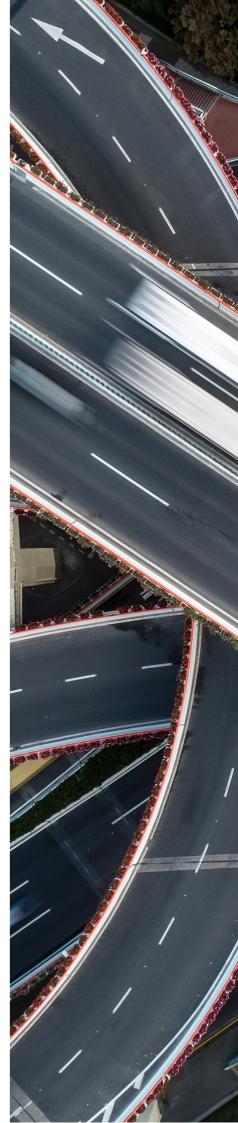




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WELCOME TO THE EUROPEAN ROAD FREIGHT 2022 YEAR IN REVIEW

This report examines major drivers of supply and demand within road freight logistics. Inside you'll find insights based on data from the sennder network and publicly available transportation and economic information.

Learning from the Past

Recent years have challenged us in unprecedented ways and 2022 was no exception. The European Road Freight 2022 Year in Review deep-dives into the macro events and trends that impacted the industry and will shape it in the year ahead.

We guide you through what is a story of two halves. In the first half of the year, business benefited from a post-pandemic bounce as consumer demand remained resilient. In the second half of the year, we saw the first large-scale impact of the headwinds that appeared earlier in the year.

Preparing for the Future

It's important to note that challenging times also present opportunities. Our goal is to provide you with an understanding of the recent occurrences in the road freight industry and where it is likely headed so that you can make decisions that create resilience in your business. Use these insights as tools to plan and improve the road ahead.

A YEAR OF

MARKET VOLATILITY

Russia's invasion of Ukraine in February led to international condemnation. The war drew sanctions that sent shockwaves of global volatility, including spiking energy costs. By summer, double digit inflation started to depress business confidence and investment. The spot market—a bellwether for road freight activity—declined, hitting price parity with the contract market in November. It continued its decline through the Christmas period, historically the spot market peak.

The fourth quarter of 2022 marked the end of unsustainable price appreciations in the road freight market. Emerging from the pandemic, trade quickly rebounded with swollen order books driving expansion among manufacturers. At the same time, carriers were in short supply across the continent. Looking forward to 2023, major institutions including the World Bank have forecast contraction or relatively flat growth for all countries in Europe.

chain disruptions, war, Looking forward to 2023, major institutions including the and the return of World Bank have forecast contraction or relatively flat growth inflation continue to dominate the news worked, and will continue to work sideby-side with shippers and carriers to Thomas Christenson, sennder **Chief Operating Officer sennder** MBT 841

Over the last few

most substantial and

unprecedented set of

shocks to logistics and

macro-economic

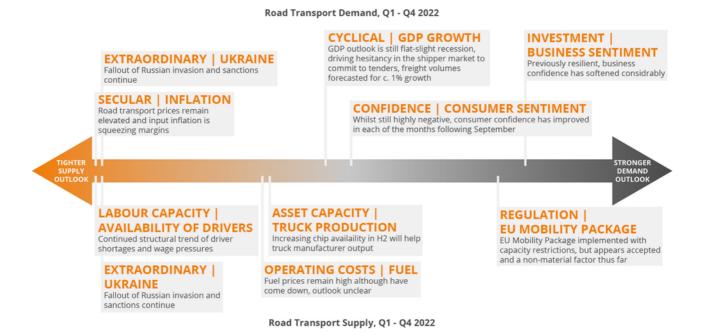
supply chains in

decades. Driver

fuel prices, supply

Market Performance

The road freight market rose roughly 14 percent across 2022. This was influenced by tight capacity and surging fuel costs in the first half of the year that lessened in the second half.

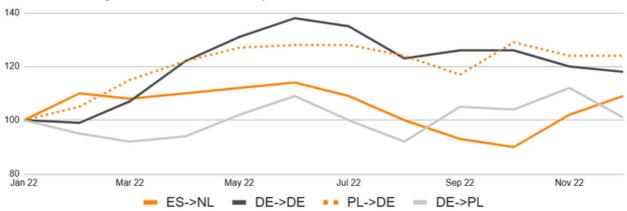




Country Corridor Performance

The sennder cost per kilometer index indicates the unweighted average development of our carrier cost base (incl. fuel and other surcharges) in the sennder network of more than 40,000 trucks across Europe. Specific country corridors are much more varied:





+9%

Spain → **Netherlands**

The Spanish outbound route grew less than market average in the second half of the year as Spain's key agricultural exports suffered from extreme temperatures and drought over the summer.

+18%

Germany → **Germany**

Domestic Germany continues to be one of the most capacity constrained corridors. Despite a <u>mild manufacturing contraction</u> in the first half of 2022, fuel prices and a driver shortage pushed rates up almost 40 percent.

+24%

 $\textbf{Poland} \rightarrow \textbf{Germany}$

+1%

Germany → **Poland**

Polish outbound routes maintained consistency despite relatively weak exports. Low water levels in the Rhine pushed more freight onto the road during summer 2022 while driver shortages reduced capacity in an already tight market.

The Spot Market

The spot market had an active first half of the year. Historically tight market conditions and spiking spot rates caused a decline in service quality and high contract rejection rates for many carriers. This self-reinforcing cycle meant that more shippers were forced to turn to the spot market, again stoking spot rates. As the market loosened in the second half of the year, spot opportunities declined and prices reached parity with contract rates in November.

2022 MACRO TRENDS

IMPACTING ROAD FREIGHT



Russian Invasion of Ukraine



Energy and Fuel Prices



Inflation, Interest Rates and Falling Economic Activity



COVID-19 and China



Truck Production and Semiconductor Availability



Driver Shortages



Green Logistics Demand



Russian Invasion of Ukraine

Russian troops entered Ukrainian territory on the 24th of February. In response, Western countries placed sanctions on Russian imports, including oil, coal, iron, steel, wood, cement, plastics and gold. The volatility that followed created inflationary stress across an already tight market.

Impact

- Fuel and energy prices spiked across Western Europe
- Driver shortages worsened as Ukrainians returned home. Poland was hit hard as <u>Ukrainian truck drivers</u> make up an estimated 100,000 of the driver base
- In April, the EU implemented a ban on Russian carriers in Europe that was mirrored by Russia in October
- Political pressure mounted for multinational corporations and large carriers to distance themselves from Russia

Russia's illegitimate invasion of Ukraine has shaken us as a society and continues to a brutal conflict with far reaching implications.

Among those, the war is again highlighting global interdependencies and exposing challenges in our supply chains, worsening labor restrictions and inflationary pressures."

Thomas Christenson, Chief Operating Officer sennder

Implications for Carriers

The combination of increased driver shortages, sanctions, and avoidance of Russian business by large carriers created huge profit opportunities for carriers willing to make the trip. Rates from Germany to Russia increased by more than three times from January to July.

Implications for Shippers

Shippers importing key commodity goods faced shortages and higher prices. For example, grain was up nearly 50 percent year-over-year. Ukraine is also responsible for outsourced key automotive parts—such as wire harnesses— a lack of which caused March and April production shortages for original equipment manufacturers (OEMs), including MAN Truck & Bus, Volkswagen, and BMW.

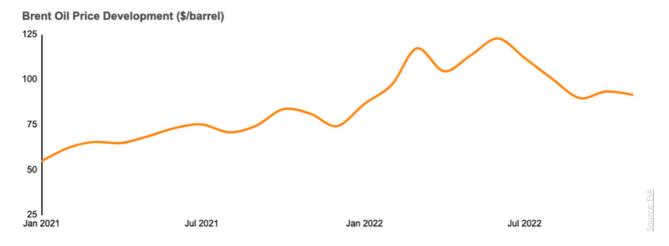


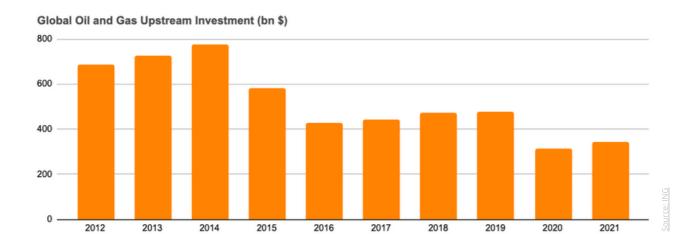
Energy and Fuel Prices

In 2021 Russian exports accounted for roughly 25 percent of European oil demand and 50 percent of gas demand. It's likely that energy prices would have increased even without the conflict. In addition to pandemic recovery, Environmental, Social, Governance (ESG) targets for major global oil companies resulted in new production disinvestment over the last decade and refining capacity is challenging to bring online quickly.

Refueling accounts for one third of total costs in trucking. It's significant. We counter this in several ways. We use our purchasing power for the trucks that drive on our platform by bundling diesel demand to achieve better conditions for our partners when refueling. We use diesel floaters. The price for the truckload also rises in line with diesel prices. In the case of longer-term contracts, we negotiate this over an average of nine to twelve months. The diesel prices are then a transitory item."

Thomas Christenson, Chief Operating Officer sennder





Impact

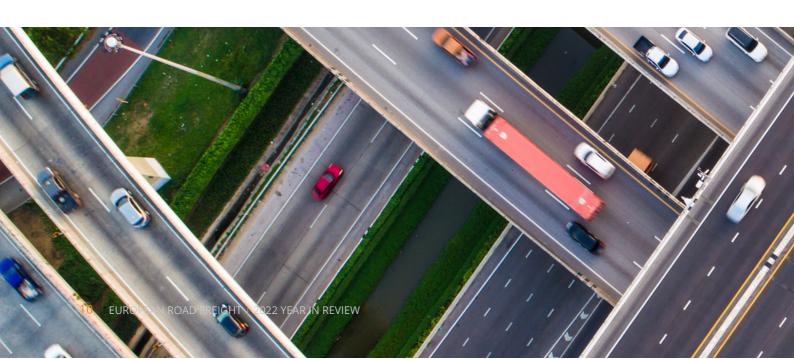
- Rapid price increases resulted from a perfect storm of global demand, supply shortages, and cutting ties with Russia
- Across Europe, manufacturers of the most energy-intensive products have had to make drastic changes
- Pressure in competitive markets drew demands for subsidized fuel prices

Implications for Carriers

Large, asset-based carriers operating contract business typically have fuel surcharge agreements in place or loose enough terms to permit frequent price negotiations and have benefitted from shipper willingness to pay high fuel increases. This, however, put smaller carriers in more competitive markets under pressure.

Implications for Shippers

High energy costs impacted manufacturing operations for industries like Food & Beverage (F&B) that are heavy secondary energy users. Countries, such as Germany, that import cheap commodities and energy from Russia and the East to convert to premium, high quality finished export goods were left with unsustainable business models.





Inflation, Interest Rates and Falling Economic Activity

The war in Ukraine led to high energy and commodity prices, strong consumer demand and supply chain bottlenecks causing Europe to enter its worst inflationary period since the creation of the Eurozone. Energy price inflation accounted for a third of overall inflation.

Impact

- The European Central Bank announced a series of interest rate hikes in order to contain inflation, which raise the cost of borrowing and servicing debt
- Rising inflation and higher interest rates placed pressure on disposable income
- Eurozone consumer confidence hit all-time lows in September 2022

Implications for Carriers

Eastern European carriers who work across Europe make up <u>approximately 17.5 percent</u> of German transports and are most heavily impacted by runaway inflation. Polish inflation stands at 18 percent and Latvian inflation is 22 percent. Increased interest costs make new trucks more expensive for carriers to purchase or lease vehicles on credit. Carriers will therefore be feeling additional pressure on labor costs, maintenance, and overhead to maintain current fleets.

Implications for Shippers

Businesses selling to consumers are finding it harder to grow and maintain volumes. And those not directly selling to consumers are curtailing investment across the board. Manufacturing capacity use in the Euro area decreased to 81.40 percent in the fourth quarter of 2022.

According to the <u>European Road</u> <u>Freight Rate Benchmark for Q2</u>, prices ended Q2 2022 at historic highs across Europe, following eight consecutive quarters of growth. The spot market is contributing to high prices — the same report states that the key Paris, France to Madrid, Spain corridor has seen a rate rise of 21.2% quarter-on-quarter — twice the average increase in European spot rate.





COVID-19 and China

Despite a global decline in cases, China had continued operating a zero-COVID approach. That changed when China announced in December 2022 that it would be drastically scaling back isolation, testing and movement controls. Although China had significant success in preventing cases with its policy, it has not effectively vaccinated the vulnerable in the population.

Impact

- A spike in cases with estimates of up to 25 percent of the population catching the disease
- While the U.S continues to implement the entrance requirements of a negative COVID-19 test, EU countries have recently announced plans to repeal temporary COVID testing for travellers from China
- How China emerges from COVID will contribute to European production

Implications for Carriers

Following the elimination in testing regulations and movement restrictions, carriers are now able to operate freely.

One forwarder in China said more than 50 percent of their colleagues are off sick, our their workers were infected (...). I called some factories and they

> Alice Tang, **China-Europe land transport planner at ITS Cargo**

Implications for Shippers

For the logistics sector, the decline in COVID-19 numbers in the first half of the year led to a surge in pent-up demand from consumers. That one-off surge is now largely over. However, industries supporting aviation and tourist activities continue to experience high demand. Many large manufacturers in exporting markets. such as German automotive producers have placed growth bets on China that now look under guestion. Others, particularly in the technology sector that source key goods from China, have struggled to obtain materials



Truck Production and Semiconductor Availability

One of the key themes of 2021 was a global semiconductor shortage limiting truck production. Anticipating a cliff edge from COVID-19, OEMs scaled back their chip orders. When it was clear there was sustained demand, OEMs then found themselves unable to increase orders in a very crowded market.

Impact

- This issue was partially resolved in 2022, although some shortages remain as chipmakers focus investment in future-proofing themselves in the highest tech chips.
- Roland Berger estimates 62 percent of the chips used by automotive OEMs still face some supply challenges.

Implications for Carriers

Increased truck availability allows carriers to modernize their fleet, improving fuel efficiency and decreasing maintenance spend.

Implications for Shippers

For shippers, increased trucking availability naturally will lead to greater capacity. Assuming capacity continues to increase along with the downturn however, the extent of the impact is likely to continue to be a sustained downward pressure on (non-fuel related) prices.







Driver Shortages

Driver shortages continue to cause a structural impact on the market. Two primary reasons are an aging driver population and a failure to meaningfully attract new drivers. Driving continues to be seen as an unattractive profession.

Impact

- Being a trucker requires long periods of time away from home, family, and friends
- Break times are limited and drivers do not work regular shifts
- Drivers often struggle with accessing good rest, bathrooms, and cleansing facilities
- Women make up just 2.8 percent of the profession in Europe and may not feel safe sleeping alone in their truck
- Women may face sexism in the traditionally male-dominated industry
- Pay levels are still much too low compared to lower skilled jobs with higher quality of life nearer to home

Implications for Carriers

Carriers who generally operate on tight margins are being forced to pay higher salaries in order to attract and retain talent. Shortages tend to be largest in Eastern European countries where inflation rates are particularly punishing. A lack of drivers also prevents carriers from expanding, further contributing to capacity shortfalls.

Implications for Shippers

Shippers have been feeling the effects of this shortage through increased freight prices, and more carrier cancellations and delays. Capacity pressures fell to COVID-19 levels as the market cooled in the second half of the year, despite driver shortages. As a result, the market contract rejection rate fell dramatically.

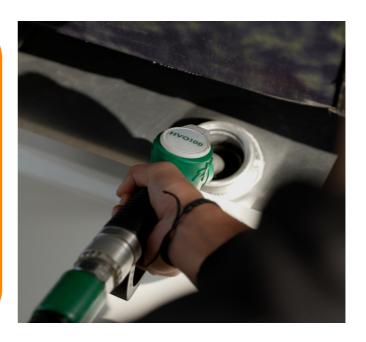


Green Logistics Demand

The electrification of transportation and the increased importance shippers place on freight visibility make the introduction of green fuels more than a trend. As part of the Green New Deal in 2021, the European Union (EU) committed to a 55 percent emission reduction of greenhouse gasses by 2030 and zero net car emissions by 2050. Although diesel trucks will still be allowed beyond 2030, there will be an encouragement of electric trucks for short distance journeys (<300km) and hydrogen trucks for longer distances. An emissions trading system for transport will be phased in between 2026-2028. PwC estimates by 2030, one-third of all trucks in Europe will be electric vehicles.

We are well positioned to support our carriers in especially by helping them connect with our shipper network, which has a carbon transport."

> **Graham Major-Ex, Director of Green Business & eMobility**



Impact

- The EU agreed to rules giving zero-emission vehicles discounts on at least 50 percent of road tolls by early 2024, which presently cost carriers around €25,000 per truck per year
- The green transition is not a passing fad but one that will continue to increase in relevance as shippers place emphasis on tracking and reducing their carbon footprint
- Smaller carriers will face challenges in transitioning to and financing higher cost electric trucks

Implications for Carriers

In the short term, use of alternative fuels such as HVO is an easy way to reduce emissions without capital investment. These fuels allow carriers to differentiate themselves (potentially increasing margins) and be eligible for more tenders with forward thinking shippers. Beyond HVO, electric trucks will inevitably be the future of road freight logistics.

Implications for Shippers

For shippers, green is not new but continues to rise in importance. While other sustainability initiatives may require significant upfront investment, such as newer machinery or product reformulation, road freight is low hanging fruit. Carbon tracking solutions to help shippers understand the exact impact of their operations.





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