

MULTIMODAL

# SHAPING THE FUTURE OF EUROPEAN LOGISTICS

Research & Forecast Report  
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# MULTIMODAL LOGISTICS: UNDER THE MAGNIFYING GLASS

## INTRODUCTION

*Activity in the European industrial and logistics markets shows there is increasing interest for multimodal logistics from occupiers, property developers and investors. Yet if one had to summarise the progress made in this area, “slow but steady” would be a reasonable statement. This is primarily due to the reliance on the the development of new infrastructure, which is essential to boost the competitiveness of this type of freight relative to road-only transport. This report looks at some of the challenges, opportunities and future prospects for multimodal logistics in the years ahead.*

*Our report draws on the growing number of multimodal platforms that are emerging across Europe. These projects demonstrate how companies are utilising waterways and railways to complement road transportation in order to beat traffic congestion and create leaner and cleaner CO2 footprints. This is becoming increasingly relevant and visible in last-mile distribution. Here are the key findings of the report:*



Improving multimodal infrastructure, the diminishing cost of technology and the ability to deliver scale will contribute to the long-term importance of multimodal logistics. This will create a more compelling proposition from an economic perspective, in addition to the strong environmental argument to shift freight to greener transportation modes.

Case studies suggest that combined transport modes cannot yet compete with road only transport, due to its cost and time-delivery constraints (particularly over shorter distances). However, there is a growing consensus in the corporate world that the higher short-term costs associated with more sustainable transport solutions can be justified by the long-term benefits. These benefits come in the form of corporate social responsibility (CSR), and the ability to develop a competitive advantage over late adopters as more stringent environmental and emissions regulations impact freight and logistics platforms.



Infrastructure is vital in enhancing the competitiveness of multimodal transportation relative to trucking. Most ongoing works concern upgrades of existing lines/platforms, with a lot happening at the port level. There are also some mega-projects such as the new Alpine tunnel between Switzerland and Italy due to complete in 2020. By boosting multimodal freight, these projects are expected to generate a need for increased transshipment capacity around strategically located multimodal platforms, and feed distribution centres nearby as more companies/shippers consider multimodal transportation.



Rail and waterways will increasingly complement eco-friendly vehicles within the last mile in cities. Local authorities have a key role to play by promoting urban freight transport solutions that balance the interests of the private sector and communities. Paris is one of the leading European cities in this regard, having embarked on a strategic initiative to redevelop city logistics hubs around major rail transportation nodes and along the Seine. New development incorporates ‘logistic hotels’ into larger, mixed-use developments. These new distribution patterns have also the potential to impact site selection as they become more prevalent, with existing distribution portfolios mostly built around trucking.

# STATE OF PLAY – GAUGING DEMAND FOR MULTIMODAL LOGISTICS

## PLAYERS

**POLICYMAKERS** are keen to shift more freight off the road to reduce carbon emissions and encourage more sustainable transport solutions. One of the objectives set out by the EU in its Transport 2050 Roadmap is for 30% of road freight traffic on distances over 300 km to be shifted to rail or water-borne transport by 2030, increasing to 50% by 2050. Over these distances, rail freight is understood to be both a cost and emissions-effective alternative to road-borne traffic. The European Commission oversees and co-finances the implementation of nine strategic transport corridors through its TEN-T programme.

Due to the nature of their shipments (heavy/bulky products) **CONSTRUCTION AND MATERIALS COMPANIES** and the **AUTOMOTIVE SECTOR** are traditionally some of the most intensive users of rail. More **RETAILERS**, such as supermarkets, are embracing multimodal logistics for some of their products, too. French supermarket chain, Monoprix, for example, moves 55% and 35% of its imports from ports to its warehouses by water and rail respectively. Tesco in the UK uses rail to supply local distribution centres from its Daventry depot and has recently announced a new rail service from China.

**SHIPPERS** continue to expand their offering of multimodal services leveraging favourable policy, infrastructure improvements and emerging trade corridors where rail/barge is a particularly interesting proposition in terms of cost/speed. These include established connections with Turkey and the Far East. Furthermore, in January 2017, the UK became the latest European country to be added to the rail freight service from China.

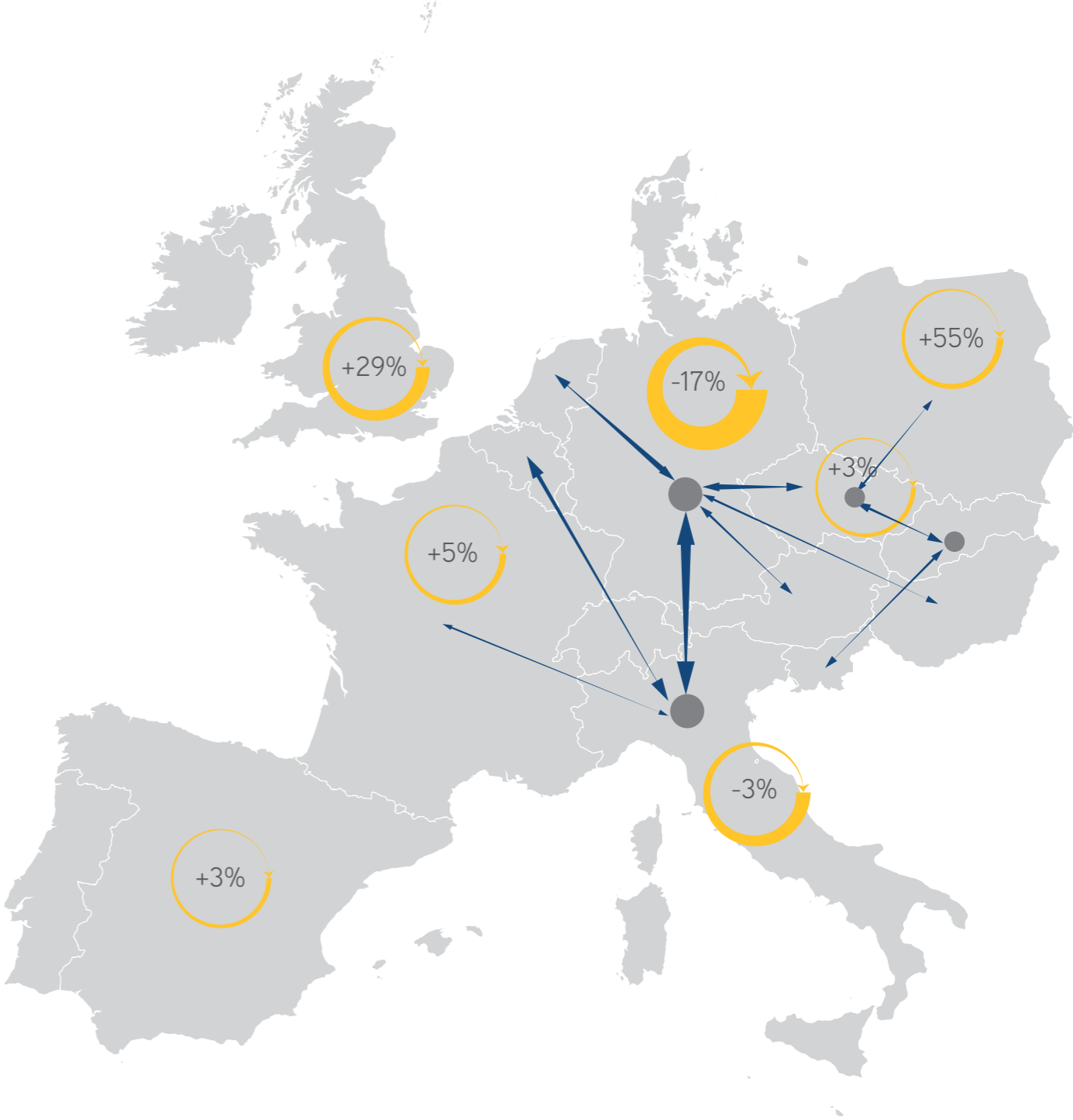
While there is a greater focus on rail and waterway transportation, shippers continue to upgrade their road fleets by switching to more fuel-efficient vehicles, including aerodynamic “teardrop” trailers. DHL plans to deploy more of these as part of its “burn less and burn clean” programme. It remains to be seen whether the push toward greener vehicles will hamper or underpin growth in multimodal logistics services going forward.

## PLATFORMS

Developers and investors are increasingly committed to providing multimodal infrastructure on site to maximise connectivity and cater for the highest number of occupiers possible. Interest is generally proportional to the maturity of the local rail freight industry. The UK, being Europe’s third-largest market for domestic combined transport (road-rail) after Germany and Italy (see map), provides some of the most recent examples of rail-linked logistics parks. The busiest multimodal transport corridors are Germany-Italy, connecting the two most industrialised countries in western Europe; the inland connections of the North Sea ports (Rotterdam/Antwerp) and the links between Germany and its supply chain. In terms of water freight, the Rhine is the uncontested leader, accounting for 60% of European inland waterway traffic. In the next section we have highlighted some examples of emerging and established multimodal logistics platforms/parks in Europe.

*30% of road freight traffic on distances over 300 km to be shifted to rail or water-borne transport by 2030*

LARGEST DOMESTIC MARKETS AND INTERNATIONAL CORRIDORS FOR COMBINED RAIL-ROAD TRANSPORT IN EUROPE

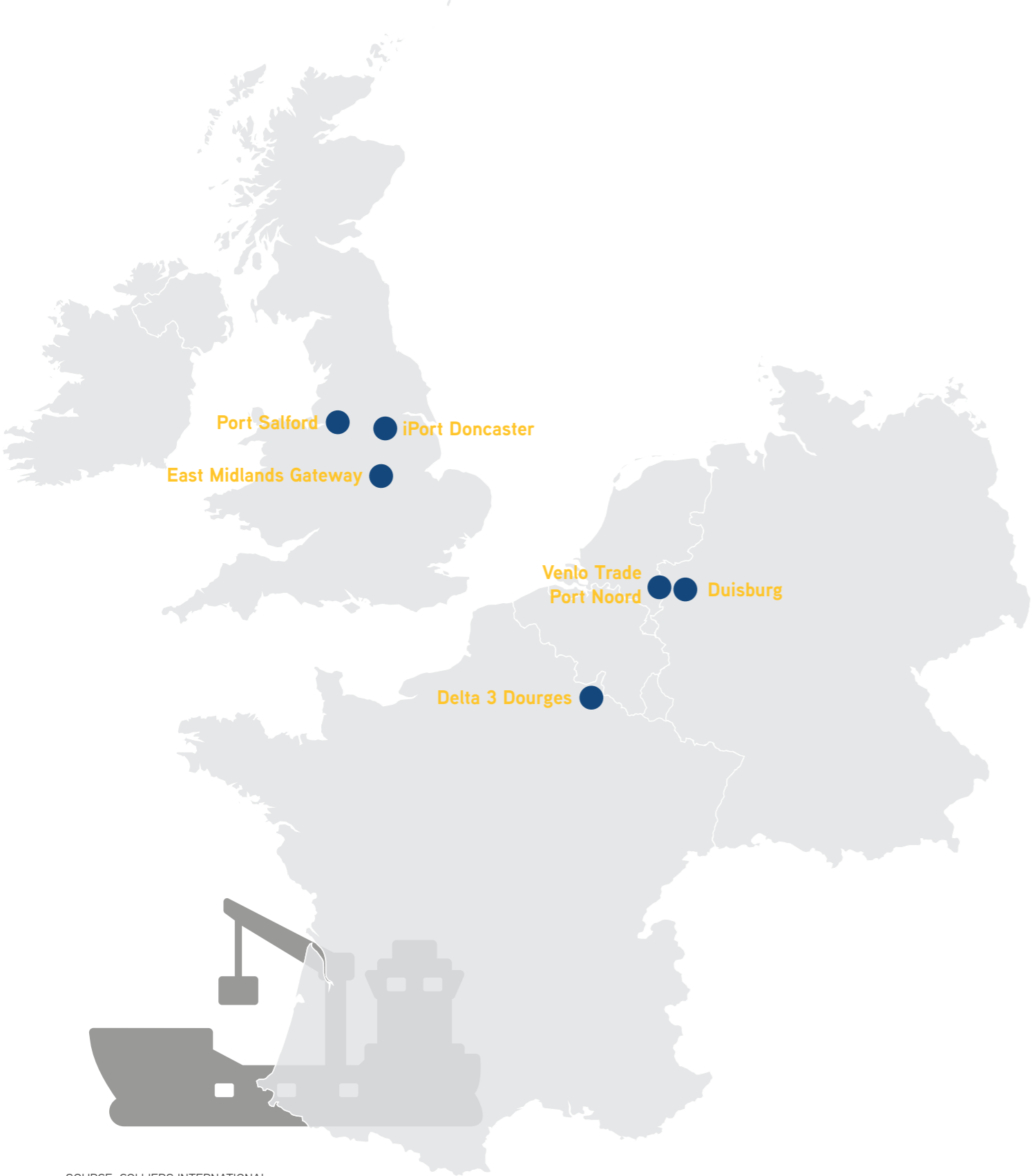


Growth rates reflect the period between 2013 and 2015

SOURCE: COLLIERS INTERNATIONAL, UIC

# STATE OF PLAY – GAUGING DEMAND FOR MULTIMODodal LOGISTICS

SELECTED EUROPEAN MULTIMODAL PLATFORMS AND LOGISTICS PARKS



SOURCE: COLLIERS INTERNATIONAL

**PORT SALFORD** is the UK's first tri-modal inland container terminal. It lies on the Manchester Ship Canal- a 58km waterway linking Manchester to the river Mersey and the Irish Sea. The canal provides access to the port of Liverpool and its new container terminal, Liverpool 2, which has doubled the port's capacity. Port Salford is part of a larger redevelopment programme concerning the canal and surrounding area, designed to revive navigation along the canal. The site will create 148,000 sq m (1,600,000 sq ft) of warehousing. From the site, Culina will manage the distribution of a range of General Mills' ambient brands arriving by short-sea freight from Europe. Other companies already using the canal for distribution include Kellogs and Tesco.

**EAST MIDLANDS GATEWAY** is a new multimodal logistics park which is being built near Castle Donnington, just north of East Midlands Airport. The park, developed by Roxhill, will create 6 million sq ft (557,000 sq m) of logistics space over various phases and will be equipped with a rail freight terminal, which will be connected to the major eastern and southern UK ports and handle up to 16 trains per day. The project is due to complete in 2019.

**IPORT DONCASTER** is a development by Verdion in Doncaster, South Yorkshire, UK. The park will be linked to the main UK rail network through a rail freight terminal and has the potential for up to 6 million sq ft of logistics space (557,000 sq m). Current tenants include Amazon, CEVA Logistics, Lidl and Fellowes. Verdion is about to launch phase two of the development, which will add a further 3 million sq ft (250,720 sq m).

**DELTA 3** is a multimodal logistics platform in Dourges, south of Lille. The park is equipped with a tri-modal transshipment terminal (LDCT), which handled 3,600 trains and 348 barges in 2015 (12.5% increase y-o-y). The site comprises 330,000 sq m of logistics space, with Le Roy Merlin and Decathlon among its larger occupiers. A second phase will add up to 350,000 sq m (of which 150,000 sq m is owned by AEW). Furthermore, plans exist for a 22,000 sq m rail-linked cross-docking facility aimed at parcel delivery services.

**VENLO TRADE PORT NOORD** is a logistics park in the Dutch city Venlo near the German border. The park currently offers some 230-ha available for development. Tenants include Canon and the EMEA distribution centre of Michael Kors. A new rail freight terminal will become operational this year.

**PORT OF DUISBURG**, on the river Rhine, is the world's largest inland port with a handling capacity of 5 million twenty foot equivalents (TEUs). Container traffic through the port grew by 130% between 2006 and 2016 to 3.7 million TEUs (Rotterdam grew by 28%). The port is developing three new logistics areas: Logport IV (130,000 sq m), Logport V and Logport VI. Audi operates a 53,000 sq m consolidation facility on the Logport II site from which it ships spare parts via barge or rail to the port of Antwerp and onward to its assembly plants in China, India and Mexico.

Multimodal transportation needs infrastructure to work. Most ongoing infrastructure projects in Europe concern upgrades of existing lines and platforms such as ports. Many European ports have set out modal split targets and have embarked on ambitious infrastructure investment programmes to achieve them. There are also some mega-projects, which we have analysed in this section (see planned completion dates below). These projects are expected to drive growth in multimodal traffic along key European corridors.

ALPINE CROSSINGS – GOTTHARD & MONTE CENERI TUNNELS

The Gotthard Base Tunnel in Switzerland is a key section of the Rhine-Alpine rail corridor. The Rhine-Alpine corridor is considered the most important axis for north-south trade, connecting the North Sea ports of Rotterdam/Antwerp to the port of Genova in Italy. The Alpine section of this rail line suffered from capacity limitations due to the steepness of the rail track and outdated infrastructure. To tackle this problem, a new 57km tunnel (the world’s longest) was dug to replace the old line. The tunnel opened to traffic in December 2016. Combined with the opening another tunnel on the same line (Monte Ceneri; 15.6 km; expected in 2019/20), the Gotthard Base Tunnel will create a flat trajectory for freight and passenger trains alike and it is set to provide a strong impetus to rail freight traffic along this corridor.

The number of freight trains on this line is projected to increase by 60% from 160 to 260/day.

Northern Italy is the region poised to benefit the most from this project, with its logistics platforms acting as Alpine gateways. Anticipating a rise in rail freight traffic, Swiss intermodal transport operator HUPAC is investing in new transshipment rail-road terminals in Milan, Brescia and Piacenza.

Capacity is being added on the Swiss side of the Alps, too. A consortium of shippers is building a new tri-modal container terminal in Basel (Basel North), which will have an annual transshipment capacity of 140,000 TEUs per year in 2019, to be taken to 390,000 TEUs from 2022.

The tunnels should also, in theory, strengthen the port of Genova’s position as a gateway to the German market.

However, rail freight is currently hampered by the port’s mountainous hinterland (the Ligurian Apennines). Works are underway to build a new high-speed rail link (known as ‘Terzo Valico’) to cut through the Apennines and connect the port to northern Italy’s economic heartland. Completion is not expected before 2022.

Project and planned completion dates
<b>Gotthard and Monte Ceneri tunnels</b> Switzerland/Italy Gotthard open – Monte Ceneri from 2019
<b>Seine Nord Europe Canal</b> France 2025 (first segments operational from 2021/22)
<b>Koper-Divaca second-railway track</b> Slovenia 2022
<b>Belgrade-Budapest high-speed rail</b> (key section of the new rail corridor between port of Piraeus in Greece and Hungary) Serbia/Hungary 2019/2020

LOCATION OF INFRASTRUCTURE PROJECTS WITHIN EUROPEAN MULTIMODAL FREIGHT CORRIDORS



SOURCE: COLLIER'S INTERNATIONAL

## SEINE-NORD EUROPE CANAL

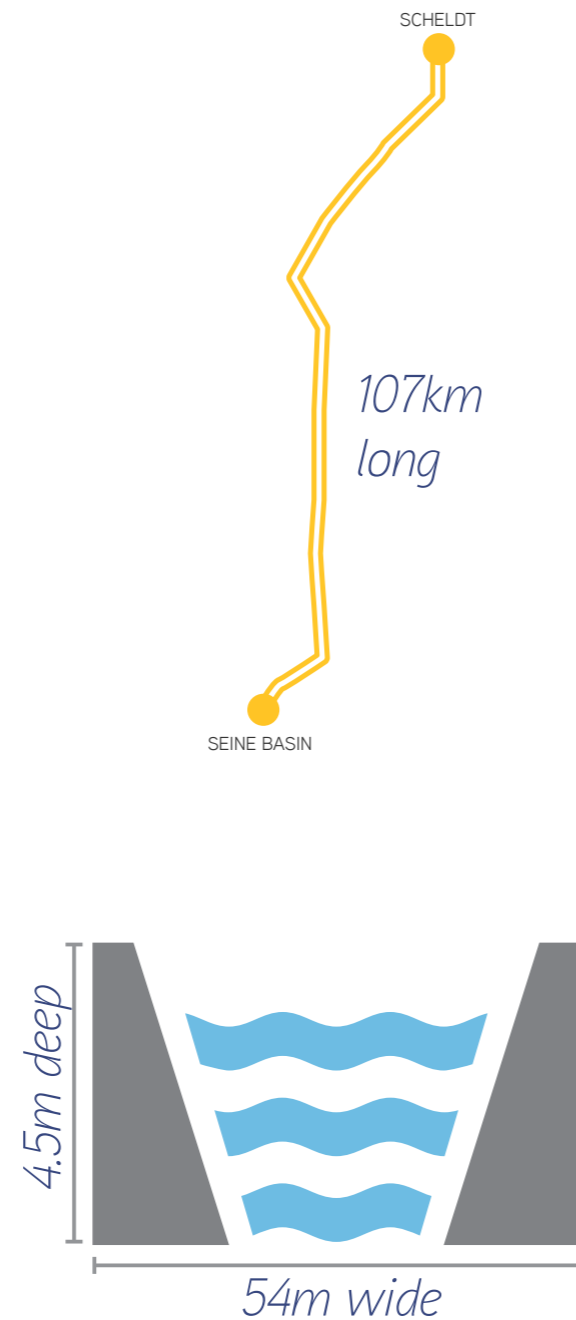
The Seine-Nord Europe Canal is a new canal that will be built between the cities Compiègne and Aubencheul-au-Bac (Cambrai) in northern France. The canal will be 107km long, 4.5m deep and 54m wide and will link the Seine basin to the Scheldt, the canal system of the North Sea ports of Antwerp and Rotterdam, and the German waterways further afield. The canal will be able to accommodate larger barges, up to 4,400t (the equivalent of some 200 trucks), resulting in lower transport cost/unit compared to smaller barges and other modes.

Once completed, the canal should provide a more sustainable and potentially cost-efficient import/export gateway between Paris, northern France, Belgium and the North Sea ports.

From a real estate point of view, the original project plan proposes the creation of four multimodal logistics platforms along the canal (Cambrai-Marquion, Péronne, Nesle et Noyon). Other platforms have been recently activated, such as Longueil Saint Marie in the Paris region. The Port of Paris/Seine/Normandie authority (HAROPA) anticipates a three-fold increase in fluvial container traffic on the Seine by 2020. The project was officially launched in April 2017 and works are set to get underway soon.

The impact of the project on French deep-water sea ports is unclear. There is concern that the port of Le Havre, a traditional gateway to Paris and the surrounding region, could lose market share to the North Sea ports, such as Antwerp and Rotterdam, which would use the canal to their advantage by leveraging their scale and developed tri-modal connections. Le Havre is also developing its inland connections and recently built a new tri-modal container terminal (LHTE). After some setbacks, the new terminal handles 300 TEUs per day. The port of Le Havre aims to increase the modal share of rail/waterways from 3%/6% currently, to 11%/14% respectively by 2020.

## SEINE-NORD EUROPE CANAL SPECIFICATIONS



SOURCE: COLLIERS INTERNATIONAL

## SEINE-NORD EUROPE CANAL AND KEY TRANSHIPMENT HUBS



SOURCE: COLLIERS INTERNATIONAL

## RAIL FREIGHT CORRIDORS AND MAIN TRANSHIPMENT HUBS IN CEE



SOURCE: COLLIERS INTERNATIONAL

## THE CEE CONNECTION

CEE is similarly developing its multimodal infrastructure. The region is at the crossroads of emerging rail corridors, notably the new "Silk Road" from China (see map and [previous report](#)).

Equally important, a strong impulse to shift freight off roads is coming from the regional gateway ports, notably the NAPA ports and the port of Gdansk, which are strongly rail-orientated. The port of Trieste, for example, opened a fourth rail line last year and is building a new 121,700 sq m rail-linked logistics platform which will become operational in 2018. In 2016, the port handled 7,631 trains (27.61% growth compared to 2015). Ekol, a leading Turkish multimodal operator, recently launched a new multimodal service connecting Turkey to Trieste by short-sea, and the latter with the German port of Kiel on the Baltic Sea by rail, and onward to Gothenburg in Sweden. Ekol is also actively expanding in CEE.

The port of Koper has similar ambitions. The port is one of the fastest growing in Europe (14% annual container traffic growth since 2009), however, rail freight growth has been hampered by capacity constraints on its inland rail links.

The current line does not comply with the parameters set out by the EU transport agenda and it is currently being modernised. Plans to build a second railway track (27.1 km) would bring train traffic from 85 trains/day to 222 trains/day. Completion is scheduled for 2022.

Rail freight traffic, particularly through south-eastern Europe, is mostly transit, for now. This is likely to change as this part of Europe integrates itself deeper into the European and global supply chain. This will also create more opportunities for transshipment and distribution.



‘THE LAST MILE...’

Lorries and vans dominate last-mile distribution due to their ubiquity and speed. However, planned bans and restrictions on vehicles in European city centres mean that road-based distribution may not be sustainable at current levels in the future. London, through its safer lorry scheme, is introducing more stringent requirements for HGVs in the city centre. Similarly, Paris, Madrid and Athens are considering banning diesel cars and trucks from their city centres from 2025, with other cities looking to implement similar measures in the future.

Shippers and retailers are responding by increasingly switching to eco-friendly vehicles. Some are taking a step further and trialling or implementing multimodal transport solutions to enable their products to reach the heart of cities in a more sustainable, yet efficient, way. This often comes at an extra cost. However, there is generally a greater acceptance that this cost can be justified by the benefits in terms of corporate social responsibility (CSR) and that this is a necessary step in expectation of tighter environmental regulation.

Here are some initiatives  
(see the map for precise locations and routes in Paris):

**PARIS – RAIL:** In Paris’ XVIII Arrondissement, a disused railway site is being redeveloped into a mixed-use area including a 40,000 sq m multimodal logistics facility (Hotel Logistique - due to open this year), 33,000 sq m of offices, over 900 residential units and over 22,000 sq m of public space as part of the Chapelle International project. This represents a prime example of an urban mixed-use scheme integrating logistics space. The logistics terminal will be linked to the main rail network and will handle containers coming from the multimodal platforms of Douges, Pas-de-Calais and Bruyères-sur-Oise. The incoming cargo will be dispatched to its final destination by eco-friendly vans.

**PARIS - RAIL:** Monoprix uses rail to deliver products to ca. 100 local stores in Paris. Deliveries are dispatched by train from its distribution centre south of Paris to Bercy station, where they are sorted and put on energy-efficient vehicles for last-mile distribution.

**PARIS – WATER:** Supermarket, Franprix (of the same brand family as Monoprix), uses barges to deliver products to over 100 local stores across the city. Containers travel from its depot in Chennevières, outside Paris, to Bonneuil-sur-Marne on the river Seine, where they are shipped via barge to the urban Port of Bourdonnais near the Eiffel Tower. The final leg of the journey is covered by low-emission vehicles.

*Lorries and vans dominate last-mile distribution due to their ubiquity and speed.*

*However, planned bans and restrictions on vehicles in European city centres mean that road-based distribution may not be sustainable at current levels in the future.*

EXAMPLES OF MULTIMODAL FREIGHT TRANSPORT SOLUTIONS IN PARIS



SOURCE: COLLIERS INTERNATIONAL

**LONDON - RAIL:** GB Railfreight plans to start a train service from Doncaster to a site in north London from 2018 which would cater for same-day delivery services offered by e-commerce retailers (Amazon has a warehouse in Doncaster).

Doncaster-London	Time (hours)
Rail	1.40
Road	3.17
Cost of warehousing (£/sq ft/year)	
Doncaster	£5.50
London (Enfield)	£10

As the cost of technology diminishes (e.g. hybrid technology) and volumes increase (through mutualisation of urban freight, for example), the economic rationale for multimodal transportation will also become clearer, encouraging more companies to consider this form of transport for their last-mile distribution strategy.

These new distribution patterns have the potential to reshape the distribution footprint largely built around trucking. Rail could be used to deliver goods directly to urban consumers from less expensive regional distribution hubs, bypassing the need for outer-city distribution and cross-dock facilities. Generally, case studies suggest that shippers and retailers alike are increasingly open-minded about new transport solutions within the first and last mile.

*“Although combined transport is often more expensive than road-only transport, the long-term benefits of sustainable transport are what count”*

Daniele Jungling, Director of Operations at Nestlé Nespresso SA\*

\*Nespresso website



- The drivers underpinning multimodal transportation seem well engrained – “green” policies in particular.
- A more efficient network and growth in capacity and scale will make multimodal transportation economically more compelling to a broader range of industries.
- While multimodal infrastructure in logistics parks is mostly seen as being “nice to have” for now, it will represent a greater competitive advantage over road-only platforms in the future.
- Within cities, the public sector has a clear role to play in facilitating the modal shift, through a proactive planning policy and by bringing together the various stakeholders involved (cargo originators, freight forwarders, rail operators, landowners and the community), to build the next generation of clean and lean urban logistics, which form a part of effective, mixed-use places and communities. Bringing together what can be a divergent range of interests is a challenge, but recent examples of successful developments in Paris show there is a way forward.

## AUTHOR:

Bruno Berretta  
Associate Director | EMEA Research - Industrial &  
Logistics  
+44 2 073 446 938  
bruno.berretta@colliers.com



## BUSINESS CONTACT:

Tim Davies  
Head Industrial & Logistics Practice Group | EMEA  
+44 7 714 707 676  
tim.davies@colliers.com

## CONTRIBUTORS:

Damian Harrington  
Director, Head of Research | EMEA  
damian.harrington@colliers.com

Juliane Priesemeister  
Information Designer | EMEA Research  
juliane.priesemeister@colliers.com

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**€2.3**

billion in  
annual revenue

**170**

million square meter  
under management

**15,000**

professionals  
and staff

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