Transport and Logistics Barometer

2020 mid-year analysis **of M&A deals, joint ventures and strategic alliances in the transport and logistics industry**

Agenda

1 Highlights

Highlights

COVID-19

has put many transport and logistics (T&L) companies into crisis mode. Despite being an industry with low margins, logistics has proven its systemic importance in keeping the world's supply chains running. The crisis has revealed the vulnerability of global logistics networks. As a result, certain supply chains may be redesigned at regional levels, but globalisation as such is not being brought into question.

92

deals were announced in H1 2020, 25% down on the previous half year. COVID-19 is slowing growth and development in the T&L industry, which is strongly reflected in the decrease in M&A deals and strategic alliances (-29% down on H2 2019).

-8.6%

is the forecast decrease in gross value added (GVA) in the European freight transport and logistics industry (U-shaped recovery) in 2020. The sector is highly dependent on trade and other industries, which will recover at different rates. High fragmentation of the sector has led to further consolidation.

Digitalisation

and innovation have the potential to help pull the T&L industry out of the crisis, even though there is still a lot of potential for optimisation among logistics companies. In the first half of 2020, efforts to establish logistics platforms have continued and discussions about digitalisation in general have been accelerated.

Airlines

have been most severely affected and will need much longer to recover than other subsectors. Recovery to pre-crisis levels cannot be expected before 2023 (L-shaped recovery). This is also resulting in a low willingness to invest, as can already be seen in M&A and strategic alliances.

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out of 8 megadeals are related to transport infrastructure. Bottleneck assets such as ports or intermodal terminals will be even more attractive in future due to their relatively stable returns and lessons-learned from the current crisis.

2 Key issues for the industry

The first half year has presented a major crisis for T&L

The rapid spread of COVID-19 has had a significant impact on private life, businesses and the global economy. Measures to combat the virus have not only paralysed organisations and the supply side; they have also led to a collapse in demand. This has created an unprecedented situation that has confronted politicians, researchers and economic players with major challenges.

The crisis is having different effects on different industries. The T&L industry is strongly impacted, much more than most. However, we need to differentiate between passenger transport and freight transport, and further distinction is needed at this level as the impacts also vary between subsectors.

Passenger transport

Some countries have been hit particularly hard by the pandemic, resulting in the imposition of quarantine and extended contact and travel restrictions. This has led to a total collapse in demand for passenger transport services, with severe impacts on the revenues and operations of airlines, airports, rail and bus companies. While rail and public transport companies have maintained their operations despite very low utilisation, passenger airlines almost completely suspended flight operations for several weeks; only now are flights gradually being reinstated. IATA has repeatedly revised its forecasts downwards and many airlines are now dependent on state aid.

Freight transport and logistics

The picture in freight transport and logistics is rather more mixed. Border closures and factory shutdowns in some manufacturing industries have disrupted supply chains, while freight forwarders, carriers and contract logistics providers have been put at risk by defaulting clients and operational obstacles.

Looking at transport modes, maritime shipping has been severely impacted by short-term reductions in business volume. On many important routes, capacity cuts have been made in the form of additional blank sailings, or routes have been withdrawn completely. By the beginning of May, road freight revenues had fallen by 40% and new contracts by 60-90% compared to last year, according to IRU. There has also been an increase of empty running, as transport of certain goods (e.g. automotive parts, clothing, construction materials) has fallen significantly. In air freight, shrinking volumes have coincided with sharp increases in freight rates, as the reduction in passenger flights has resulted in a shortage of belly freight capacity. Rail freight transport has been less affected by border closures and has thus made a major contribution to maintaining supply, although it has also seen a drop in turnover and reduced capacity.

COVID-19 has also had effects on infrastructure targets. While backlog situations have arisen in ports, toll road operators have suffered revenue losses due to reduced freight and passenger traffic. Airports have been severely affected by limited passenger transport and have seen almost no traffic at all. As a result, there have been double-digit falls in valuations for infrastructure targets.

Global economy hit hard with serious implications for T&L

The macroeconomic view reflects the current impact of the crisis on the global economy. Although trade tensions and weakening economic growth had already led to a 0.1% decline in global trade in 2019 according to the WTO, indices such as the WTO goods barometer released on 20 May now point to a massive slump in world trade caused by COVID-19, the effects of which will continue to be felt until at least the end of 2020. The WTO goods barometer currently stands at 87.6, less than the 95.5 recorded in February and significantly below the base value of 100.

The steep declines in export orders, container shipping and airfreight in particular reflect supply shortages and reduced demand for commercial goods. The RWI/ISL Container Throughput Index dropped to 107.7 points in May according to the latest flash estimate, which is 7.3% below the value for May 2019. While in Chinese ports throughput increased slightly in May, there was a significant decrease in other – especially European – ports.

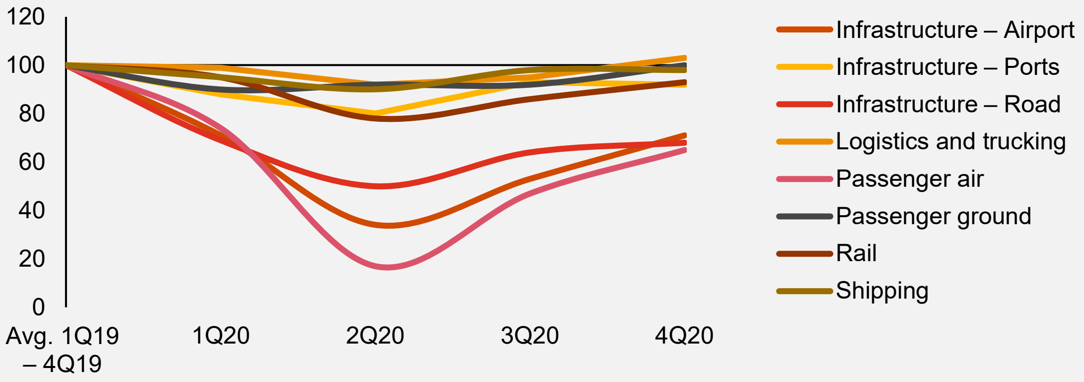
Survival comes first

T&L companies are in crisis mode, as some of them were struggling even before the COVID-19 outbreak. T&L is a downstream industry, which means that as soon as other industries face uncertainty, this affects T&L. Many logistics operators are fighting for survival due to the sharp drop in demand and revenues, and they are mainly doing so by concentrating on stabilisation, liquidity and operations. Our analysis of actual and expected quarterly revenue development of more than 200 listed T&L companies in 2020 shows that passenger-related subsectors have been much more severely affected by the crisis than freight-related operations.

Looking at the development of CDS (credit default swap) spreads, investors have recognised higher risks of default in the T&L industry since the pandemic started to spread globally. Compared to the average level of 2019, 5-year CDS spreads rose sharply in March. The passenger air and road infrastructure segments in particular faced a high level of uncertainty at first. While this soon levelled off in road infrastructure, uncertainty among airlines continued to rise until mid-May before the CDS spread situation improved slightly in June.

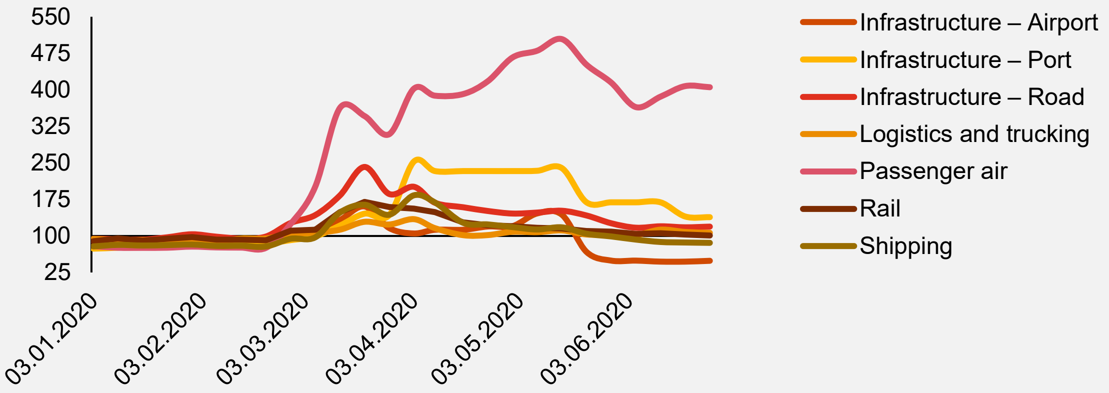
Source: PwC analysis based on S&P Global Capital IQ, WTO, RWI/ISL

Quarterly revenues incl. analyst estimates (2019 average = 100)



Source: PwC Analysis based on S&P Global Capital IQ

Median 5-year CDS spread (2019 average = 100)



Source: PwC Analysis based on S&P Global Capital IQ

Deal activity and strategic alliances slumped

Uncertainty in the industry, together with management having to focus on crisis response and getting businesses moving again, have left little room for strategic steps. This is also reflected in M&A activity, which plummeted in the first half of the year. The number of deals declined slightly in the first quarter, but the slump in the second quarter was much more pronounced and exhibited growing regional differences. Only 92 deals worth at least $50 million were announced in the first half of 2020, compared to an 5-year average of 125 deals per half year. Similarly, total deal value ($29.9 billion) and average deal value ($324.7 million) have dropped by 57% and 43% respectively compared to the 5-year average.

None of the deals in H1 2020 had such a high value as the outstanding Blackstone deal last year but there are indications that infrastructure remains attractive: half of the eight megadeals in H1 2020 involved infrastructure targets.

The biggest deal in the first half of 2020 involved port infrastructure: Port & Free Zone World agreed to acquire the remaining stake in DP World Ltd, one of the largest port operators globally, for $2.72 billion. More information and data on infrastructure can be found in the deep dive on pages 17-19 and in the appendix from page 24.

In logistics and trucking, we are seeing a mixed picture related to the impact of COVID-19. Online trade and digitalisation continue to play a vital role. Contributing 52% of the total number of deals, this sector is again the most active in mergers and acquisitions. Considering that this subsector is the most fragmented one, further consolidation seems to be an obvious development. For more information, see the deep dive on pages 14–16 and the appendix from page 24.

Aviation, especially passenger transport, has been most severely affected. Revenues have fallen sharply due to the imposition of quarantine and travel restrictions. Air cargo is having to cope with a reduction of belly freight capacity. Please read the deep dive on pages 10–13 and the appendix from page 24 for further information.

	2015	**2016**			**2017**			**2018**			**2019**	**2020**
	Total	**Total**	1H17	2H17	**Total**	1H18	2H18	**Total**	1H19	2H19	**Total**	**1H20**
Number of deals	239.0	237.0	146.0	137.0	283.0	127.0	100.0	227.0	138.0	123.0	261.0	**92.0**
Total deal value ($bn)	183.8	119.9	62.9	71.3	134.2	74.6	41.6	116.2	68.4	76.7	145.1	**29.9**
Average transaction value ($m)	769.2	506.1	430.7	520.4	474.1	587.1	416.5	511.9	495.5	623.5	556.0	**324.7**

Source: PwC analysis based on Refinitiv

M&A in T&L correlates with GDP, strategic alliances don't

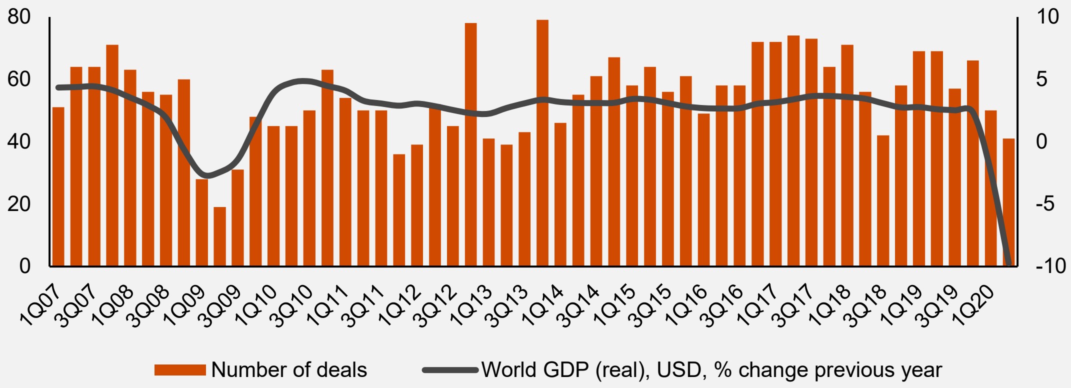
Global GDP has been falling dramatically since the beginning of the year. In the fourth quarter of 2019, the real GDP growth rate was 2.4%; it decreased to – 2.4% in the first quarter of 2020 and has fallen further to an estimated –9.7% year-on-year in Q2 2020 (IHS). This development reflects the increasingly bleak economic outlook, the like of which has not been seen since the financial crisis in 2008/09 (see charts).

Taking a longer-term view, it can be observed that the development of M&A in the T&L industry (in terms of number of deals) has basically remained in line with GDP over the last decade. Hence, parallels can be drawn between the financial crisis in 2008/09 and the current COVID-19 crisis with regard to M&A activities and the drop in T&L deals announced. However, there is a major difference: the return to pre-crisis levels is expected to take much longer this time.

Strategic alliances in the T&L industry paint a very different picture: these alliances correlate less strongly with global GDP. However, our long-term analysis shows that strategic alliances seem to have become less frequent in the industry since 2011 and almost completely disappeared in the second quarter of 2020. This is due to the COVID-19 impact, which is forcing companies into survival mode.

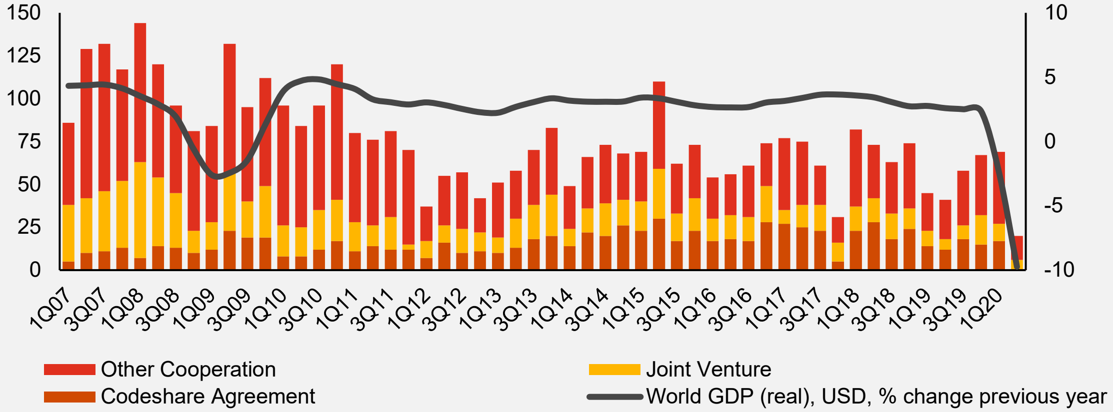
Industry players are signalling their willingness to strike deals, but many investors are waiting until the situation starts to ease up in the next few months. This is due both to the unpredictable development of events and the fact that investments are always connected with integration efforts. Among the deals announced, however, financial investors are becoming increasingly involved, focusing primarily on targets in logistics and trucking.

T&L deals by quarter (no. of deals and change in real global GDP)



Source: PwC analysis based on Refinitiv, IHS

T&L strategic alliances quarterly (# announcements and change in real global GDP)



Source: PwC analysis based on S&P Global Capital IQ, IHS

Deep dive: First in, last out – the long way to a new normal in air transport

Over the last few months, COVID-19 has become the most significant challenge in the history of air transport. Starting as a regional epidemic in China, the virus soon spread around the globe. Travel bans caused passenger air traffic to come to a halt, which also had a negative impact on airports.

According to IATA, flight numbers worldwide were down by 80% in April. In May, Europe's largest airline group, Lufthansa, reduced flight capacity by 95%. The global airline industry is ultimately forecast to face a decline of almost 55% in revenue passenger kilometres (RPK) in 2020 compared to 2019.

In the cargo segment, the situation looks slightly better. Due to increased demand for air-freighted medical supplies, cargo tonne kilometres (CTK) are predicted to decline by 'only' 17% this year. However, air cargo volumes have been decreasing since November 2018 due to trade tensions, and are now being exacerbated by COVID-19. The absence of passenger aircraft is resulting in a lack of belly freight capacity, creating a tight market and rising freight rates. Some freight has gone over to other means of transport, such as trucks.

As a result, airlines are having to cope with a high burn rate due to their cost structure. With no revenues coming in due to lack of ticket sales, but substantial cash outflows due to refunds, industry-wide free cash flow (FCF) in Q1 2020 was at almost –14% of revenues according to IATA. Airlines are at a high risk of running out of cash before the recovery starts, as the typical carrier at the start of 2019 had only two months of liquidity.

Source: IATA, ICAO, LHIH, PwC analysis

Economic recovery after COVID-19

Travel restrictions are now being relaxed, which raises the question of how air traffic is going to resume, and how quickly. We have established and analysed three possible scenarios for the industry, with different impacts on passenger revenue expectations for 2020.

- **V-shaped recovery (mild):** growth reduction limited to one year; investment/consumption postponed rather than cancelled
- **U-shaped recovery (severe):** growth reduction for at least two years; investment/consumption postponed and restricted
- **L-shaped recovery (drastic):** no foreseeable return to pre-COVID output level; investment/consumption substantially restricted

Source: ICAO, PwC Scenario Analysis 06/2020

The severe impact of the L-shaped recovery makes it the most likely scenario for air transport. While passenger travel for leisure will probably recover reasonably quickly, business travel is expected to experience a long-term reduction in demand of 10–20%. This is being driven by the global recession, a slowdown of globalisation, and increased digital communication in business. The shift in debate towards combatting climate change is also playing a key role.

Rebound in air passenger traffic likely to lag 2–3 years behind GDP recovery

Governments have provided unprecedented support to the economy in form of wage subsidies, grants, and loans which should enable a strong GDP rebound in 2021. Central banks have also made massive cash injections into economies – the US Federal Reserve, for example, has added cash equivalents of 12% of US GDP. Business confidence has already rebounded in China with the relaxing of lockdowns.

However, solving health challenges is seen as a critical prerequisite for the recovery of international travel. Until a vaccine has been developed, IATA expects that a significant fall in COVID-19 risk will be necessary for borders to reopen. In China, for example, domestic air travel is lagging significantly behind the increase in business confidence. IATA also expects that average trip lengths will fall sharply, as domestic markets will open first and customers' initial preference will be for short-haul trips. Within the EU, most borders have now been reopened.

In light of these circumstances, global air travel may recover much more slowly than most of the economy, perhaps taking until 2023/24 to return to pre-crisis passenger levels, whereas global GDP is expected to recover in 2021.

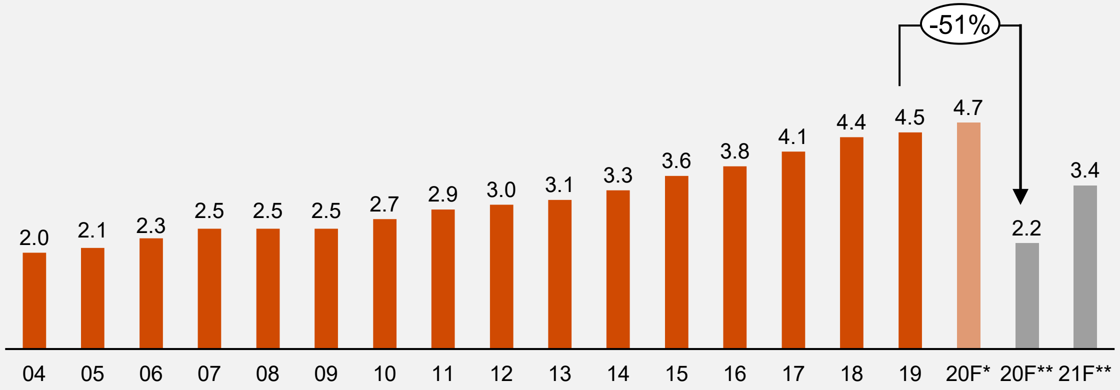
The International Civil Aviation Organization (ICAO) has developed several scenarios for global passenger traffic, depending on the duration and magnitude of the outbreak and containment measures, the degree of consumer confidence in air travel, and economic conditions.

ICAO estimates that a reasonable impact of COVID-19 on world passenger traffic for 2020 (in a "medium" scenario; compared to 2019 planning) would be a reduction of seat capacity (ASK) over half, or up to 2.7 billion passengers, and a loss of $357 billion in world passenger revenues.

According to IATA, passenger traffic is forecast to drop by -51% in 2020 (upper right). Compared to GDP, RPK and CTK are expected to decline much more sharply in 2020, and then slowly start to recover in 2021 (lower right).

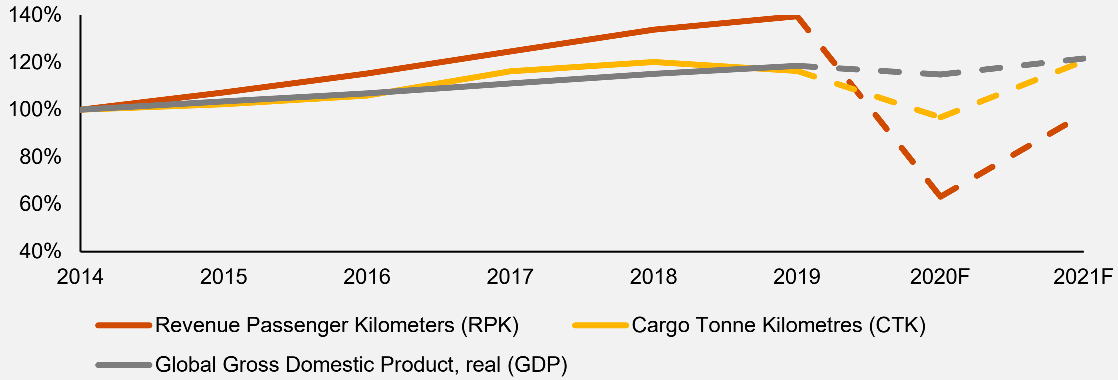
Source: IATA, ICAO, IMF, World Bank, PwC analysis

Development of passenger traffic (billion passengers)



Source: IATA 06/2020, *forecast without COVID-19, **forecast with COVID-19

Development of global GDP and RPK/CTK (2014 = 100%)



Source: IATA, World Bank, IMF

Further challenges for airlines in the coming years

On top of the financial burden of stimulating travel demand by discounting ticket prices in the short term, airlines will have to face additional challenges in the years to come.

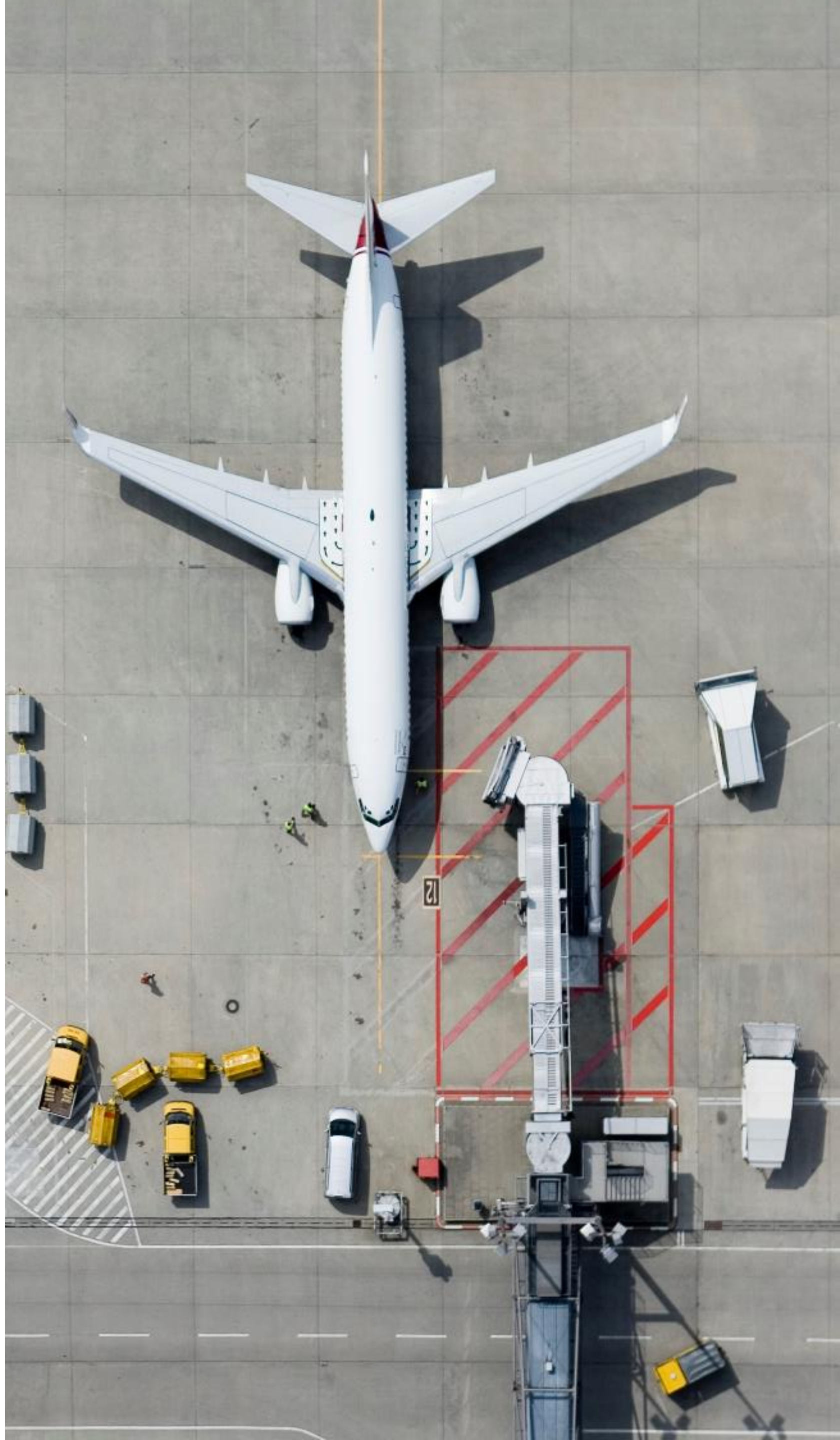
- **Compliance with CO2 emissions regulations**
  Many of the financial bailouts by European governments come with conditions, in the form of tighter environmental regulations. Air France KLM, for instance, have agreed to use alternative fuels and cut their domestic routes. Fleet renewal programmes will also place stress on legacy carriers' investment plans.
- **Competition between full-service and low-cost carriers**
  While reducing ticket prices can help to utilise capacity in the short term, airlines will have to make up for their deficits with higher ticket prices in the medium to long term. At the same time, low-cost carriers (LCC) will once more be posing a growing challenge to full-service airlines, especially as domestic routes open up again.
- **Reorientation of business models**
  In anticipation of a declining share of business travel in the future, some airlines have already begun to focus more on the leisure travel segment. Beyond this, it may be wise for carriers to move further away from being single-mode operators towards serving as a partner at all touchpoints of the passenger journey. This would include revision and long-term reorientation of the business model to cover all relevant customer touchpoints.

Financial implications

However, the cloud of COVID-19 may still have a few silver linings. These include the current low fuel costs, although this effect may be temporary as oil prices have begun to rise again. Labour cost reductions, however, are likely to be more permanent as nearly all of the largest airlines have announced that they intend to furlough employees. This, in turn, will lead to a surplus of specialised airline workers in the foreseeable future.

Acquisition costs are also set to decline: the demand for large commercial aircraft has been falling, driven by airlines deferring and cancelling orders. Lessors are feeling the sudden shock of falling cash flow, exacerbated by airlines going bankrupt and deferring or defaulting on lease payments.

Airlines are taking aircraft out of operation in anticipation of them not returning to service in the foreseeable future, and are deferring or cancelling orders for new aircraft. Travel industry data and analytics firm Cirium estimate that more than 8,500 passenger aircraft have been decommissioned so far – around a third of the entire global commercial aircraft fleet.



Economic downturn is reducing willingness to invest

In light of the current situation and outlook, the willingness to invest in aviation is low. This is also mirrored in the latest M&A data: of the 92 deals announced in the T&L industry in the first half of 2020, only five involve airlines and four involve airports. But one of those transactions constitutes a major deal in the air transport sector: US financial investor Altavair announced that it would acquire a portfolio of 38 commercial aircraft from Etihad Airways. For Etihad, this transaction marks a further step in its restructuring towards a more efficient, technologically advanced fleet and creates liquidity to help the airline focus on its key business.

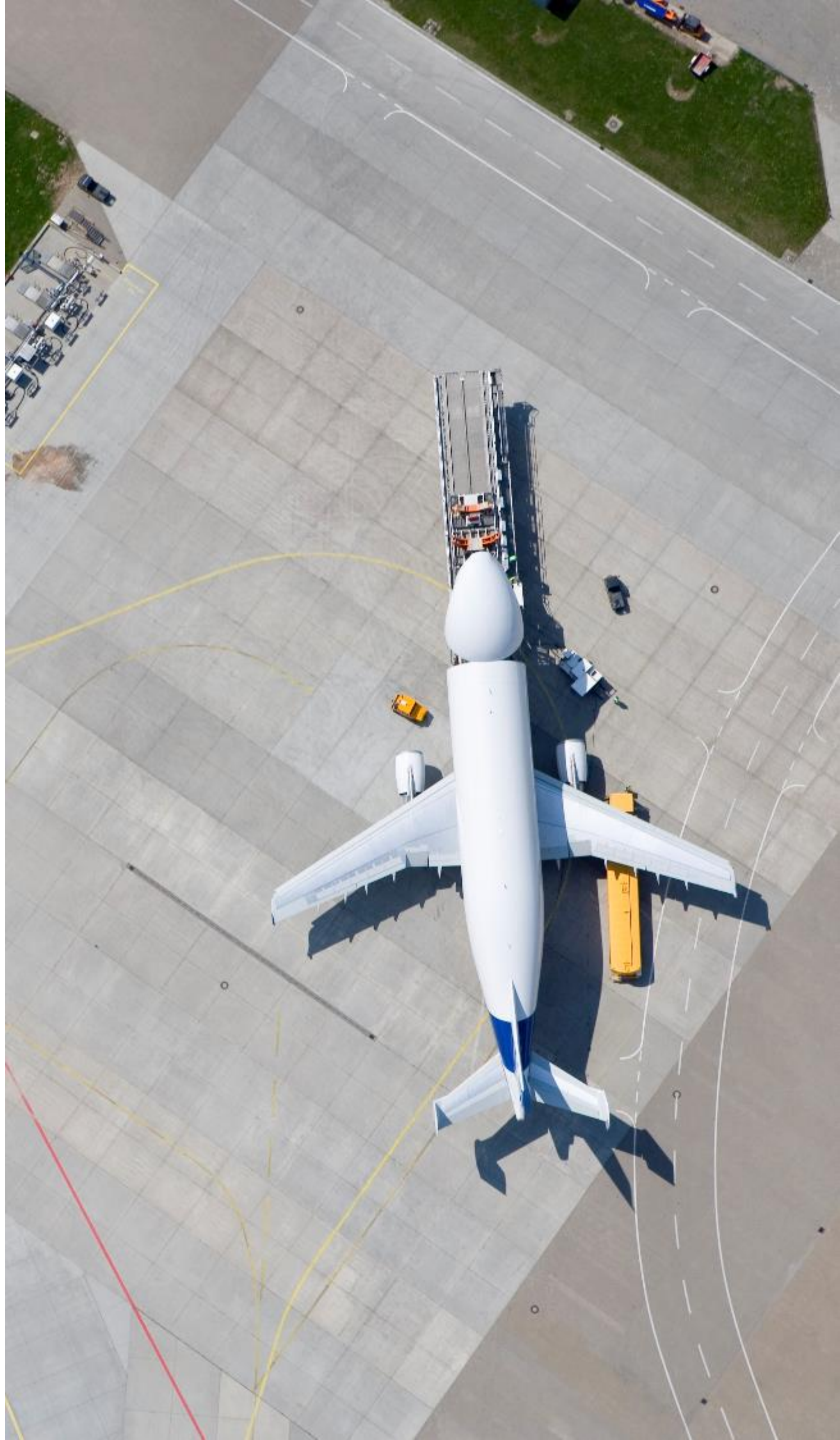
Reflecting recent government bailouts, the German Economic Stabilization Fund (WSF) will also acquire a 20% stake in Lufthansa Group ($0.27bn) as part of a state aid programme totalling $9.9 billion. This programme includes mezzanine capital and guaranteed loans.

New strategic alliances were mainly limited to codeshare agreements, which had gained importance in recent years but declined dramatically in Q2 2020. Of all strategic alliances so far announced in 2020, nearly 50% involved at least one airline. Besides codeshare agreements, some joint ventures were also announced in Q1 2020, such as between Delta and LATAM or Wizz Air and ADDH, establishing Wizz Air Abu.

M&A Deals in H1 2020

Announce-ment	Target	Target nation	Buyer	Buyer nation	Deal status	Deal value ($bn)
Feb-20	Etihad Airways (portfolio of 38 aircraft)	UAE	Altavair LP	US	Pending	1.00
May-20	Deutsche Lufthansa AG (20% stake)	DE	Economic Stabilization Fund	DE	Pending	0.27
Jun-20	Cathay Pacific Airways Ltd	HK	Aviation 2020 Ltd	HK	Pending	0.25
Jun-20	Asiana Airlines Inc.	KR	Investor Group including state-backed Korean banks	KR	Completed	0.25
Feb-20	Korean Air Lines Co Ltd	KR	Investor Group of state-backed Korean banks	KR	Completed	0.25

Source: Refinitiv, S&P Global Capital IQ, PwC analysis



Deep dive: Logistics and trucking – mixed picture within the sector

The outbreak of the pandemic led to many production plants being closed and restrictions being placed on private life. This caused the virtual collapse of consumer markets in many strongly consumer-oriented Western countries, creating considerable financial distress for logistics companies.

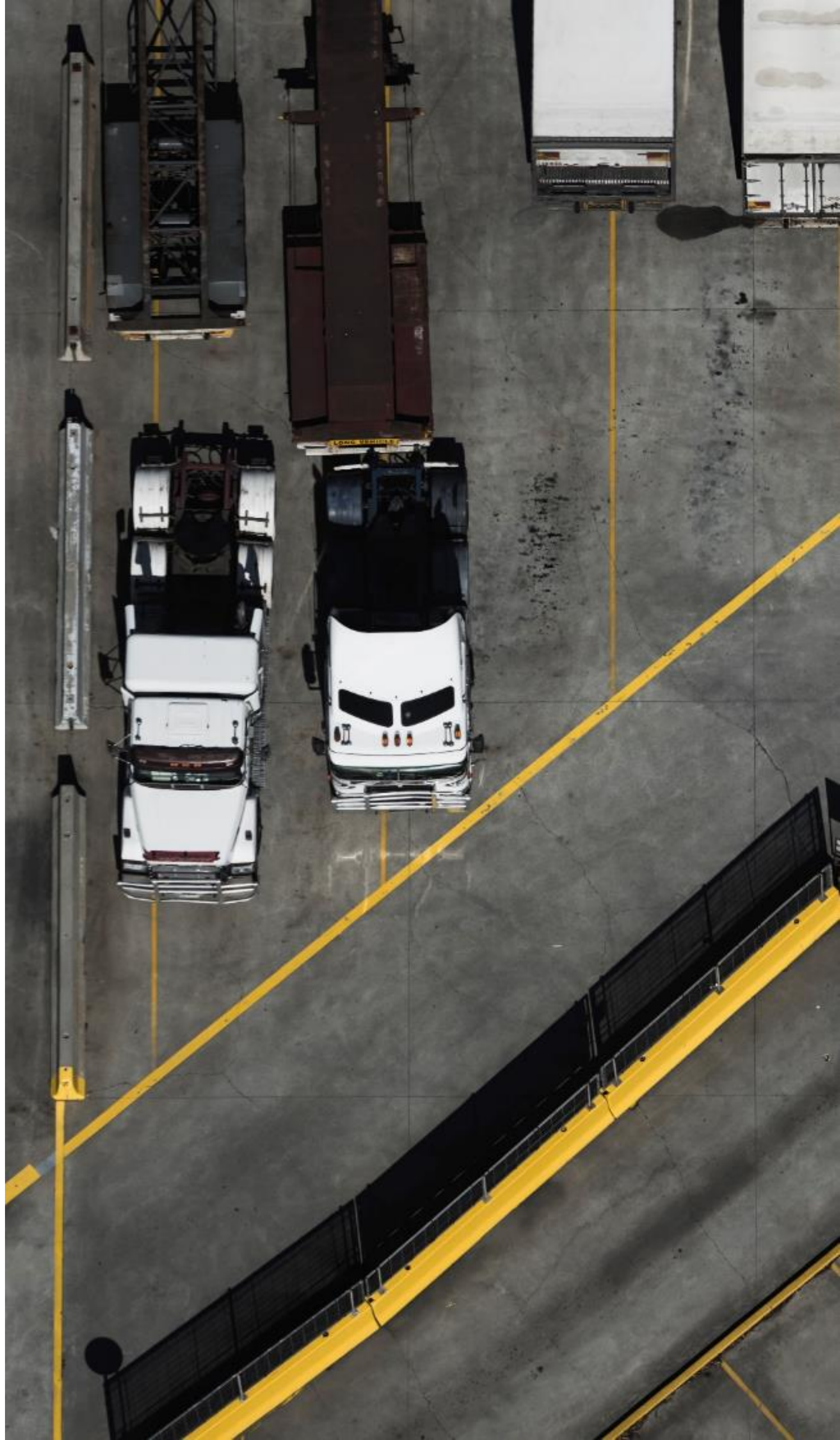
Logistics is highly dependent on trade in other industries. The condition of individual logistics companies varies above all according to the subsectors and the industry verticals in which they operate. The automotive industry, for example, has been hit hard by the crisis, while the food industry has barely been affected by the crisis. The courier, express and parcels (CEP) business recorded a strong increase in parcel numbers in the B2C segment, while knock-on effects in road transport led to reduced demand and a loss of revenue. Overall, this has resulted in a mixed picture within the logistics industry. However, the systemic importance has become clear during the crisis

Despite severe impacts on the industry, logistics chains have kept going (albeit more slowly), customs procedures continue to function and the supply of essential goods has been maintained. Nevertheless, logistics companies focusing on transport between production plants suffered from the shutdown of industrial production.

Looking at the development of M&A activity, logistics and trucking is once again the subsector with the highest number of deals announced in the first half of 2020 and has recorded a smaller slump compared to other subsectors. The biggest deal related to logistics and trucking involved global logistics and sourcing company Li & Fung Ltd, which was taken private by financial investor Golden Lincoln Holdings. Li & Fung supplies retailers worldwide and had taken measures to reposition and enhance its competitive advantage. With its goal to create the supply chain of the future, Li & Fung is also helping retailers to cope with an increasingly uncertain environment caused by COVID-19 and the digital disruption of retail.

Top 5 M&A Deals in H1 2020

Announce-ment	Target	Target nation	Buyer	Buyer nation	Deal status	Deal value ($bn)
Mar-20	Li & Fung Ltd	HK	Golden Lincoln Holdings I Ltd	HK	Completed	1.38
Mar-20	Innovel Solutions Inc	US	Costco Wholesale Corp	US	Completed	1.00
Feb-20	Pure Industrial-Portfolio of 26 distribution & logistics properties	US	WPT Industrial Real Estate Investment Trust	CA	Completed	0.73
May-20	JD.com Inc-Certain Logistics Assets	CN	JD Logistics Properties Core Fund II LP	CN	Pending	0.65
Feb-20	Performance Team Llc	US	AP Moller-Maersk A/S	DK	Completed	0.55



Demand for warehousing increasing

Online trade is currently growing even stronger in some segments due to contact restrictions and working from home. Other retail segments have suffered from temporary store closures and consumer uncertainty. As a result, online trade and further digitalisation of supply chains are still seen as key drivers for both strategic alliances and mergers and acquisitions in the long term.

The German conglomerate Otto is likely to respond to Amazon by selling Hermes to FedEx: while Amazon is building up its own delivery service from scratch, Otto is getting help to improve its existing service and become more profitable. Further movement in the industry can also be observed, as traditional logistics providers are now trying to gain a foothold in the retail supply chain to compete with e-commerce giants such as Amazon or Alibaba in terms of fulfilment and inventory management. This is evident in the transaction by Maersk, for example, which acquired a US warehousing and distribution company, adding 24 warehouses to its portfolio and expanding its e-commerce and supply chain operations.

Alongside this acquisition, the growing significance of warehousing assets is becoming clear from the increasing share of these deals (44%) in the total number of logistics and trucking deals. This is due to consumer expectations of ever-faster and more convenient delivery triggering a restructuring of logistics and warehousing networks. The megadeal between Costco Wholesale Corp and last-mile provider Innovel Solutions also reflects this development, which will enable Costco to more rapidly expand its reach and its online sales of big, bulky products.

This acquisition comes as other major retailers strengthen their logistics, distribution and delivery capabilities to respond to increased demand for certain product categories and to move towards an omnichannel strategy.

The COVID-19 crisis has raised questions about established global logistics networks and has stimulated discussions about nearshoring and insourcing. There are incentives to relocate production, resulting in changing demand for logistics real estate, from transhipment facilities to warehouses. As industrial production gradually restarts, the demand for storage space is increasing; this is due to customer demand remaining low despite growing output. Warehouse acquisitions are therefore becoming attractive propositions.

Sustainability is not a priority

Sustainability topics have widely taken a back seat during the crisis, but are still being addressed to a certain extent. An example of this is the new partnership between Copenhagen Airports, Maersk, DSV Panalpina, DFDS, SAS and Ørsted. Aiming to develop a hydrogen and power-to-fuel production facility, the initiative could provide more than 250,000 tonnes of sustainable fuel for various vehicles and reduce carbon emissions by 850,000 tonnes per year. The project is not only an opportunity to help accelerate the green transformation, but also to provide an economic stimulus after the crisis.

Logistics platforms are becoming key

Small and medium-sized logistics companies are only doing moderately well in terms of digitalisation, and still have great potential for optimisation. In the first half of 2020, efforts continued to establish logistics platforms. These are intended to connect various players and ensure more efficient delivery and logistics processes.

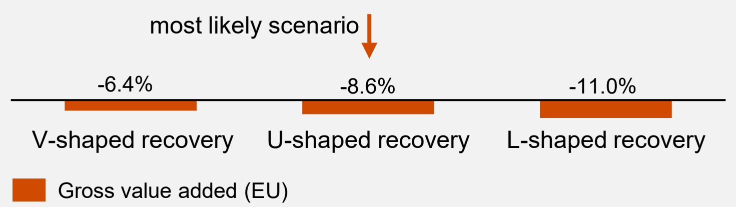
One example is Sennder and Everoad – two of the leading European digital road freight platforms – joining forces with the aim of becoming one of Europe's major road freight players in the years to come. This agreement will see Everoad continuing to operate in France and Sennder entering one of the most important European markets. Both combine the vision that innovation and technology are essential for value creation in the fragmented road freight market, which is faced with underutilisation and inefficiency issues. Another example is port operator DP World, which has announced its intention to join Maersk's platform TradeLens to accelerate the digitalisation of global supply chains. DP World expects that this will result in better transparency of container flows across the whole ecosystem, increasing operational efficiency and reducing cost.

Both transactions point to an increase in the relevance and success of logistics platforms and ecosystems. Others are striving for digitalisation of the entire supply chain, which can be seen in the biggest strategic alliance in this half year as measured by the annual revenues of the companies involved. FedEx and Microsoft announced a technology partnership to provide near real-time shipment tracking and enable more precise supply chain and logistics management.

Economic recovery after COVID-19

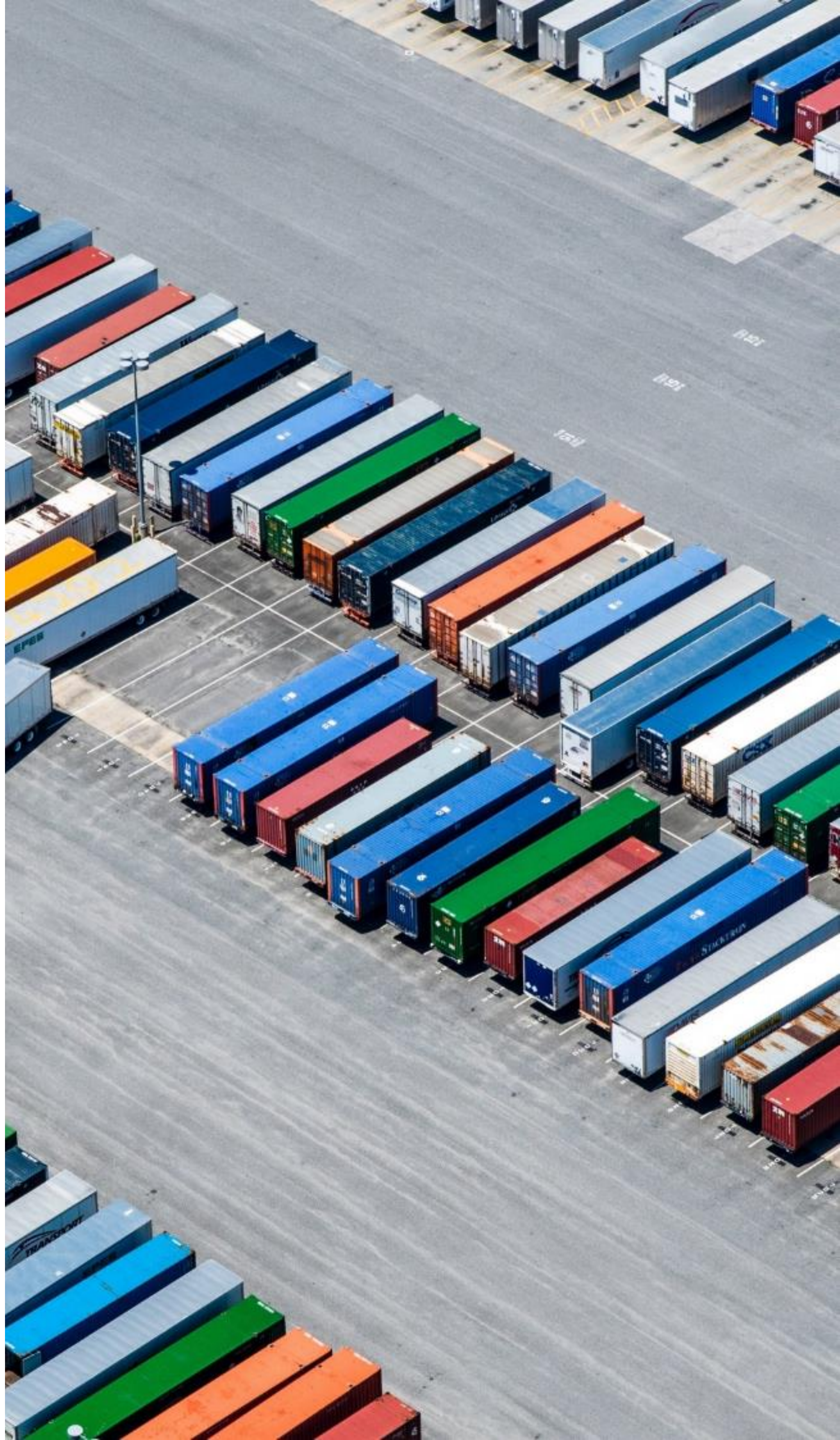
Three possible scenarios were established and analysed for logistics in Europe with different impacts on gross value added (GVA) expectations.

- **V-shaped recovery (mild):** growth reduction limited to one year; investment/consumption postponed rather than cancelled
- **U-shaped recovery (severe):** growth reduction for at least two years; investment/consumption postponed and restricted
- **L-shaped recovery (drastic):** no foreseeable return to pre-COVID output level; investment/consumption substantially restricted



Source: PwC Scenario Analysis 06/2020

Due to the mixed picture within the industry, a U-shaped recovery is expected to be most likely. We expect to see shortened and redesigned supply chains and logistics net-works, along with enhanced risk management. However, large quantities of goods will continue to be transported on international routes. According to IRU, the global average revenue from road freight transport will fall by 18% in 2020 (Europe: 17%). Despite its serious impact, the COVID-19 crisis may also create opportunities for the industry. Alongside accelerated digitalisation and innovation, the shift towards more sustainable supply chains will become increasingly important.



Deep dive: infrastructure and ports are becoming even more important in the current crisis

Before the spread of COVID-19, infrastructure such as roads, airports and maritime ports was a focus of investment for financial and logistics service providers. This has continued during the crisis, and is reflected in M&A activity: four of the eight megadeals announced in the first half of 2020 are related to transport infrastructure. Nevertheless, airports, ports and roads are still being affected by the crisis in various ways.

Airports weakened by airline crisis

Airports have been hit hard by the pandemic due to temporary travel bans and the passenger air subsector being in a state of collapse. The slump in flight operations has been having a direct impact on airports, as airport runways were temporarily used to park grounded aircraft. Airport Council International (ACI) estimates that European airport traffic was about 30% lower in the first quarter of 2020 than pre-crisis forecasts, leading to the assumption of almost no traffic in Q2. ACI World estimates for 2020 suggest a loss of more than 4.6 billion passengers and a $97 billion in total global airport revenues. This is also mirrored in M&A data: there have only been four deals announced so far in 2020 with airport-related targets, compared to nine in the first half of 2019. One airport-related megadeal was, however, announced in February between Aeroports de Paris (ADP) and GMR Airports, an Indian-based airport operator. This acquisition will enable ADP to expand its global footprint, while simultaneously reducing GMR's debt.

Top 5 M&A Deals in H1 2020

Announce-ment	Target	Target nation	Buyer	Buyer nation	Deal status	Deal value ($bn)	Sub-sector
Feb-20	DP World PLC	UAE	Port & Free Zone World Fze	UAE	Completed	2.72	Port
Apr-20	Brisa Auto-Estradas de Portugal SA	PT	Investor Group	KR	Pending	2.63	Road
Jan-20	Krishnapatnam Port Co Ltd	IN	Adani Ports & Special Economic Zone Ltd	IN	Pending	1.89	Port
Feb-20	GMR Airports Ltd	IN	Aeroports De Paris SA	FR	Pending	1.51	Airport
Jan-20	Ningbo Zhoushan Port	CN	Shanghai International Port	CN	Pending	0.54	Port

Ports are still attractive assets

The decline in transport volume has also been felt in maritime shipping, leading to shipping companies laying up vessels and reducing regular port calls. This has resulted in intensified competition between ports, which have reduced their fees to try to encourage owner-operators to use their anchorages. This, in turn, has occasionally caused a shortage of anchorage space in ports because the tonnage of container ships has remained unused and ships have been used for storage.

However, port assets are still attractive infrastructure investments for investors where bottleneck situations can be observed. Targets in this subsector, such as terminals, are attractive in uncertain times as they represent comparatively safe long-term investments with stable returns. As regards M&A activity, the biggest deal of the first half year was in the infrastructure (port) category: Port & Free Zone World agreed to acquire the remaining stake in DP World Ltd, one of the world's largest port operators. This returns DP to fully private ownership and moves the company closer to its goal of becoming an infrastructure-led end-to-end logistics provider.

The second megadeal with a port target announced in 2020 is Adani Port, one of the largest port developers and operators in India, planning to acquire a 75% interest in the state-owned Krishnapatnam Port. Adani is currently expanding, and this acquisition will give the company an additional 64 million tonnes of annual cargo-handling capacity, increasing its market share to 27%.

Source: IAPH-WPSP Port Economic Impact Barometer, Refinitiv, PwC analysis

Toll road operators hit by reduced traffic

Regarding infrastructure-road assets, many toll road operators are struggling with a loss of revenues due to industrial shutdowns, closed borders and travel restrictions reducing traffic flows. Values for unlisted toll roads have declined by an average of 10–20% in the first quarter. However, they have been less severely affected than airports because they mainly carry domestic traffic, which is expected to recover faster than international traffic.

After a high percentage of road-related deals in recent years, the number of M&A announcements fell sharply in the first half of 2020 to four deals. This included one megadeal: a consortium formed of APG, NPS and Swiss Life agreed to acquire a majority stake in Portuguese toll road operator Brisa, which has a large and diversified road network, for $2.6 billion. The acquisition will strengthen Brisa's position and support its growth ambitions.

Economic recovery after COVID-19

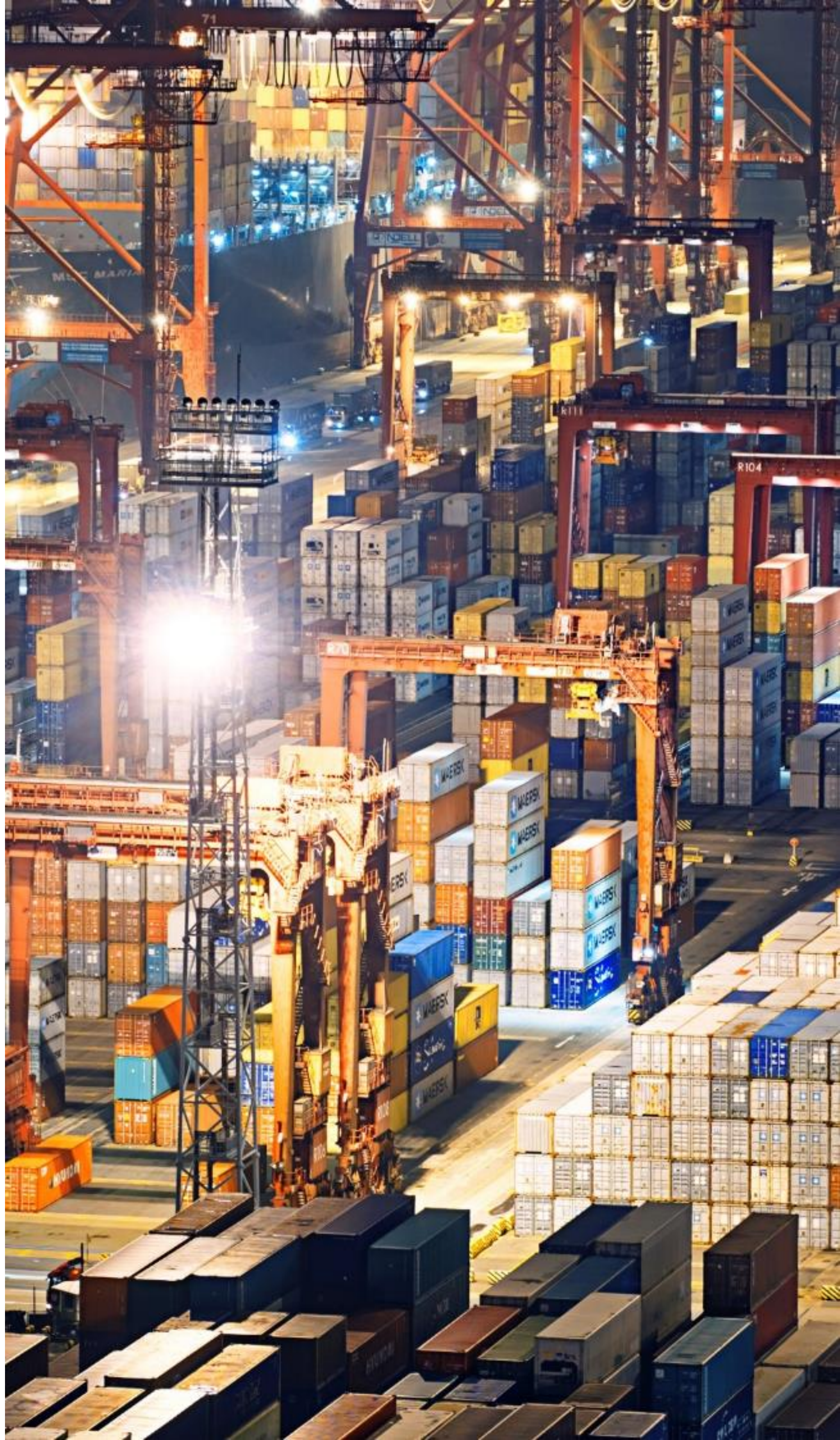
COVID-19 and its effects have demonstrated the importance of reliable air, sea, road and rail logistics chains. These chains are lifelines of the global economy, providing food, healthcare products and essential goods to keep industry going.

The trend of investment in crucial logistics infrastructure will continue throughout 2020 and beyond. In the past, many logistics companies' corporate strategies involved horizontal investments in additional parts of the value chain. This development will continue alongside long-term investments by investment funds – e.g. in infrastructure. Bottlenecks such as ports (maritime and airport), terminals (sea and intermodal) and roads will remain particularly attractive targets.

Shipping companies are expecting a slight recovery of the volume of freight over the next few months. However, any catching up may be limited, especially in those sectors depending on infrastructure and long-term investments, such as project cargo and heavy lift cargo.

Regeneration will depend on the general worldwide economic recovery. This, in turn, will be directly linked to solving the current crisis and restoring trust in the economic system.

The same applies to toll roads. A recovery is expected in the medium term, but this depends on how quickly lockdown measures are relaxed and on the general development of the global economy. Airports will suffer the effects of the crisis for longer due to the slow recovery of aviation in general.



3 Outlook

The crisis is not yet over

The macroeconomic view

The high level of uncertainty in global economy accompanying the crisis is reflected in various GDP trend estimates for 2020 made by international institutions. The IMF, the World Bank, the OECD and the WTO have published forecasts revealing an enormous slowdown in world trade and GDP, although these forecasts differ in just how severe they expect the slowdown to be. The OECD has come up with a single-hit scenario and a double-hit scenario, in which global GDP is expected to fall by 6% and 7.6% in 2020, respectively. In contrast, the IMF's World Economic Outlook expects the global economy to slump by 4.9% in 2020. This is the first time that negative growth has been predicted for all regions, but advanced economies are expected to be affected more severely (8% slump) than emerging and developing economies (3% slump). However, emerging and developing economies are struggling to cope with the health crisis occurring alongside the economic crisis, as they often lack efficient healthcare systems. Declining commodity prices, low external demand and difficult financial conditions are exacerbating the situation.

The impact of the crisis has been more severe than anticipated. The recovery will be slow and gradual compared to the 2008/09 financial crisis, where there was a fairly rapid economic upswing after the initial fall. Nonetheless, GDP growth is forecast to be positive in 2021 – for example, the IMF predicts growth of 5.4%, and the OECD estimates that GDP will rise by 2.8% (double-hit scenario) or 5.2% (single-hit scenario).

Source: IMF, OECD, WTO, PwC analysis

However, the biggest challenge for T&L companies in 2020 will be to survive the crisis and develop measures to become more resilient.

Passenger transport

The current COVID-19 pandemic has shown the extent to which markets and industries are interconnected. It has also shown that this is both a strength and a weakness in a crisis. Passenger transport, especially air travel, has been hit hard and will take much longer to recover than other subsectors. According to our PwC scenario analysis, an L-shaped recovery is most likely, in which there is no foreseeable return to pre-crisis levels. For airlines in particular, pre-COVID levels are not expected to be reached until 2023 at the earliest.

We expect that a rebound in the tourism sector will result in a slow recovery of leisure travel. In contrast, business travel is expected to recover much more slowly, and demand will be reduced in the long term. Domestic traffic, too, will probably pick up sooner than international traffic, as domestic traffic is not dependent on international border regulations.

The willingness to invest in passenger transport has already been low in the first half of 2020, and very low M&A activity is therefore anticipated over the next few months. We may see governments stepping in to assist more companies. We also expect that codeshare agreements may become more important in the future, assuming that airlines will consider restructuring their routes as a result of the crisis.

Freight transport and logistics

Logistics mirrors overall economic activity and has been greatly affected by COVID-19. Despite being a low-margin industry, logistics has demonstrated its importance in keeping the world's supply chains running during a severe crisis, even if at a slower pace than normal. Due to its dependence on the industry verticals, the logistics subsector is expected to recover in line with the individual sectors in question. According to our scenario analysis, a U-shaped recovery is most likely for the European logistics industry, which means that overall growth will be affected for at least two years and gross value added (GVA) will fall by 8.6% in 2020. This is related to the automotive and industrial manufacturing industries, which are highly relevant for logistics and are expected to experience similar scenarios. The food industry, in contrast, has only been marginally affected and does not expect any major reduction in growth. This, in turn, is having a positive effect on logistics providers serving the industry.

The COVID-19 crisis has revealed the vulnerability of global networks. Nevertheless, globalisation is not fundamentally being brought into question and there will be no high degree of glocalisation. We expect to see shorter supply chains in future, but large quantities of goods will continue to be transported on international routes. A large number of companies may make themselves more crisis-resistant over the coming months by relocating some of their production facilities or increasing storage capacity. This, in turn, will change the demands placed on logistics chains and logistics operators.

Companies will also enhance risk management, which will lead to changes in the design of logistics networks. New networks need to be created, which may lead to further collaboration or acquisitions in the transport sector. Investments in digital infrastructure have become more relevant in light of the pandemic. This development will have an effect on supply chains and on logistics companies that are expanding networks or building up new ones.

We expect M&A deal activity in the logistics industry to remain low for the rest of 2020, in light of the ongoing pandemic and the bleak outlook for the global economy. We assume that demand will continue to be subdued for the next few months, and that online trade could benefit in some categories in the longer term. These developments will result in an increased need for warehouses, making these kinds of targets more attractive and leading to further acquisitions in the industry. Infrastructure deals may be postponed, but will take place later on. This is because being in control of logistics bottlenecks (ports, terminals etc.) has proven to be attractive, especially in crisis situations. Those facilities and capabilities have shown themselves to be of systemic importance. Financial pressure and consolidation among freight forwarders could be another catalyst for M&A activity, but we do not expect any significant large deals in 2020. Instead, logistics service providers will broaden their service offerings by horizontally integrating new supply chain business activities. This will enable them to offer full service packages and improve overall efficiency, supported by further digitalisation of the industry.

Source: PwC analysis

Opportunities arising from the crisis

Despite the significant impact on the T&L industry, opportunities may arise from this crisis. Certain processes in companies have already had to be digitalised to maintain business continuity during contact restrictions and other restrictive measures, but the crisis has considerably accelerated the general discussion about innovation and digitalisation.

Nevertheless, there is still great potential for optimisation among logistics companies in terms of digitalisation. The question also remains as to whether digitalised processes driven by COVID-19 will be sustainably integrated into companies, or whether they will just be temporary measures for the duration of the crisis. Digitalised work processes are most likely to be continued beyond the crisis, but this will only become clear when the effects of the pandemic subside.

The crisis may also lead to increased investments in public transport and infrastructure and logistics real estate. Discussions in these fields have been stepped up, as can be seen from current economic stimulus packages, railway infrastructure programmes or fleet modernisation projects.

Calls for sustainability and action on climate change have also become a greater focus. The impacts of COVID-19 will accelerate the transition to more sustainable supply chains. Transparency throughout the entire supply chain is vitally important to increase a company's resilience. More climate-friendly technologies and solutions will emerge, especially if efforts are made to diversify the supplier base and to create more local sourcing options.

4 Appendix: M&A deals in figures

Megadeals = deals with a value of $1 billion or more

H1 2020: 8 deals, $13.10 bn

Megadeals in H1 2020

Announcement	Target	Target nation	Buyer	Buyer nation	Deal status	Deal value ($bn)	Sector
Feb-20	DP World PLC	UAE	Port & Free Zone World Fze	UAE	Pending	2.72	Shipping (infrastructure)
Apr-20	Brisa	PT	Investor Group	KR	Pending	2.63	Passenger ground (infrastructure)
Jan-20	Krishnapatnam Port Co Ltd	IN	Adani Ports & Special Economic Zone Ltd	IN	Pending	1.89	Shipping (infrastructure)
Feb-20	GMR Airports Ltd	IN	Aeroports De Paris SA	FR	Pending	1.51	Passenger air (infrastructure)
May-20	H-Line Shipping Co Ltd	KR	Investor Group	KR	Pending	1.45	Shipping
Mar-20	Li & Fung Ltd	HK	Golden Lincoln Holdings I Ltd	HK	Completed	1.38	Logistics and trucking
Mar-20	Innovel Solutions Inc	US	Costco Wholesale Corp	US	Completed	1.00	Logistics and trucking
Feb-20	Etihad Airways - (portfolio of 38 aircraft)	UAE	Altavair LP	US	Pending	1.00	Passenger air

Source: PwC Analysis, Refinitiv

Regional distribution of deals

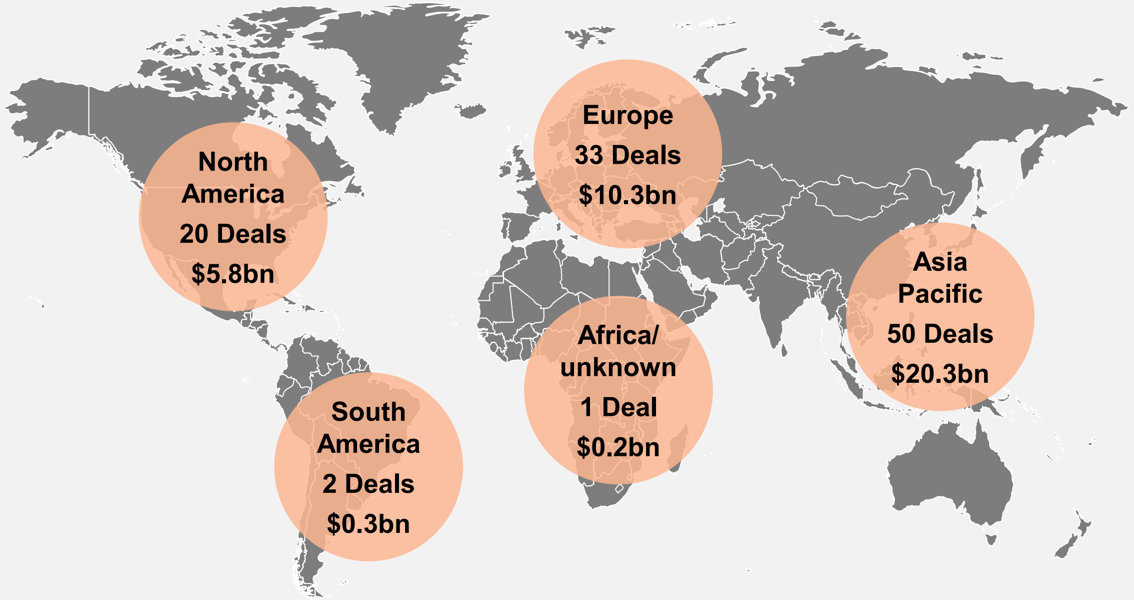
In line with past half years, Asia Pacific is the number one region in terms of both number of deals and the total and average deal value, mainly due to a swift rebound of Chinese deal activity after a slow first quarter. China accounted for 26 of these transactions and Hong Kong featured in one megadeal.

Europe follows in the second place, participating in a respectable 33 deals. This is due to the fact that many deals were announced before the virus arrived in Europe.

North American M&A activity was relatively weak in the first half of the year, with only two megadeals announced – one local and one cross-border transaction. In addition to the aftermath of the trade conflict with China, COVID-19 outbreak has severely affected the US and has seriously weakened the US economy.

South America ranks fourth in terms of the number of deals and their value. After rising slightly last year, M&A activity declined again in the first half of 2020.

Europe	No. of deals	Value ($bn)	Ø value ($m)
Local	23	4.7	203.0
Inbound	4	3.0	761.2
Outbound	6	2.6	440.6
Total	33	10.3	313.9
Asia & Pacific			
Local	40	14.2	354.4
Inbound	7	3.2	455.9
Outbound	3	3.0	985.2
Total	50	20.3	406.5
North America			
Local	13	3.6	276.6
Inbound	3	0.9	288.7
Outbound	4	1.3	323.7
Total	20	5.8	287.8
South America			
Local	2	0.3	162.5
Inbound	0	0.0	–
Outbound	0	0.0	–
Total	2	0.3	162.5
Africa/ unknown			
Local	0	0.0	–
Inbound	0	0.0	–
Outbound	1	0.2	208.4
Total	1	0.2	208.4



Local = Target and buyer in the region
Inbound = Target in the region, but buyer outside the region
Outbound = Target outside the region, but buyer in the region

An inbound deal in one region is also an outbound deal in another. Inbound / outbound deals are, therefore, recorded twice in the list.

Source: PwC Analysis based on Refinitiv

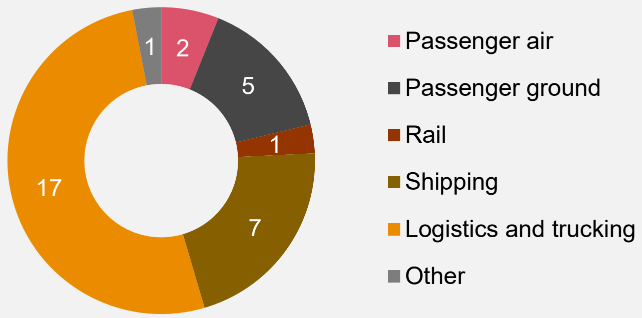
Europe – surprisingly robust deal environment so far

M&A announcements in Europe were fairly robust in the first half of 2020, making Europe one of the most active regions for deal activity.

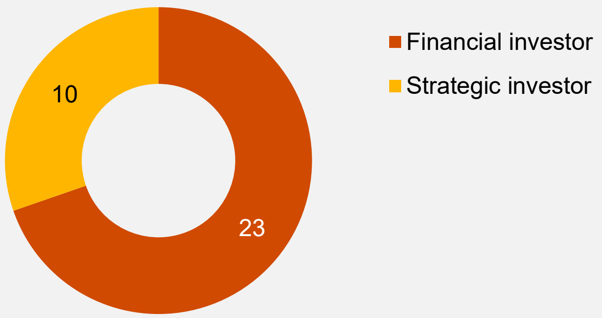
33 deals with European participants were announced, compared to 33 in the first half of 2019 and 36 in the second half, respectively. However, most of the larger deals were announced in the first quarter of 2020, before COVID-19 started to spread across Europe.

Financial investors play a vital role in Europe, being responsible for more than two thirds of M&A transactions announced and nearly half of the total transaction value. However, out of the five largest transactions involving European companies so far in 2020, only one had a financial investor on the buy-side.

Deals by Subsector



Deals by Investor Type



Top 10 Deals in H1 2020

Announce-ment	Target	Target nation	Buyer	Buyer nation	Deal status	Deal value ($bn)	Sector
May-20	Brisa – Auto-Estradas de Portugal SA (81% Stake)	PT	Investor Group of APG Groep NV, Korean National Pension Service and Swiss Life AM	KR	Pending	2.63	Passenger ground (infrastructure)
Feb-20	GMR Airports Ltd	IN	Aeroports De Paris SA	FR	Pending	1.51	Passenger air (infrastructure)
Jan-20	TransContainer PJSC	RU	Delo-Tsentr OOO	RU	Pending	0.97	Rail
Feb-20	Hapag-Lloyd Cruises GmbH	DE	TUI Cruises AG	DE	Pending	0.69	Shipping
Feb-20	Performance Team Llc	US	AP Moller-Maersk A/S	DK	Completed	0.55	Logistics and trucking
May-20	Deutsche Lufthansa AG	DE	Economic Stabilization Fund	DE	Pending	0.27	Passenger Air
Feb-20	Fosmax LNG	FR	Elengy SA	FR	Completed	0.26	Shipping (infrastructure)
Feb-20	Fosmax LNG	FR	Elengy SA	FR	Completed	0.26	Shipping (infrastructure)
Feb-20	Autopista del Guadalmedina	ES	Core Infrastructure II SARL	LU	Completed	0.26	Passenger ground (infrastructure)
Jun-20	Logistics Portfolio	NL	Nuveen Real Estate Ltd.	UK	Completed	0.24	Logistics and trucking

Number and total value of the deals (in $bn) from a volume of $50 million.

T&L sectors – Logistics and trucking dominant once again

In the first half of the year 2020, all subsectors experienced a slump in the number of deals. However, logistics and trucking continues to dominate, accounting for 52% of all deals announced and 34% of total deal value. Among the eight megadeals, two are related to targets in this subsector. The sharpest decline has been seen in passenger ground, a subsector which was quite active in 2019. In line with the trend in recent years, the fewest deals are related to the rail subsector.

16 of the total 92 mergers and acquisitions announced are deals with infrastructure-related targets. This is significantly below the trend of previous years, but these infrastructure deals still accounted for 39% of total deal value in the first half of 2020.

In particular, the number of deals with road infrastructure targets has fallen sharply compared to the previous two years, while deal announcements related to ports have remained stable, indicating that these targets are still of interest to investors.

All deals	2H2017		1H2018		2H2018		1H2019		2H2019		1H2020	
Total value (in $bn)	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value
Passenger Air	21	9.7	24	13.6	15	8.7	21	10.1	10	10.1	9	4.2
Passenger Ground	16	29.1	17	27.4	20	11.1	22	8.6	31	34.7	10	3.9
Rail	4	0.7	3	3.8	3	0.9	8	2.1	8	11.4	2	1.2
Logistics and trucking	48	17.0	50	14.3	44	14.0	50	37.1	46	12.9	48	10.0
Shipping	34	10.9	29	14.3	14	4.0	30	8.8	19	6.4	21	10.4
Other	14	3.8	4	1.1	4	2.9	7	1.7	9	1.3	2	0.3
Total	137	71.3	127	74.6	100	41.6	138	68.4	123	76.7	92	29.8

… thereof infrastructure	2H2017		1H2018		2H2018		1H2019		2H2019		1H2020	
Total value (in $bn)	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value
Infrastructure Airports	6	2.4	8	8.7	3	3.9	9	4.2	4	1.0	4	2.1
Infrastructure Road	12	27.4	9	25.6	9	9.1	13	8.0	24	32.8	4	3.5
Infrastructure Ports	19	5.6	6	6.7	6	0.8	12	5.3	9	1.1	8	5.9
Total (infrastructure)	37	35.3	23	41.0	18	13.7	34	17.5	37	35.0	16	11.5

Source: Refinitiv, PwC Analysis

Prices are rising again

During 2019, we saw prices for T&L targets dropping to a level below of 2012–2015, with the median value/sales multiple declining to 1.4. This value has climbed to 1.5 in 2020. However, some subsectors such as shipping and passenger remain far behind their 10-year averages.

The median value/sales multiple in the passenger air subsector has dropped to 0.2, reflecting the tough negotiations for state support and the unfavourable outlook for the sector. The prices are low compared to the previous year's revenues, but relatively high considering the situation this year.

After a decline in 2018, logistics and trucking has reached a relatively stable price level of 1.0 in 2020, in line with the median in previous years.

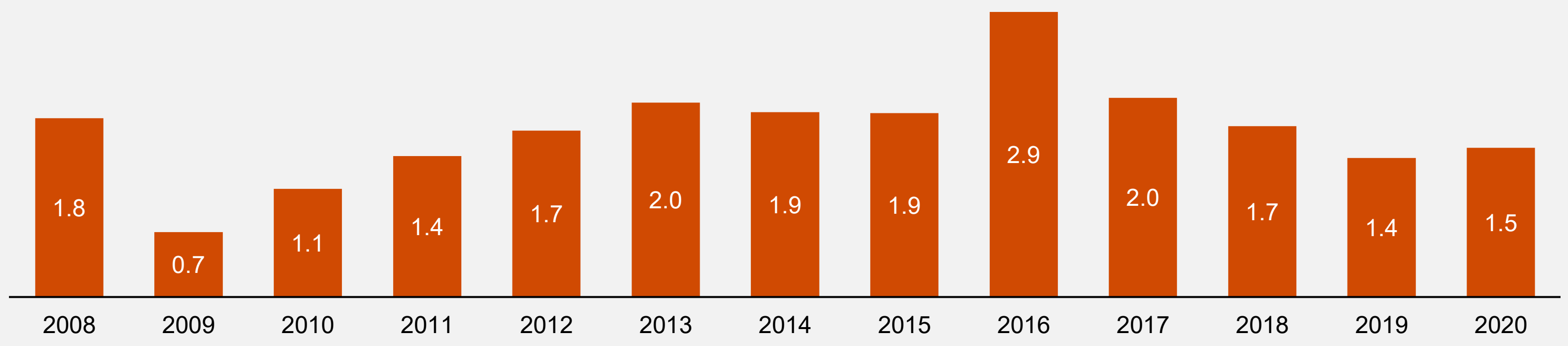
Please note:

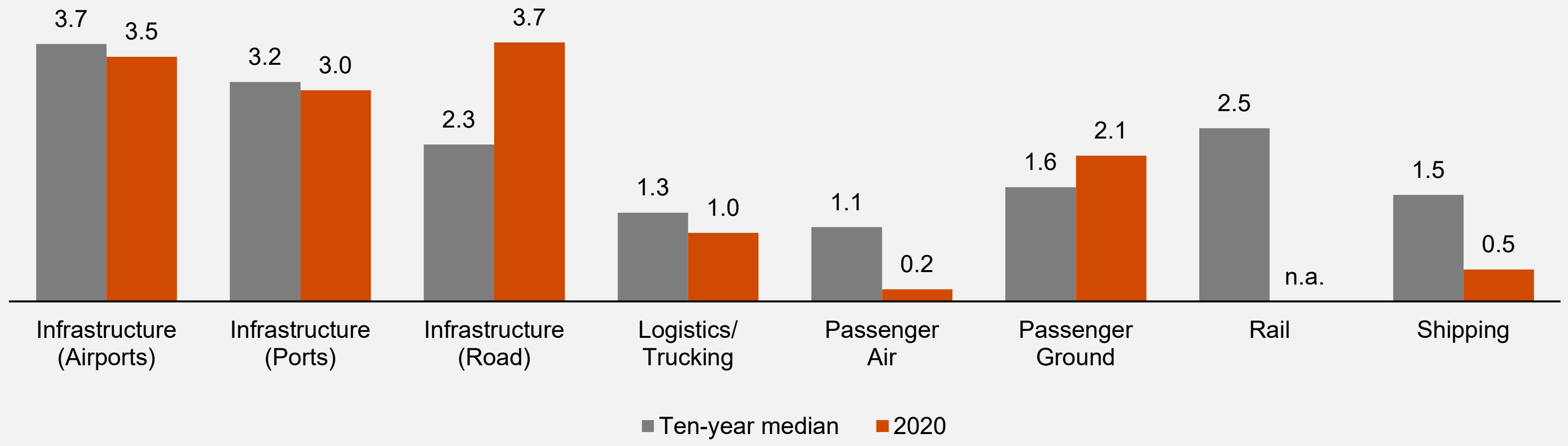
Lack of adequate information on price multiples means that evaluating prices in the first half of 2020 is extremely difficult.

Source: Refinitiv, PwC Analysis

Deals with a volume greater than $50 million

Median of the value/sales multiples*





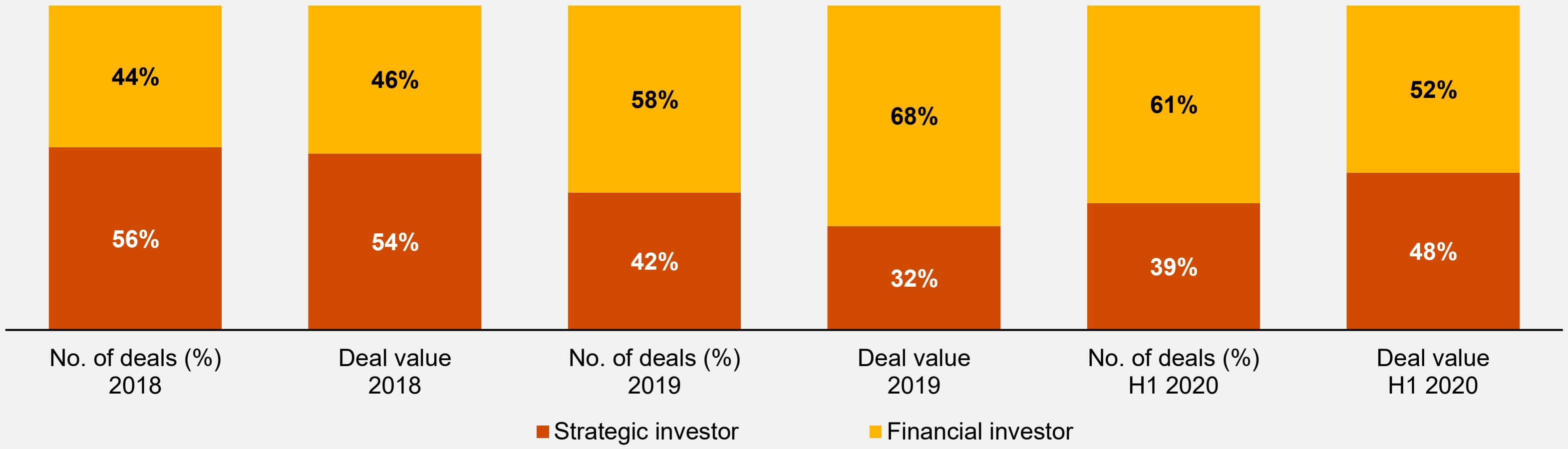
Financial investors are becoming more active in M&A

In the first half year of 2020, financial investors were involved in 61% of the total number of mergers and acquisitions in the T&L industry. This is a further increase in their involvement, continuing the trend of recent years. They focused primarily on targets in logistics and trucking. Strategists, however, accounted for almost as great a share of total deal value in H1 2020.

Financial investors have postponed some deals due to the COVID-19 crisis and the poor state of the global economy. However, the high proportion of deals this year in which financial investors were involved shows that financial investors are still finding attractive targets in the industry – even in the current situation. We expect that financial investors will continue to play a vital role in Transport & Logistics M&A activity: dry powder is available, but obtaining debt to finance takeovers may be more difficult as banks are becoming more risk-averse.

Deals with a volume greater than $50 million

Number and total value of deals involving financial investors



	2018		2019		1H2020	
Total value (in $bn)	No. of deals	Total value	No. of deals	Total value	No. of deals	Total value
Passenger Air	15	12.9	14	11.1	5	2.0
Passenger Ground	15	10.1	29	17.6	7	3.5
Rail	3	2.9	7	11.0	0	0.0
Logistics and trucking	48	19.3	71	38.9	35	6.9
Shipping	14	6.4	19	16.2	7	2.7
Other	4	1.4	10	2.1	2	0.3
Total	99	53.0	150	96.9	56	15.4

Source: Refinitiv, PwC Analysis

Methodology

This report is an analysis of the current industry environment and the global transaction and strategic cooperation activities in the transport & logistics industry.

The analysis covers all mergers, acquisitions, sales, leveraged buyouts, privatisations and acquisition of minority interests with a transaction value greater than $50 million. All transactions announced between 1 January 2020 and 30 June 2020 have been included. Project transactions, such as public-private partnerships – which are more common than corporate transactions, especially in the field of infrastructure – do not fall within the scope of the analysis.

The data for the transaction analysis are derived from Refinitiv and include all announced deals where the target company stems from one of the NAICS industries listed below. Historical data is continuously updated.

The analysis included all transactions whose status at the time of the analysis was ‘completed’, ‘not yet completed because of antitrust approval procedures’, ‘unconditional’ (buyer-side conditions have been met but the deal has not yet been completed) or ‘withdrawn’.

The data for the strategic cooperation analysis is based on information from S&P Global Capital IQ covering strategic alliance related key developments disclosed by listed companies related to the transport & logistic industry.

The macroeconomic and industry-specific scenarios on which this publication is based are derived as a consensus view of projections in the market, i.e. from research institutes, public authorities, banks and other market players. The figures representing these scenarios are not derived from PwC’s own analysis or opinion; rather, they are a global aggregation of 110+ sources.

Sectors and assigned NAICS industries

Passenger Air: Scheduled passenger air transportation; non-scheduled chartered passenger air transportation; air traffic control; other airport operations; other support activities for air transportation

Passenger Ground: Highway, street, and bridge construction; all other specialty trade contractors; commuter rail systems; bus and other motor vehicle transit systems; other urban transit systems; inter-urban and rural bus transportation; taxi service; limousine service; school and employee bus transportation; charter bus industry; special needs transportation; all other transit and ground passenger transportation; other support activities for road transportation

Rail: Line-haul railroads; short-line railroads; support activities for rail transportation

Logistics: Gas distribution; freight transportation arrangement; packing and crating; all other support activities for transportation; postal service; couriers; local messengers and local delivery; general warehousing and storage; refrigerated warehousing and storage; farm product warehousing and storage; other warehousing and storage; process, physical distribution and logistics consulting services

Trucking: General freight trucking, local; general freight trucking, long distance, truckload; general freight trucking, long distance, less than truckload; used household and office goods moving; specialised freight (except used goods) trucking, local; specialised freight (except for used goods) trucking, long distance

Shipping: Deep sea freight transportation; deep sea passenger transportation; coastal and great lakes freight transportation; coastal and great lakes passenger transportation; inland water freight transportation; inland water passenger transportation; port and harbour operations; marine cargo handling; navigational services to shipping; other support activities for water transportation; regulation and administration of transportation programmes

Other: Scheduled freight air transportation; non-scheduled chartered freight air transportation; other non-scheduled air transportation; mixed mode transit systems; commercial air, rail and water transportation equipment rental and leasing; passenger car rental; passenger car leasing; truck, utility trailer and RV rental and leasing

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