across the EU."

What funding does the EU allocate to infrastructure projects in this area?

The main EU funding instrument for TEN-T is the Connecting Europe Facility (CEF). Project promoters respond to calls for proposals, and the best projects are selected based on five criteria: priority and urgency, maturity, quality, impact and catalytic effect.

During the 2021–2027 budget period, CEF had a transport budget of €25.8 billion, which has already been largely allocated to projects. For the next period, the Commission has proposed a larger budget of €51.5 billion for transport and military mobility. We hope Member States will support this proposal, since EU funding is crucial for our transport network. Member States generally prioritise projects with the greatest national value, but in order to build a resilient network, we need strong connections between Member States. That is why we need to focus on its cross-border sections.

As an example, could you say something about the Rail Baltica project?

Rail Baltica receives EU funding and aims to fully integrate the three Baltic States into the European transport system – for our economic development and, above all, for our collective security. It is a cross-border project involving Estonia, Latvia, Lithuania and Poland. It is, at one and the same time, a national, a Baltic and an EU project that we must deliver together.

In France, are there investments you see as necessary at the strategic level?

France also has key cross-border sections in TEN-T. The Lyon–Turin and Seine–Escaut projects are progressing well. However, that is not the case for high-speed rail connections to Spain, and these are essential for improving connectivity between the Iberian Peninsula and the rest of the EU.

How has war on European soil influenced TEN-T policy?

Russia's invasion of Ukraine has reshaped the EU's geopolitical

landscape. Finland and Sweden are now members of NATO, and we have realised that we need to be in a position to defend ourselves.
The Commission has in fact revised the TEN-T regulation, reducing links with Russia and Belarus and incorporating Ukraine into European transport corridors.
The war has shown us that transport connections are vital. Our ability to deter and defend depends on our capacity to manage troop and materiel movements across the EU.
The strategic importance of Rail Baltica is now clear to all. Synergies between our civilian transport network and military mobility network have become far more significant. Enhancing this mobility will be achieved in conjunction with the relevant ports, which must have space to accommodate personnel and materiel, as well as being well connected to their hinterlands.
The funding will be adjusted accordingly. Member States had agreed on a €1.7 billion budget for military mobility for 2021–2027.
In hindsight, this was far too low.
For the next budget period, the Commission has proposed €17 billion and will continue working with stakeholders – EU military staff, Member States and NATO – to ensure that our investments in military mobility can also serve our civilian needs.

"Ports are ensuring connectivity within the EU [...] as 75% of our external trade travels by sea!."

BLOCK BY BLOCK, THE RIVER ACCESS IS TAKING SHAPE

The prefabrication of the “acropodes”, or breakwater armour units, has begun on the Asia quay. By the end of 2026, 19,000 geometrically-shaped concrete blocks will have been produced using 60 moulds, before being submerged to protect the future barge access channel (see p.12) from wave action and erosion.
Manufactured directly on site, these components help simplify logistics and reduce the carbon footprint of the construction of this strategically important facility for the development of multimodality.