THE IMPLICATIONS OF BREXIT ON THE USE OF THE LANDBRIDGE

Irish Maritime
Development Office

The Irish Maritime Development Office

The Irish Maritime Development Office (IMDO) is Ireland's national dedicated development, promotional and marketing agency for the shipping and shipping services sector.

The IMDO is the Irish government agency which provides support to national and international maritime businesses in Ireland. It is the aim of the IMDO to be the focal point for maritime business in Ireland. The IMDO provides government and industry with a range of information and reporting across the sector and works with international businesses to help them set-up or expand in Ireland. The IMDO is also Ireland's designated Shortsea Shipping Agency and provides independent advice and guidance on EU funding initiatives.

The IMDO was established by the Fisheries (Amendment) Act 1999, as part of the Marine Institute, under an amendment to the Marine Institute Act 1991 in December 1999. The IMDO commenced operations in July 2000. After subsequent amendment in the Harbours (Amendment) Act 2009 its legislative mandate includes the following functions:

1. To promote and assist the development of Irish shipping and Irish shipping services and seafarer training.
2. To liaise with, support and market the shipping and shipping services sector.
3. To advise the Minister for Transport on the development and co-ordination of policy in the shipping and shipping services sector so as to protect and create employment.
4. To carry out policy as may be specified by the Minister for Transport relating to the shipping and shipping services sector and seafarer training.
5. To advise the Minister for Transport on the development and co-ordination of policy and to carry out policy, as may be specified by that Minister, relating to ports and the ports services sector, and;
6. any additional functions relating to the shipping and shipping services sector conferred on the Institute under section 4(4) of this Act.

Shipping services is defined as: sea routes, ship management, technical management, commercial management, crew management, ship finance and mortgages, marine insurance, maritime legal services, shipbroking and ship chartering.

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This study was carried out by the Irish Maritime Development Office (IMDO), under terms of reference set by the Department of Transport, Tourism and Sport. The study quantifies the volume of Irish import and export traffic that uses the Landbridge. It also establishes the drivers of the choice to use the landbridge

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THE 'UK LANDBRIDGE' DESCRIBES THE MOVEMENT OF IRISH IMPORTS AND EXPORTS BETWEEN IRELAND AND THE EUROPEAN CONTINENT VIA THE

UK ROAD & PORTS NETWORK

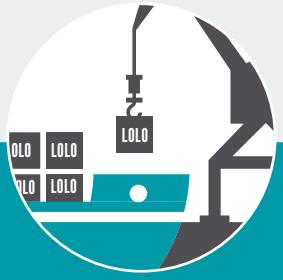
JOURNEY TIMES TO CONTINENTAL EUROPE

LESS THAN **20** HOURS

VIA THE LANDBRIDGE

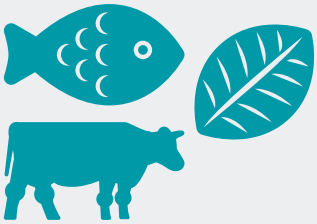
UP TO **40** HOURS

ON RORO SERVICES VIA DIRECT SEA-ROUTE



UP TO **60** HOURS

LOLO SERVICES VIA DIRECT SEA-ROUTE



TIME SENSITIVE PRODUCTS SUCH AS THOSE IN THE AGRI-FOOD SECTOR **RELY ON THE LANDBRIDGE**

38% OF UNITISED EXPORTS

TO EU CONTINENTAL PORTS TRANSIT VIA THE UK LANDBRIDGE

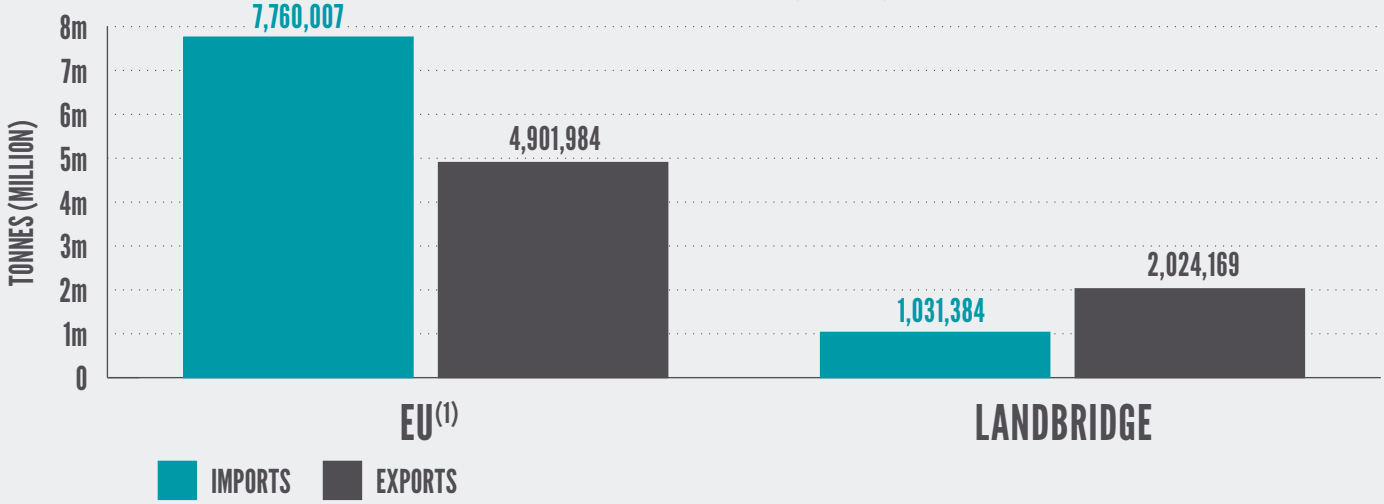
Unitised trade is Roll-on/Roll-off and Load-on/Load-off traffic shipments (see glossary)

IRL

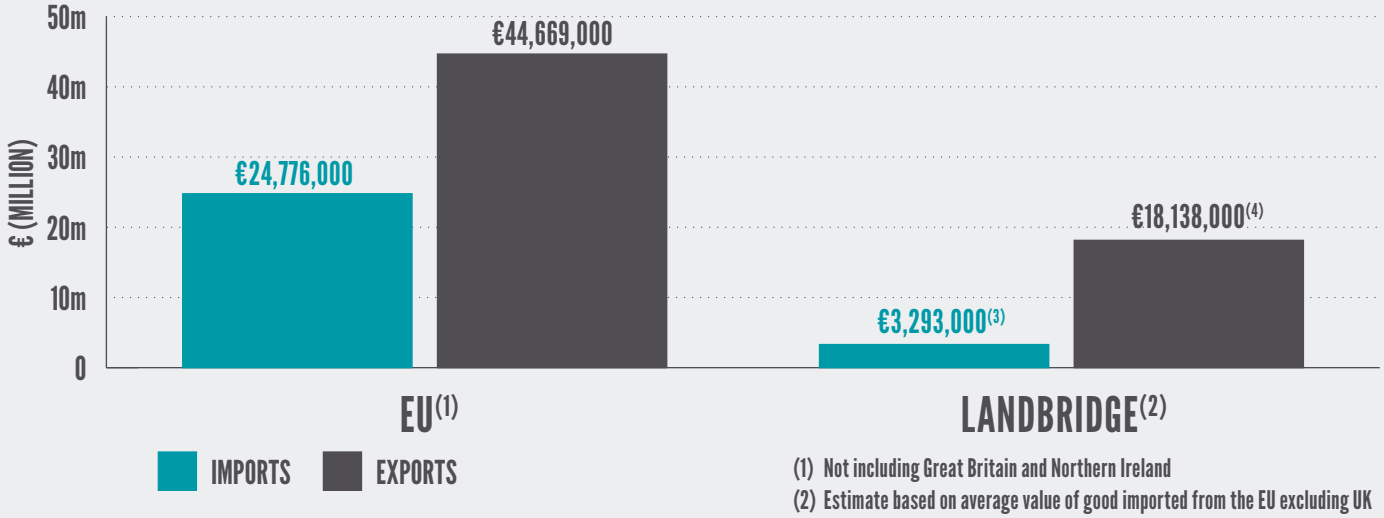
IRISH TRAFFIC VIA UK LANDBRIDGE

=3 MILLION TONNES

TRADE VOLUMES (2016)



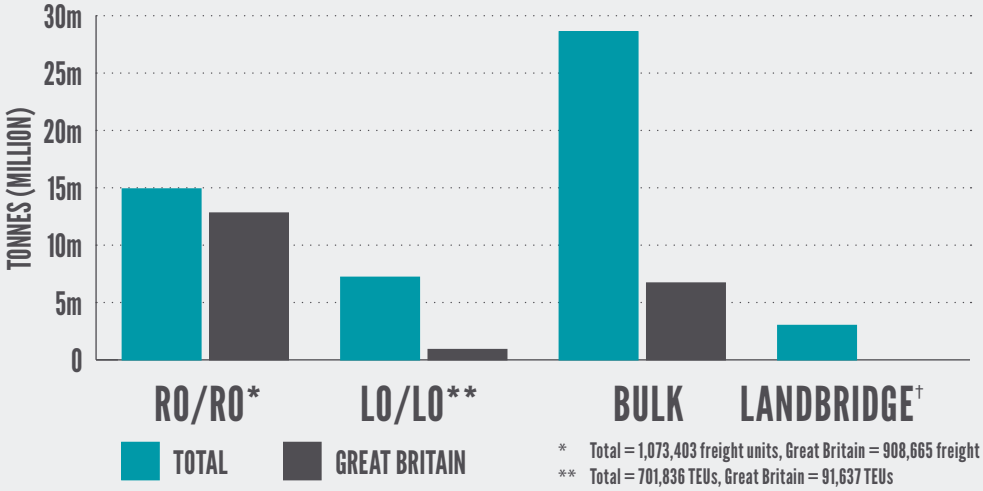
TRADE VALUES (2016)



Trade values reflect merchandised trade (see glossary)

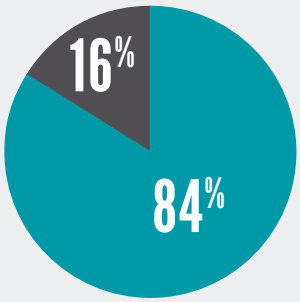
(1) Not including Great Britain and Northern Ireland
(2) Estimate based on average value of good imported from the EU excluding UK
(3) Estimate based on average value of good exported to the EU excluding UK

TRANSPORT MODES (2016)



* Total = 1,073,403 freight units, Great Britain = 908,665 freight units
** Total = 701,836 TEUs, Great Britain = 91,637 TEUs
† a component of the RoRo figures

LANDBRIDGE BY PORT



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EXECUTIVE SUMMARY

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The UK Landbridge is a term used to describe a route to market that connects Irish importers and exporters to international markets via the UK road and ports network. It is a strategically important means of access to the single market that is favoured by traders in high value or time sensitive goods because it offers significantly faster transit times than alternative routes. The estimated volume of goods transported via the landbridge is 3,055,553 tonnes, which consists of 1,031,384 tonnes of imports and 2,024,169 tonnes of exports. The re-introduction of customs or border controls as a consequence of Brexit will increase transit times and place an additional cost burden on Irish importers and exporters that will undermine their competitiveness in accessing international markets. This study answers two questions set out in its terms of reference. It quantifies the volume of traffic using the UK landbridge and assesses the factors that determine the transport route to the European continent.

The study involved both quantitative and qualitative components. Landbridge volumes are estimated using CSO trade and traffic statistics for the Republic of Ireland. Comparison of these two quantities allow transit traffic (landbridge traffic) through UK ports to be quantified. In addition, a comprehensive survey of landbridge users was conducted, as an alternative and complementary means of establishing annual landbridge volumes. Qualitative research was used to validate volume estimates and to assess the choice factors that drive demand for the landbridge route. This mixed methods approach strengthens the study's findings. The study also examines air freight in Ireland and how Brexit will impact this niche transport option.

The study concludes that the landbridge is a strategically important route to market for many Irish importers and exporters. It confirms that many sectors of the Irish economy, including but not limited to agri-food, seafood, and other sectors trading in time sensitive produce, will be adversely affected by any deterioration in current transit times or increases in current costs.

At an operational level, Irish ports and shipping companies are preparing for the consequences of Brexit, with many taking a conservative approach by assuming the full re-imposition of customs and border controls in Irish seaports. Irish ports and shipping companies have demonstrated considerable resilience in the past in responding to market challenges. A number of shipping companies have already increased capacity on direct services to the continent. Ports are preparing for the consequences of a modal shift in anticipation of landbridge traffic seeking an alternative means of access to the single market. It is noteworthy that

significant capacity currently exists within the Irish ports network to address the problems of modal shift. In addition, there are major construction projects in progress in a number of Irish ports that will increase port capacity in the future and facilitate a response to the operational problems that may arise.

However, the study concludes that the Irish economy is significantly reliant on the landbridge route and that certain sectors will be adversely affected by any deterioration in transit times or increases in costs. In order to mitigate these effects, the study recommends that:

1. Ireland's access to the UK landbridge is protected in the negotiations taking place between the EU and the UK.

2. Technology is deployed, where available, to offset any negative impacts of Brexit on landbridge services.

3. Financial supports, such as those available from development agencies, are made available to ports and shipping companies to prepare for Brexit.

4. Funding from EU programs should be identified, such as the Connecting Europe Facility (CEF), Motorways of the Sea and other EU Funding programs for research. Irish Ports and shipping companies should be assisted with preparing applications for projects that would help respond to the challenges of Brexit.

5. The North Sea Mediterranean Corridor, on which Irish ports are located, is part of the EU's TEN-T Transport Network (see Fig. 1). This should be reconfigured in the interest of maintaining Ireland's connectivity to the EU's single market.

6. The IMDO continues to monitor trade flows to identify changes in current trading patterns and modal shifts at the earliest opportunity.

7. More detailed sectoral analysis is carried out to protect the interests of those sectors that will be worst affected by the consequences of Brexit on the landbridge route.

The landbridge route was, and will remain, a vitally important route to market for Irish importers and exporters. Irish interests are best protected by maintaining the status quo to the greatest extent possible.

1.0

INTRODUCTION

1.0

INTRODUCTION

This study was commissioned by the Department of Transport, Tourism and Sport, in recognition of the strategic importance of the UK landbridge to the Irish economy and the potential for customs or border controls, resulting from Brexit, to undermine the competitiveness of Irish importers and exporters in accessing the single market. The 'UK Landbridge' describes the movement of Irish imports and exports between Ireland and the European continent via the UK roads and ports network.

This study was carried out by the Irish Maritime Development Office. Under the terms of reference, two specific questions were required to be answered.

1. What is the annual volume of traffic using the UK landbridge?

2. How does the sensitivity of demand of shipping companies for transport services vary, and how does this affect their decision to avail of landbridge or direct services to the European continent?

Landbridge is strategically important for reasons related to connectivity and competitiveness. Ireland is part of the North Sea Mediterranean Core Network Corridor, of which the UK is an integral part. The Core Network Corridor highlights the most important connections within the EU's Trans-European Network (TEN-T). TEN-T is directed towards the implementation and development of a Europe-wide network of roads, railway lines, inland waterways, maritime shipping routes, ports, airports and rail-road terminals. Brexit will significantly disrupt the configuration of the Corridor and the functioning of the landbridge, with obvious consequences for Ireland's connectivity to the single market.

The landbridge route offers superior transit times to European markets. The alternative is to use direct Roll-on / Roll-off (RoRo) or Lift-on / Lift-off (LoLo) services to the continent, both of which add significantly to transit times. The landbridge route through Dublin and Calais takes approximately 20 hours, when time in port is included. Comparable direct RoRo services can take up to 40 hours and direct LoLo services can take up to 60 hours. Although the landbridge option is more expensive than direct routes when UK haulage costs are included, its superior transit time is a competitive prerequisite in certain industry sectors.

The landbridge route is predominantly used by RoRo traffic. Based on IMTE data from 2016, the RoRo traffic through Irish ports amounted to 1,073,403 freight units, or circa 15 million tonnes, with 83% of this traffic, or circa 12.5 million tonnes, going through UK ports and the remaining 17% using direct routes to the European continent.

The study combined quantitative and qualitative methods to determine the volume of traffic using the landbridge on an annual basis and to establish the factors that drive shipping companies' choice of transport route. The results of the study are presented as a series of findings and recommendations.

With the Irish road haulage sector availing of air freight services in UK airport hubs, via RoRo sailings from Ireland, this study also explores air freight, and how Brexit will impact this niche transport option in Annex A.

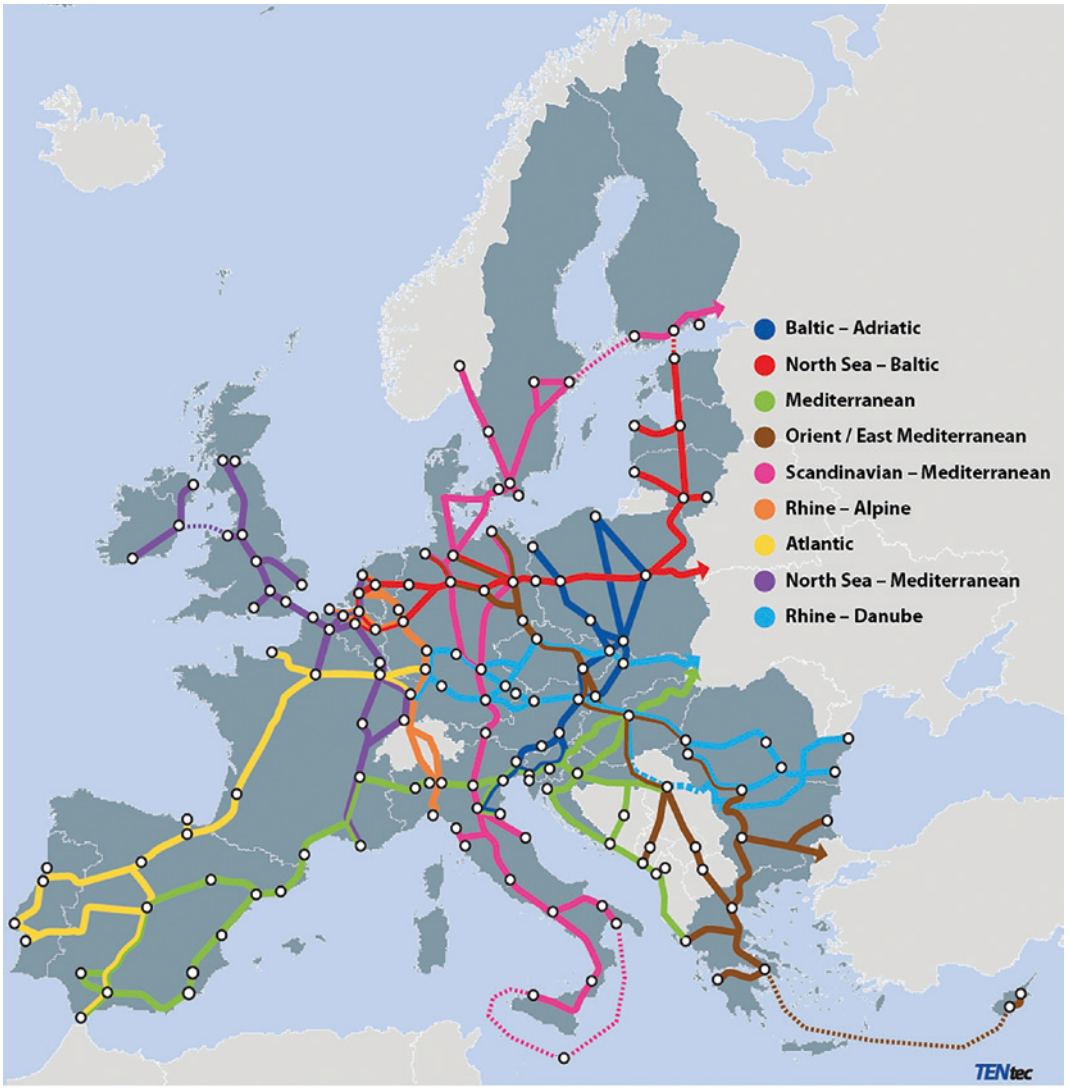


Figure 1: Ireland's current link on the European TEN-T network (European Commission 2018)

1.1 IRELAND'S TRADE WITH THE EU

Ireland's merchandise trade[1] in 2016 was €187 billion (IMDO 2017). Trade within the EU amounted to circa €100 billion (circa 39 million tonnes), which comprises trade with Britain, Northern Ireland and the rest of the EU as shown in Table 1A and Table 1B below.

TABLE 1A

IRISH TRADE WITH EU IN 2016 - (VALUE IN € THOUSANDS)

	EU Total	Britain	Northern Ireland	Rest of the EU
Exports	**€59,187**	**€13,099**	**€1,509**	**€44,669**
Imports	**€40,555**	**€14,823**	**€957**	**€24,776**
Total	**€99,743**	**€27,831**	**€2,466**	**€69,445**

Source: CSO

TABLE 1B

IRISH TRADE WITH EU IN 2016 - (VOLUME IN TONNES)

	EU Total	Britain	Northern Ireland	Rest of the EU
Exports	**15,626,593**	**7,222,831**	**3,501,778**	**4,901,984**
Imports	**23,037,269**	**12,227,640**	**3,049,622**	**7,760,007**
Total	**38,663,862**	**19,450,471**	**6,551,400**	**12,661,991**

Source: CSO

In the event that Brexit results in the re-imposition of border and customs controls between the UK and the EU Member States, transactional, institutional and administrative costs will increase and restrictions on the free movement of goods will add to transit times. These factors will reduce the relative competitiveness of the landbridge when compared to direct routes and could have negative consequences for Ireland's international trade, especially in industry sectors whose service demands cannot be met by direct sailings to the continent.

1 "Merchandise trade" is defined as goods which add or subtract from the stock of material resources of a country by entering (imports) or leaving (exports) its economic territory. Trade figures are based on the country of origin rather than the country of consignment (see page 15).

2.0

METHODOLOGY

2.0

METHODOLOGY

Transit traffic, which describes landbridge traffic, can be estimated by deducting trade volumes from traffic volumes between two reference locations. This is an established approach that has been used in the current IMDO study and by Lawless and Morgenroth (2017). The IMDO study identifies the specific trade flows through ports required to quantify and analyse landbridge traffic.

Three separate estimates of landbridge traffic were calculated using both qualitative and quantitative techniques. These involved:

- Combining industry estimates of landbridge traffic percentages with data on Ireland's shipping corridor volumes (section 3.1);
- Calculating transit traffic from CSO port and trade statistics (section 3.3);
- Implementing an industry survey and analysing the survey data (section 3.4).

Assumptions in the IMDO methodology were informed by analyses that assessed the implications of trade and traffic flows to and from Northern Ireland on landbridge traffic. Semi-structured interviews with stakeholders from Irish and Northern Irish ports, shipping companies, haulage companies, and representative organisations were carried out.

Road traffic data and trade data between Northern Ireland and the Republic of Ireland was analysed to assess transit traffic between the two regions.

The links between the qualitative and quantitative elements of the study are illustrated in Figure 2. The industry survey was central to the study and the information obtained from consultations enhanced the quantitative work. The survey instrument provided data for the quantitative analysis and is centred on variables that influence users' choices of the landbridge service, as identified by Breen et. al. (2015).

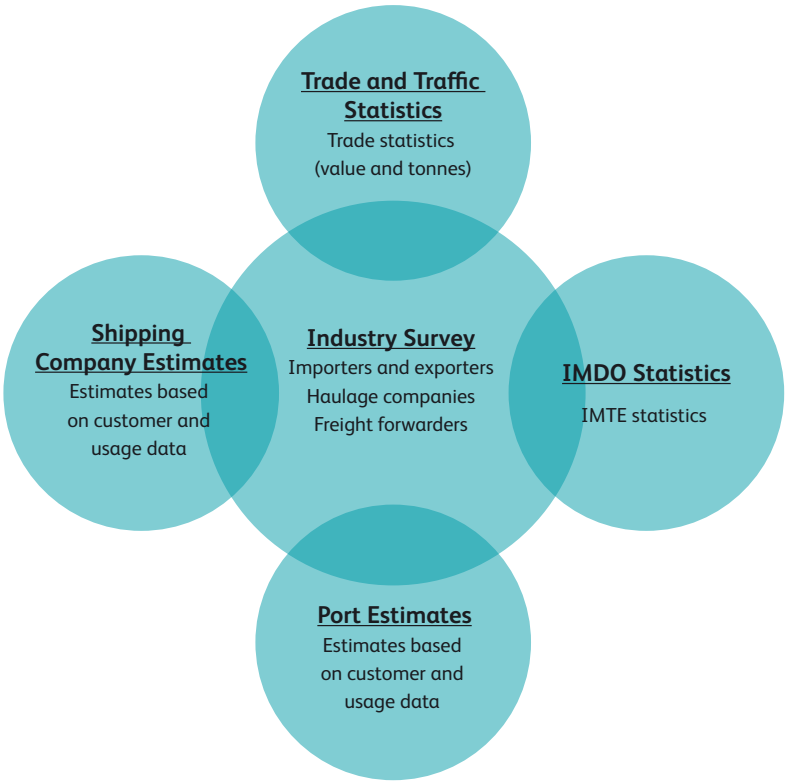


Figure 2: Methodology for the IMDO Landbridge Study[2]

2.1 QUANTITATIVE ANALYSIS

The survey obtained responses from importers, exporters, freight forwarders and transport companies that allowed for quantification of landbridge traffic. The quantitative survey also included a number of multi-choice questions dealing with variations in transit times, cost, service frequency and other convenience factors. The survey questions are included as Appendix A for reference.

The IMDO publishes the annual Irish Maritime Transport Economist (IMTE), which reports on the traffic volumes through Irish ports by shipping mode.[3] The trade figures are sourced from the CSO and provide a breakdown of trade by country, value and volume. In the preparation of trade statistics, the CSO records imports based on the country of origin rather than the country of consignment. We have followed this approach in our study because it allows goods transiting through the UK to be distinguished from goods imported from the UK and provides an accurate and reliable means of quantifying landbridge traffic. Similarly, the CSO classifies exports in terms of country of final destination and this approach is followed in our study. The CSO also reports port traffic statistics, which provides information on goods moved through Irish ports by mode. An estimate of the landbridge traffic in tonnes and an estimate of the number of Heavy Good Vehicles (HGV) using RoRo services to/from the UK can be derived from these data sources.

2 Further details on data collection methodologies for trade and traffic statistics are available from the CSO. Details on IMTE data are available from the IMDO.

3 The modes include RoRo, LoLo and Bulk (dry, liquid and break).

2.2 CONSULTATIONS

Consultations with importers and exporters, ports, shipping companies, trade associations and representative groups from the transport sector were undertaken in order to gather information and insights into the use of the landbridge and how its usage may be affected by Brexit. Some shipping companies had undertaken their own independent customer surveys and provided information on the percentage of their current RoRo traffic using the landbridge. The RoRo routes between Ireland and the UK can be categorised as Longsea or Shortsea based on the sailing time, as set out in Table 2. From these consultations, an estimate of landbridge usage was produced, which was then compared to results from the IMDO survey and both CSO trade and port traffic statistics..

TABLE 2

SHORTSEA AND LONGSEA ROUTES FROM IRELAND TO THE UK

Shortsea Routes (< 4 hours)	Longsea Routes (> 4 hours)
Dublin - Holyhead	Dublin - Liverpool
Belfast - Cairnryan	Dublin - Heysham
Larne - Cairnryan	Belfast - Birkenhead
Rosslare-Europort - Pembroke	Warrenpoint - Heysham
Rosslare-Europort - Fishguard	Belfast - Heysham

3.0

ANALYSIS

3.0

ANALYSIS

The consultations provided useful background information for the analysis of the trade figures and survey responses. The key findings from the consultations are as follows:

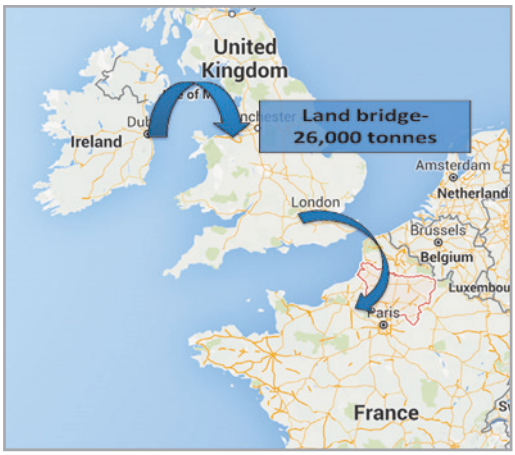
- Landbridge is only relevant to RoRo traffic.
- Frequency, speed and reliability of sailings are key factors in the choice of the landbridge.
- Landbridge offers significant time savings compared to existing alternatives.
- Most of Ireland's RoRo traffic originates in or is destined for the UK market.
- Shortsea routes carry higher volumes of landbridge traffic than Longsea routes – (20% compared to 5%).
- Switching between direct services and landbridge options occurs frequently, mostly related to avoiding over-reliance on any single route and the structure of the supply chain in particular industries.
- Increased regulation of road haulage in the UK has made the landbridge option less competitive.
- Shipping companies are responding to the market uncertainties created by Brexit by adding capacity on existing direct routes, opening new direct routes and by redesigning their operational models to compete with landbridge transit times.
- Concerns were raised about issues over which industry does not have control, particularly the increased administrative burden that customs controls will bring. As a result, industry is calling on Government to take all reasonable steps, through the use of technology and the deployment of resources, to maintain Ireland's competitiveness.
- Market conditions require Irish companies operating in the highly competitive international transport industry to be responsive and efficient. Although the Irish transport industry has shown itself to be resilient, the challenges posed by Brexit will have a more negative impact on Ireland than on other Member States, particularly in sectors that rely heavily on the landbridge to access to the EU's single market.
- The landbridge is used primarily because of its shorter transit times. This is important for:
  - Perishable goods – where the shortest time to market maximises the shelf life of the goods
  - Competitive supply chains – where speed of delivery is used as a competitive advantage in the industry
  - High value goods – where the shorter transit times minimise inventory costs and the associated working capital requirements

» The landbridge will continue to be used to the same extent only if transit times and related costs do not increase significantly.

» Certain industry sectors, including but not limited to seafood, agricultural produce and machinery parts, will be adversely affected by any increase in transit times as exemplified in the case study below.

CASE STUDY: IRELAND'S SEAFOOD SECTOR AND THE LANDBRIDGE

- In 2017, Ireland exported over 235,000 tonnes of seafood.
- 65% of this volume is accounted for by frozen product. These species are mainly exported by container via Ireland's ports.
- The remaining 83,000 tonnes must access export markets worldwide via air freight, sea port or transit via the UK. A total of 72,000 tonnes is sold in the EU market (inc UK) It is estimated that circa 36% of the volume (26,000 tonnes) uses the landbridge of the UK to access these markets.
- Concerns have been expressed that if delays are experienced on this landbridge route it could adcersely affect Irish seafood exporters with uncertainty of delivery time, increased costs and delays.



The volume of fresh fish transported using the landbridge represents around 1,300 vehicles per year. This traffic will continue to rely on the landbridge because the transit times for alternative routes would place Irish fish exporters at a competitive disadvantage. Whilst transport of fresh fishery products represents a small proportion of overall RoRo traffic, the EU continental market is a key market for those products and the landbridge route to that market is a significant component of that trade. Significant reductions in shelf life brought about by increased transit times, could make this sector uncompetitive.

Source: Bord Iascaigh Mhara.

3.1 ANALYSIS OF SHIPPING ROUTES

The consultations with shipping companies operating RoRo services between Ireland and the UK provided estimates of the percentage of traffic using the landbridge. The transit times for Shortsea routes in Ireland are between 3 ½ and 4 hours, making them a popular choice for landbridge business. It is estimated that between 18 - 20% of the traffic (110,830 vehicles in 2017) on these routes uses the landbridge, as shown Table 3. On the Longsea routes less than 5% of the traffic uses landbridge, amounting to 20,852 vehicles in 2017.

When landbridge traffic on Shortsea and Longsea routes is combined the total volume amounted to 131,683 freight units in 2017, or 14% of the total RoRo traffic, based on data provided by shipping companies.

TABLE 3

IRISH PORT TRAFFIC BY CORRIDOR (FREIGHT UNITS)

Corridor	Type	2014	2015	2016	2017
Central	Longsea	352,173	361,170	380,383	417,068
	Shortsea	360,917	394,158	426,590	451,855
Continental	Longsea	135,817	162,912	187,101	157,435
Northern	Longsea	388,434	387,833	403,372	417,805
	Shortsea	366,443	382,090	399,651	403,842
Southern	Shortsea	95,756	97,607	101,892	102,293
Total RoRo	Longsea	876,424	911,915	970,856	992,308
	Shortsea	823,116	873,855	928,133	957,990
Landbridge Volumes	Shortsea	91,335	98,353	105,696	110,830
	Dublin	72,183	78,832	85,318	90,371
	Rosslare-Europort	19,151	19,521	20,378	20,459
	Longsea	17,609	18,059	19,019	20,853
Total Landbridge Traffic		108,943	116,412	124,716	131,683

Source: IMTE (2017)

Please view glossary for a full breakdown of each individual sea corridor.

3.2 AVERAGE UNIT WEIGHT (AUW) OF LANDBRIDGE TRAFFIC

The calculation of the AUW[4] for landbridge traffic is important when converting trade volumes expressed in tonnes into the number of vehicles using the landbridge, which is the key metric in understanding impacts on port operations.

The AUW for all Irish RoRo traffic is 14 tonnes. This is based on a conversion that divides CSO port traffic volumes expressed in tonnes (CSO 2018) by the vehicle numbers reported in IMTE (IMDO 2017), as shown in Table 4. However, this traffic includes a large proportion of smaller vehicles, which reduces the average weight per vehicle. This average has to be corrected to take account of the high proportion of Heavy Good Vehicles[5] that use landbridge services, as shown in Table 5. The range of AUWs generated in this way is used to calculate the landbridge traffic from CSO trade and port statistics in the next section.

TABLE 4

WEIGHT FACTOR FOR RORO UNITS

	2013	2014	2015	2016
RoRo volume ('000 tonnes)	12,145	13,104	13,907	14,884
RoRo traffic volume (vehicles)	883,873	943,035	1,002,920	1,073,403
AUW (tonne / vehicle)	13.7	13.9	13.9	13.9

4 Vehicle weights are excluded.

5 Heavy vehicles are those with a total weight above 3,500 kg. (vehicle + load): https://goo.gl/QkYLsw

TABLE 5

LOADED AND EMPTY RORO UNITS

2017	Ferry A	Ferry B	Ferry C	Ferry D	Total	Length (m)	Total meters
Loaded RoRo Units							
< 6.1m (20')	80	9,699	6,875	14,876	31,530	5	157,650
9.15m (30')	192	6,167	2,364	5,883	14,606	9	131,454
12.2m (40')	19,724	4,978	12,486	4,780	41,968	12	503,616
15.25m (50')	177,952	70,517	79,720	70,537	398,726	13.5	5,382,801
>15.25m	9,807	106,400	46,745	122,235	285,726	16.5	4,705,586
Empty RoRo Units							
< 6.1m (20')	1,002	4,592	3,180	7,045	15,819	5	79,095
9.15m (30')	113	1,939	653	2,687	5,329	9	48,528
12.2m (40')	16,968	1,173	3,848	1,872	23,861	12	286,332
15.25m (50')	14,784	5,042	5,109	4,927	29,862	13.5	403,137
>15.25m	1,014	5,027	3,646	7,702	17,389	16.5	286,919
Total	241,636	215,534	164,626	242,544	864,340	-	11,958,117

Source: IMDO

3.3 ANALYSIS OF CSO TRADE AND PORT STATISTICS

Ireland's trade with the EU is summarised in Table 6 below. In 2016, the total value of Ireland's trade with the EU, using all transport modes, was € 99.7 billion, 29% of which was with the UK (€27.8 billion - IMDO 2017). However, the volume of trade with the UK was 19,450,471 tonnes, or 50% of the volume of trade with the EU which was 38,663,862 tonnes. The value per tonne of Ireland's trade with the rest of the EU is significantly higher than with Britain (€5,480 per tonne vs. €1,430 per tonne).

TABLE 6

IRISH TRADE WITH OTHER MARKETS IN 2016

	TOTAL			IMPORTS			EXPORTS		
	Value (€ million)	Volume ('000 tonnes)	€'000/tonne	Value (€ million)	Volume ('000 tonnes)	€'000/tonne	Value (€ million)	Volume ('000 tonnes)	€'000/tonne
EU total	€99,743	€ 38,664	€2.58	€40,556	€ 23,037	€1.76	€59,187	€ 15,627	€3.79
Britain	€27,831	€ 19,450	€1.43	€14,823	€12,228	€1.21	€13,008	€ 7,222	€1.80
N. Ireland	€2,466	€ 6,551	€0.38	€957	€ 3,050	€0.31	€1,509	€ 3,501	€0.43
Rest of EU	€69,445	€ 12,662	€5.48	€24,776	€ 7,760	€3.19	€44,669	€ 4,902	€9.11
Rest of the World	€86,777	€ 18,837	€4.61	€29,048	€15,638	€1.86	€57,729	€3,199	€18.05

Data source: CSO

The CSO Port Traffic figures are summarised in Table 7. The difference between the port traffic with Britain and the trade with Britain is explained by landbridge traffic.

Data from the CSO shows that trade with Britain in 2016 included 2 million tonnes of "natural & manufactured gas" imported into Ireland via pipeline. When this is subtracted from the trade import figure for 2016, the volume of goods imported from Britain into Irish ports was circa 10.2 million tonnes. In total, Irish imports and exports with Britain, excluding pipleline imports, was circa 17.5 million tonnes. Given a port traffic figure of circa 20.5 million tonnes in 2016, as shown in Table 8, the differential between Irish-British trade and traffic sets the estimated volume of landbridge traffic at 3.06 million tonnes.

Landbridge volumes are estimated using CSO trade and traffic statistics for the Republic of Ireland. Any effects of Northern Irish traffic flows on the calculation of landbridge traffic were dealt with by assuming that traffic flows from the Republic of Ireland through Northern Irish ports, and vice versa, were equivalent. This assumption was based on the results of industry consultations, which suggested that traffic flows from Northern Ireland to the UK through Republic of Ireland ports were slightly larger than vice versa. Analysis of HGV traffic flows to and from Northern Irish ports supported the findings from the industry consultations. As a result, the assumption is that traffic flows from Northern Ireland to the UK through Republic of Ireland, and vice versa, are equivalent, leads to a conservative upper estimate of landbridge traffic volumes.[6]

When the range of AUWs is applied to the landbridge trade volume of 3 million tonnes, the number of vehicles using the landbridge was between 143,890 and 215,835 in 2016. The lower figure of 143,890 vehicles is based on a more realistic AUW and is more closely aligned with the values generated using the alternative approaches described earlier.

TABLE 7

PORT TRAFFIC VOLUMES ('000 TONNES) - 2016

All Port Traffic with Britain	**20,475**	**11,228**	**9,247**
RoRo	**12,812**	**6,684**	**6,128**
LoLo	**944**	**340**	**604**
Bulk	**6,719**	**4,204**	**2,515**

Data source: CSO

TABLE 8

ESTIMATION OF LANDBRIDGE TRAFFIC VOLUME

Item	Imports	Exports	Total
Trade volume with GB (tonnes)	**12,227,640**	**7,222,831**	**19,450,471**
Less pipeline trade (tonnes)	**2,031,024**	**-**	**2,031,024**
Trade volume with GB through ports (tonnes)	**10,196,616**	**7,222,831**	**17,419,447**
Port Traffic with GB (tonnes)	**11,228,000**	**9,247,000**	**20,475,000**
Landbridge volume (tonnes)	**1,031,384**	**2,024,169**	**3,055,553**
Landbridge traffic (RoRo vehicles)			
[AUW = 14 Te / unit]	**73,670**	**144,584**	**218,254**
[AUW = 18 Te / unit]	**57,299**	**112,454**	**169,753**
[AUW = 21 Te / unit]	**49,114**	**96,389**	**145,503**

The calculation in Table 8 assumes net zero traffic flow between shipments from the Republic of Ireland to the UK via Northern Irish ports and vice versa. This assumption is made on the basis of industry consultations which confirmed ROI ports handle a greater quantity of cargo originating from and destined for Northern Ireland than is the case for Northern Irish ports hanlding ROI destined/originating cargo. As a result, the landbridge figure calculated in the study represents an upper estimate of landbridge traffic.

Data source: CSO

6 For further information on the industry consultations and HGV traffic-flow analysis, contact the IMDO).

TABLE 9

IRISH UNITISED TRAFFIC WITH EU CONTINENTAL PORTS 2016

Item	Imports	Exports	Total
Trade volume with GB (tonnes)	12,227,640	7,222,831	19,450,471
Direct Lo/Lo Traffic with EU continental ports (tonnes)	3,469,000	2,605,000	3,469,000
Landbridge Traffic (tonnes)	1,031,384	2,024,169	3,055,553
Data Source: CSO			
Total Unitised Traffic with EU continental ports (tonnes)	5,806,384	5,384,169	11,190,553
Landbridge traffic as percentage of unitised traffic with EU continental ports	18%	38%	27%
Data source: CSO			

Table 9 shows CSO data on unitised traffic between Ireland and EU continental ports in 2016. 38% of unitised traffic exports to EU continental ports are shipped via the UK landbridge. This demonstrates the relative importance of the UK landbridge for Irish exporters.

3.4 SURVEY SUMMARY

The survey consisted of an online questionnaire, which was circulated to more than 200 companies. Respondents included members of the Irish Exporters Association (IEA), the Irish Road Haulage Association (IRHA), the Irish International Freight Association (IIFA) and the Freight Transport Association (FTA Ireland).

Responses were received from 75 companies as shown in Table 10. The survey questions are included as Appendix A for reference.

TABLE 10

RESPONSES FOR THE LANDBRIDGE SURVEY

Type of company	Number of responses
Transport	53
Food / Drink	8
Manufacturing / Medtech	8
Pharma	2
Other	4
Total	75

Survey respondents accounted for 40% of the RoRo business between the island of Ireland and the UK. According to the survey responses collected, the total volume of landbridge business handled by the respondents was 83,852 units, which accounts for 58% of the landbridge traffic as estimated using the trade and port traffic statistics.

Fourteen of the respondents reported landbridge traffic volumes greater than 1,000 units per year. The thirty responses with the greatest volumes are shown in Figure 3. The ten landbridge users with the greatest traffic volumes of those surveyed accounted for 89% of the total volume of landbridge traffic reported in the survey. Therefore, significant impacts on the volume of landbridge traffic are likely to depend on decisions taken by a small number of landbridge users.

Some significant haulage companies using RoRo services do not carry landbridge traffic.

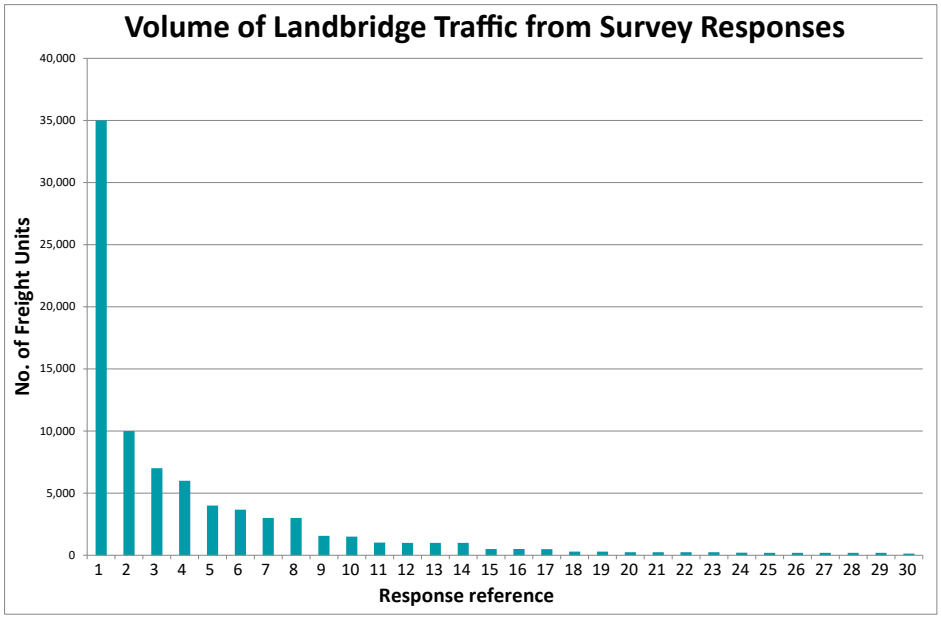


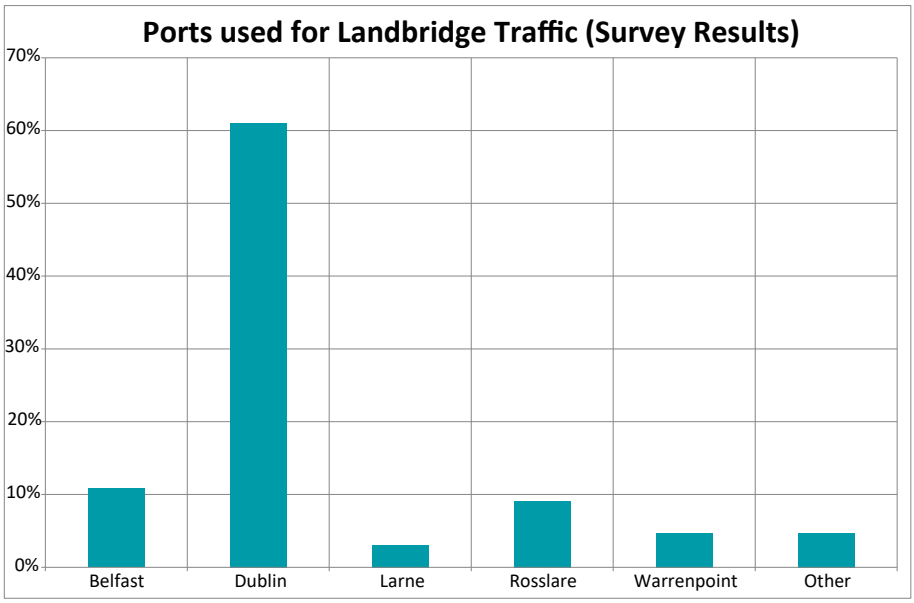
Figure 3: Breakdown of Volume of Landbridge Traffic from Survey Responses

The majority of the landbridge traffic is routed through Dublin Port, as shown in Figure 4. The landbridge volumes reported in our survey[7] were 45,075 freight units for Dublin port and 6,731 for Rosslare port, which is in proportion to the volume of RoRo traffic moving through these ports.

The survey revealed that landbridge use is relatively evenly distributed across industry sectors.

The factors that influence the use of landbridge are shown in Figure 5. Transit time emerges as the most important factor for choosing the landbridge route. The "Frequency of Services" variable is related to transit time and also emerges as an important consideration.

These findings are consistent with those from industry consultations that identified that landbridge is used predominantly by time sensitive traffic.



7 Landbridge survey results should be understood as distinct from IMTE data reported elsewhere in the report.

Figure 4: Ports used for the Landbridge Traffic

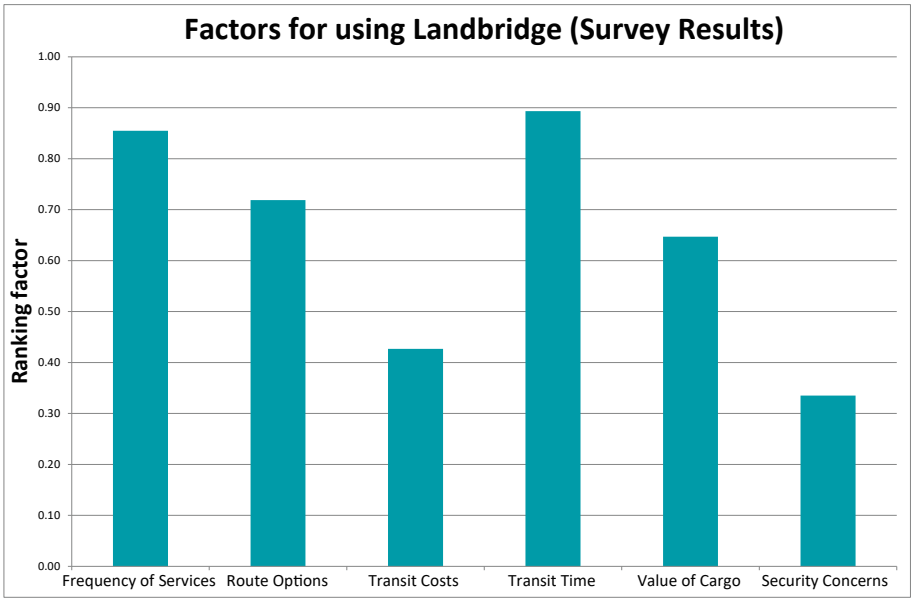


Figure 5: Factors influencing the use of the Landbridge

3.5 COMMENTS FROM SURVEY RESPONDENTS

The final survey question provided the opportunity for respondents to identify the factors that would impact their decisions to use the landbridge. Respondents highlighted:

1. Concerns that Brexit would have a negative effect on the efficiency and competitiveness of the landbridge, with particular emphasis being placed on this issue by the agri-food and seafood sectors and by other sectors that rely on speed of transit to access certain markets and to compete effectively.

2. '*Uncertainty* and *reduced control*' over transit times as a significant deterrent, in addition to the administrative burden of customs controls and the impact of increased transit times on the welfare of drivers.

3. A direct knock-on effect for time-sensitive goods, where this delay in time would lead to a '*deterioration of short shelf life goods*'.

4. '*Expected back-logs at ports*' which will lead to '*traffic congestion*'.

5. The process of customs inspections and the '*administrative burden*' overall was another key theme identified by respondents, where '*inspection delays*' could arise from '*complex paperwork*'. In particular, respondents felt that '*customs paperwork will add to the hassle for customers and increase costs*', with other administrative issues highlighted such as VAT '*at point of entry*'.

6. Uncertainties around the use of '*the antiquated TIR Carnet Scheme*'. The Scheme is based on the 'Convention on International Transport of Goods Under Cover of TIR Carnets', a 1975 multilateral treaty that aimed to simplify and harmonise the administrative formalities of international road transport. '*There are very few (if any) operators in Ireland whose vehicles have TIR certification and to my knowledge there is nobody in Ireland who can provide this.*'

7. Uncertainties due to Brexit might result in '*a reduction in the number of drivers in the workforce.*'

8. The welfare and wellbeing for drivers was also brought up in terms of changes in drivers' working hours, and the availability of '*driver accommodation on some direct ferries to Europe*'.
9. The '*availability of alternative routings to the continent*', such as to Scandinavia and the Benelux countries was another key issue, with respondents highlighting the need for '*direct services*' or '*availability of direct options*' to the European continent.

3.6 LANDBRIDGE CHOICE FACTOR ANALYSIS

SAMPLING AND METHODOLOGY

The survey sample is made up of companies accounting for 58% of Landbridge traffic and 40% of the total RoRo freight units for all ports on the island of Ireland. Nine transport companies surveyed were within the top ten users of the Landbridge. The survey instrument is comprehensive with respect to industry coverage since a substantial proportion of the industry population was captured by the sample.

Breen et. al. (2015) identify a number of factors that determine shipping volumes between Ireland and continental Europe through the UK. These included frequency of service, transit cost, transit time, cargo value, route options, and security. In the current study, survey participants were asked to rank the importance of these factors (using a 6-point Likert scale[8]) on the decision to use the UK landbridge. Linear regression was then used to identify the most significant factors in this regard. Of the factors listed, time, cost and security emerged as important. A discrete choice econometric model was then used to identify the main factors driving company-sensitivity to transit time and cost increases, since these are perceived to be the factors most likely to be affected by Brexit.

Increases in transit time and cost through the Landbridge have the potential to displace current demand for this route option; displaced demand would then be redirected onto alternative, direct routes to the continent. However, this would not be possible in the case of certain perishable goods or where supply chains operate on a "just-in-time" basis. The nature of the product type being transported will partially determine a company's preferences for time and cost options; thus a company's product type will influence their decision to continue using the Landbridge, or switch to a direct route, should time and cost changes occur. Our analysis therefore evaluated the impact of companies' main product type on the probability of making this shift in route choice. Product types used in the analysis were food and live animals, beverages and tobacco, manufactured articles, chemical and pharmaceutical products and machinery and transport equipment.

8 The Likert scale is an established rating scale used to measure attitudes or opinions to a topic. A low score indicates a negative attitude towards the topic being asked about, while a high score indicates a positive attitude. An upper value of 6 was placed on the likert scale uses so that respondents answers could be classified as binary: 1-3 representing a negative attitude and 4-6 representing a positive one.

KEY FINDINGS OF LANDBRIDGE SURVEY

A key question regarding Brexit is to what extent it will alter the time and cost of the Landbridge route. The elasticity of demand given changes in time and cost is not always linear, but instead can demonstrate tipping points. In such a case, time and cost could rise without any apparent change in demand. At some point however, a continued increase in time and cost will elicit a significant and negative response in demand. In our analysis we sought to identify these tipping points in demand for the Landbridge route. The analysis yielded the following findings:

» **Companies trading in food and live animals tend to have a higher time tipping point than companies trading in other products**

The vast majority of food products moved in and out of Ireland will be processed or refrigerated and therefore have an extended shelf life. Companies moving food and live animals were 17% more likely to report a tipping point of twelve hours or more.

» **Companies trading in machinery and transport equipment tend to be less time tolerant than other companies**

Our analysis suggests that companies trading/ transporting machinery and transport equipment are 47.9% more likely to be more responsive to transit time increases than other companies. This is an intuitive result since the globalised nature of manufacturing today involves highly integrated processes between companies collaborating internationally. For example, the Volkswagen Group has 119 factories at locations globally including 20 European nations and 11 in Asia, the Americas and Africa (Die Welt 2018). In May 2018, an Irish technology company was selected to supply Volkswagen Group with technology to be used in the manufacture of its new SUV model (Hamilton 2018). This level of integration requires stringent deadlines for delivery of manufacturing inputs that are themselves manufactured at sites around the world. As a result, companies operating in this market will have a lower demand tipping point in response to time increases compared to companies in other sectors.

» **As the importance of transit time for a company increases, there tends to be lower probability of increases in costs affecting the tipping point in demand, and vice versa.**

Survey respondents ranked the importance of transit-service characteristics (e.g. time and cost) with a value of 1 representing the least important and 6 being the most important. The probability of preferring the lowest cost range decreases by 39.1% for companies ranking transit time with point 2, by 44.5% for companies ranking transit time with point 3, and by 86.6% for companies ranking transit time with point 5, compared to companies ranking transit time with point 1. Companies were therefore more willing to accept higher levels of cost if they placed a high level of importance on transit time. This negative relationship between companies' attitude to transit time and cost can be inverted, so that companies placing a high level of importance on cost are less time sensitive. The general conclusion is that the tipping point of a companies' demand for the Landbridge route will tend to be driven by either changes to time or changes to cost, but not both.

» **Relatively high value goods**

In the context of companies using the Landbridge for shipment of goods with a relatively high value, the effect of the increased transport costs is likely to be small. In the case of the latter finding, any risks of a decrease in national competitiveness, while small, could be offset by efforts to make borders as seamless, efficient and low-cost as possible. Although such solutions are under consideration, they have not been developed at this point. This should be achieved by exploring best practice elsewhere in the world and by making use of technologies such as digitalisation, blockchain and integration of data sets. This will enable customs authorities to manage these risks and maximize the free flow of trade.

4.0

FINDINGS

4.0

FINDINGS

Brexit will pose significant challenges for the Irish economy, particularly in relation to trade. The landbridge has been, and will continue to be, of strategic importance for major sectors of the Irish economy. It is an important route to market for Irish importers and exporters, whose goods are time-sensitive or high value. The study found that circa 150,000 vehicles use the landbridge each year.

There has been significant interest in the shipping and ports sectors regarding the implications of Brexit on trade flows and port operations. These industry sectors have previously demonstrated their responsiveness and resilience in highly competitive markets, which creates confidence in their ability to respond to the challenges of Brexit in terms of additional capacity, new routes and new operating models.

This responsiveness is evidenced by the recent deployment of additional capacity to the Dublin to Zeebrugge / Rotterdam routes by CLdN Cobelfret SA, the introduction of additional direct sailings to France by Irish Ferries and the commencement of a Cork to Santander service by Brittany Ferries. However, industry cannot negotiate the terms of the trading relationship that Ireland will have with the UK post-Brexit.

The feedback from the consultations highlighted the important role of the EU and Irish Government in ensuring that the additional administrative and bureaucratic burden that Brexit will place on the maritime industry is minimized; for example, where feasible, through facilitating the creative use of technology, data analytics, and other innovative approaches. The responsiveness of the Irish shipping and ports sector will not be sufficient, in itself, to address these challenges, many of which will lie outside the borders of the Irish state.

KEY FINDINGS FROM THE ANALYSIS UNDERTAKEN IN THIS STUDY ARE:

1. From calculations using CSO trade figures and port traffic statistics, the volume of RoRo traffic using the Landbridge to transport goods to and from European ports is approximately 3,000,000 tonnes, which equates to around 150,000 Heavy Goods Vehicles (approximately 16% of the RoRo traffic between Ireland and Britain).

2. The average value of goods, in € per tonne, is over three times higher for goods transported to/from the rest of the EU compared to goods transported to / from Britain (see Table 6, section 3.3). Of the circa 5,000,000 tonnes of goods Ireland exports to the European continent, approximately 2,000,000 tonnes (40%) with an estimated value of €18.2 billion is transported via the landbridge. The actual value may be higher as there is evidence that the short transit times for the landbridge route are favoured for transporting higher value goods.

3. The calculations of landbridge traffic using CSO statistics are supported by evidence gathered from consultations with ports and shipping companies operating the Shortsea and Longsea RoRo routes, where circa 20% of Shortsea traffic and circa 5% of Longsea traffic are destined for EU ports.

4. The survey of importers, exporters, freight forwarders and transport companies reported that 83,852 freight units were using landbridge routes, however, 89% of this volume is concentrated in the top ten users of the landbridge. Hence decisions by a small number of companies could lead to significant changes in demand for alternative transport routes.

5. The survey found that transit times, and associated factors of frequency of services and route options, are the main reasons for the use of the landbridge.

6. The survey results indicated that over 80% of landbridge traffic goes through Dublin Port, which is consistent with the analysis of the Shortsea and Longsea traffic volumes reported in the IMTE.

7. 38% of Irish unitised exports (RoRo and LoLo traffic) to EU continental ports ship via the landbridge. This highlights the importance of the landbridge as a transport route for Irish exporters.

5.0

CONCLUSIONS AND RECOMMENDATIONS

5.0

CONCLUSIONS & RECOMMENDATIONS

The shipping, ports and transport sectors in Ireland have demonstrated considerable efficiency and responsiveness in dealing with market challenges. These industry sectors are highly competitive and demand innovative, flexible and creative solutions. However, this responsiveness will be insufficient to insulate certain sectors of the Irish economy form the adverse effects that Brexit will have on the efficacy of the landbridge. The agri-food, seafood and automotive sectors are particularly exposed, as are other sectors whose products are perishable or whose supply chains rely on swift transit times.

Our survey and consultations identified confidence within these industry sectors in their ability to deal with Brexit related challenges that are within their control. Concern was expressed in relation to the administrative and bureaucratic burden that Brexit could create, resulting in an erosion of national competitiveness. Industry practitioners used the survey and consultation process to highlight the important role of the Government to take all reasonable steps to lighten this burden.

KEY RECOMMENDATIONS THAT EMERGE FROM THIS STUDY ARE:

1. The Irish and EU Governments are currently negotiating the circumstances of Brexit and the importance of the landbridge for Ireland has been highlighted. Negotiation should be for as little change as possible in the existing transport system, including the landbridge. This is in line with Ireland's position for Brexit negotiations. Where change is necessary that results in the re-introduction of borders and customs controls, Government should, where feasible, facilitate the use of technology, international best practice and the deployment of additional resources to minimise the burden on industry and maintain national competitiveness.
2. Assess global best practice for the use of technology and implementation of innovations in digitalisation, such as Blockchain, Big Data and Internet of Things, to mitigate risks of changes to costs and transit times for use of the landbridge.
3. Support ports, shipping companies and transport service providers to develop their capability to prepare for Brexit. The development plans and direct actions which could be supported through the provision of funding would serve to mitigate the impact of Brexit.

4. Identify opportunities for funding from EU programmes, for example the Connecting Europe Facility (CEF), Motorways of the Sea and Horizon 2020, to fund solutions to the problems that Brexit will pose for Ireland, particularly those related to increased peripherality and disruption to the North Sea - Mediterranean Corridor on which Ireland is located, as observed in Figure 1.

5. Ireland's position on Core Corridors is enhanced to mitigate the impacts of disruption to the current North Sea - Mediterranean Core Corridor on which Irish ports are currently located. Positioning Irish ports on both the reconfigured NSMED and Atlantic Core Corridors would support the overall goal of maintaining Ireland's connectivity to the EU's single market.

6. The IMDO continue its research and analysis in monitoring trade flows through the port networks, in order to identify changes in current trading patterns and modal shifts at the earliest opportunity.

7. Some sectors will be disadvantaged more than others by any disruption to the landbridge. Recent work by the Department of Finance indicates that certain sectors such as Food and Live Animals as well as Machinery and Transport Equipment will be substantially more exposed to the UK market in comparison to the other EU 27 Member States (Department of Finance 2017). Further research is required on the economic impacts of changes to the landbridge routes on specific sectors, building on the transport impacts assessed in this study. Deeper sectoral analysis is required to understand these impacts. In-depth case studies could provide valuable insights.

ANNEX A

AIR FREIGHT

IRISH AIR FREIGHT BACKGROUND

Air cargo can be moved in passenger aircraft, or in dedicated air cargo aircraft. However, there can be seasonal constraints with air freight, particularly during periods of high passenger demand, where storage can be limited in the hold of passenger aircrafts. Dedicated air cargo services depend on demand justifying the service being provided (Department of Transport 2013, p. 12).

A report by the Irish Exporters Association (IEA) entitled *All-Island Airfreight Study*, identified why companies use air freight. The report highlighted that air freight 'plays at various levels of significance in their logistics strategies', with speed a key factor in the supply-chain for high-value products. However, due to 'the high cost of this cargo transport mode, many companies find it barely sustainable and their embrace of air freight is much more tentative'. The report identified how pharmaceutical companies were facing a decline in profits due to the expiration of patents. Such companies had enacted a strategy 'to deploy sea transport as the regular logistics solution' and would only use air freight in 'emergency' situations, such as if production lines are threatened or where ad hoc market opportunities arise (Irish Exporters Association 2012, p. 59).

The IEA study identifies the prevalence of 'air-trucking' to overseas airport hubs by Irish companies. Many transport operators use air-trucking to transport their goods from Ireland to airport hubs in order to avail of direct long haul connections that are not available from Irish airports.

AIR FREIGHT IN IRELAND

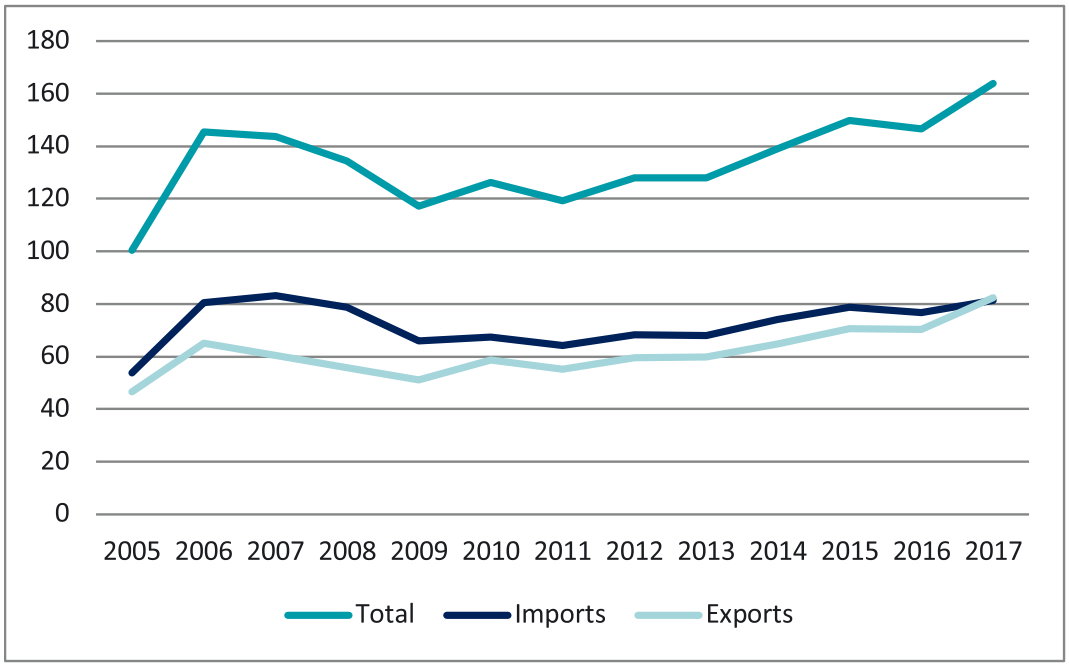
Air freight volumes through Irish airports in 2017, as shown in Table Annex 1, totalled 163,900 tonnes. Air freight represents approximately 1% of all Irish trade tonnage, but accounts for about 35% of the value (Department of Transport 2013, p. 12). In 2017 for the first time, exports exceeded imports, although only marginally, as outlined in Table Annex 1. The gap between both narrowed in recent years, and was at its widest in 2008 when imports accounted for 59% of trade flows, as displayed in Figure Annex 1.

TABLE ANNEX 1

EXPORTS AND IMPORTS: 2017

	Exports	Imports	Total
Tonnes	82,400	81,500	163,900

Source: CSO – Aviation Statistics

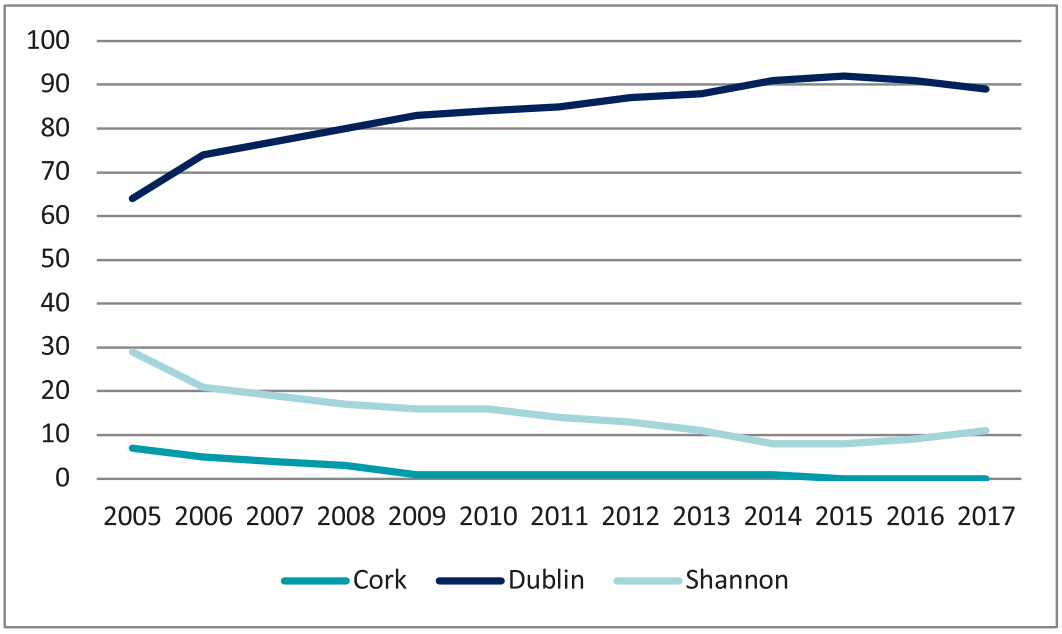


Source: CSO – Aviation Statistics

Figure Annex 1 – Air Freight – Volume ('000): 2005 - 2017

In terms of value, three products account for 66% of all Irish air freight: Medical and Pharmaceutical products account for 38%, Organic - Chemicals 18% and Electrical Machinery and Appliances 10%. In terms of volume, the top three products account for just 20%, with Medical and Pharmaceutical at 7%, Miscellaneous Manufactured Articles at 7% and Office Machines & Data Processing Machines at 6%.

Dublin Airport dominates the market, as can be observed in Figure Annex 2, where its share of air freight traffic has increased from 64% to 89% from 1995 – 2017, while volume decreases were reported through Cork and Shannon during this period.

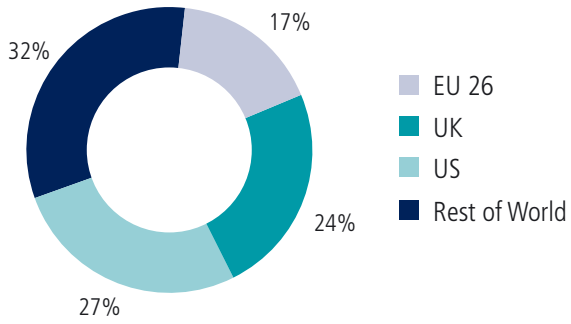


Source: CSO – Aviation Statistics

Figure Annex 2 – Air Freight – % Share By Airport: 2005 - 2017

In terms of volume, the EU26 (excluding the UK) account for 17% of Irish trade in air freight, with Germany, Belgium, and France accounting for 9%, 4% and 2% respectively. The UK accounts for 24% of all Irish trade in air freight. The remaining 59% represents trade with the rest of the world, which is dominated by the US (27%), United Arab Emirates (15%) and Iceland (4%).

Ireland has benefited from the Open Skies Agreement between the EU and the US, which came into effect in 2008. It introduced a single air transport market, removing many restrictions on air services (European Commission 2018b), allowing Ireland to benefit from accessing long-haul flights to the US from airport hubs in both the UK and the EU. Ireland is generally well served by air freight carriers, with good access to world-wide destinations primarily through major port-hubs in the UK and the EU (Department of Transport 2015, pp 28 – 29), as presented in Figure Annex 3.



Source: CSO – Aviation Statistics

Figure Annex 3 – Air Freight – Trade – Imports and Exports: 2017

SURVEY RESULTS

The landbridge survey for this study included a separate air freight section, which can be viewed in Appendix A. The response rate was 25%. The survey recorded that 21,153 tonnes was moved as air freight in 2017. A significant majority of respondents (75%) indicated that 0 – 20% of their overall products are destined only for the EU. This is consistent with CSO research which identifies that Ireland's airfreight trade with the EU is less than airfreight with the UK or the US.

Table Annex 2 highlights the products which survey respondents move by air, based on CSO commodity categories. Manufactured Articles was the largest segment for exports (33%) and imports (32%). As mentioned by both the IEA report and Department of Transport (2015, p. 29) currently there is significant volumes of cargo which are transported by truck and ship to the UK or EU airports where they are loaded on to cargo planes. Air-trucking is a key part of airfreight logistics, and was included in the survey, where a number of respondents (14%) recorded using it in 2017.

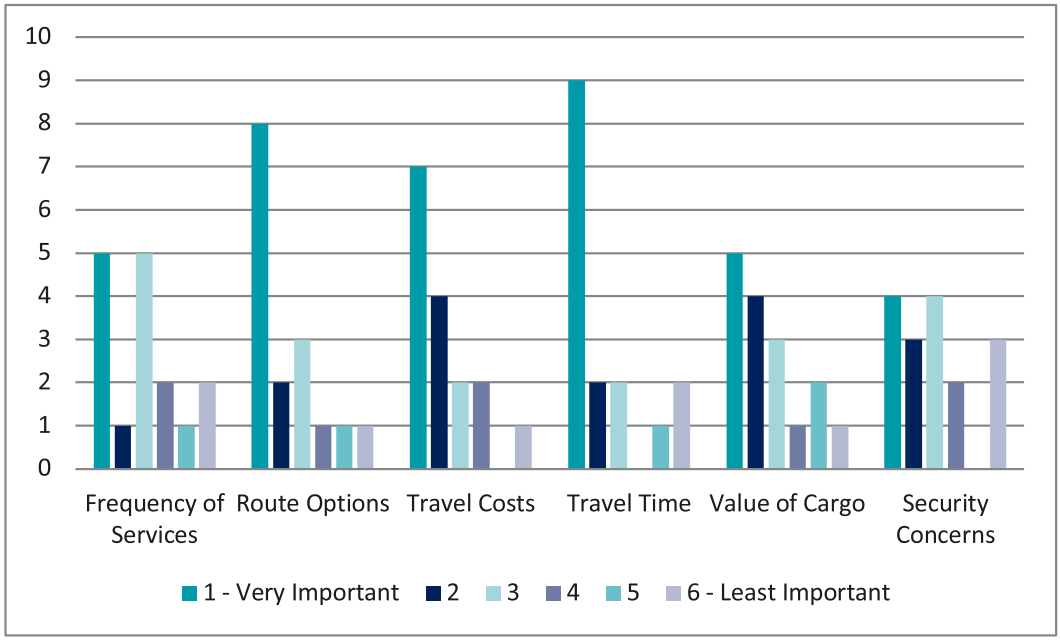
TABLE ANNEX 2

PRODUCTS MOVED THROUGH AIR FREIGHT: 2017

Exports	% of Respondents	Imports	% of Respondents
Manufactured Articles	33	Manufactured Articles	32
Chemicals & Pharma	20	Machinery & Transport Eq.	27
Machinery & Transport Eq.	20	Chemicals & Pharma	23
Food & Live Animals	17	Beverages & Tobacco	9
Beverages & Tobacco	10	Food & Live Animals	9
	100		100

Source: IMDO Landbridge Survey

Respondents were asked to rank choice influences across a range of variables, including transit time, route options, frequency of service, and security concerns. A six-point Likert scale was used where 1 = very important, and 6 = least important. The key choices identified by the survey, as presented in Figure Annex 4, were Transit Time, Route Options and Travel Costs.



Source: IMDO Landbridge Survey

Figure Annex 4 – Air Freight – Trade – Imports and Exports: 2017

The results from this section of the survey confirm that air freight is a niche transport mode for Irish companies. However, companies that use air freight are highly dependent on the speed to market that it offers and regard it as strategically important to the future success of their respective businesses. Airfreight allows many exporters to meet market demands, as it guarantees that their products will arrive 'on time and in good condition (Irish Exporters Association 2012, p. 5), which, for certain product categories, will ensure air freight continues to be used.

CONCLUSIONS & RECOMMENDATIONS

Key to the success of airfreight in Ireland has been the strong provision of airfreight routes through the EU's European Common Aviation Area (ECAA). As a result, Ireland has access to world-wide destinations primarily through major airport-hubs in the UK and EU. Additionally, air-trucking plays a significant role in overall logistics, in part due to the accessibility to these important airport-hubs via RoRo services from Ireland.

Brexit will pose challenges to the air freight sector. The UK will be leaving the aviation regulatory framework of the ECAA, the European Aviation Safety Agency (EASA) which underpins the ECAA, and the legal jurisdiction of the Court of Justice of the EU, which deals with certain disputes. One of the biggest issues around the future of air freight in light of Brexit is over customs and border controls, such as for weight checks, veterinary regulations and phytosanitary and agricultural inspections. Additionally, the UK will need to reach its own Open Skies Agreement with the US (Schoeters 2018).

The EASA has stated that 'as the withdrawal and transitional agreement negotiations are currently underway EASA cannot yet determine the ultimate impact of the withdrawal on EASA or its stakeholders within the EU-27 and four associated countries or within the UK. The withdrawal will significantly alter EASA's cooperation with UK authorities and will not leave EASA's stakeholders untouched' (EASA 2018).

Although airfreight in Ireland is a niche area, specific sectors will be affected by change in the current regulatory framework as a result of Brexit. In order to avoid these effects, the study recommends that:

1. Ireland should aim to ensure continued connectivity between the EU and the UK after withdrawal, by maintaining the status quo to the greatest extent possible;

2. The CSO should continue to monitor airfreight trade flows in order to identify and highlight changes in airfreight trading patterns and modal shifts at the earliest opportunity;

3. A more detailed sectoral analysis should be carried out in order to protect those sectors that will be adversely affected by the impact Brexit on airfreight, and to explore potential opportunities to increase air freight volumes.

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GLOSSARY

Airfreight: Relates to air cargo that can be moved in passenger aircraft, or in dedicated air cargo aircraft.

Air-trucking: Involves transport operators transporting their goods from Ireland to UK airport hubs, in order to avail of direct long haul connections that are not available from Irish airports.

AUW: Average Unit Weight.

Bord Iascaigh Mhara: Established in 1952, it is the agency of the Irish state with responsibility for developing the Irish marine fishing and aquaculture industries.

Break Port Traffic: Involves loose, non-containerised cargo stowed directly into a ship's hold. Commodities such as timber, steel products, machinery and general project cargo make up the majority of break bulk cargo. The main drivers in this segment's volumes are construction activities and the delivery of project cargo.

Bulk Port Traffic: Refers to three market segments of port and shipping activity, Liquid, Dry, and Break Bulk which are further explained individually in this glossary.

Central Corridor: This refers to shipping traffic operating between Dublin with Heysham, Holyhead and Liverpool. There are four corridors in total, Central, Continental, Northern and Southern.

Continental Corridor: This refers to shipping traffic operating between Cork with Roscoff and Santander; Rosslare-Europort with Cherbourg and Roscoff; Dublin with Cherbourg and Zeebrugge/ Rotterdam. There are four corridors in total, Central, Continental, Northern and Southern.

Core Network Corridors: Are the most important connections within the Comprehensive Network linking the most important nodes of the EU's TEN-T policy. It includes nine key corridors with Ireland located on the North Sea – Mediterranean corridor.

Customs Union: Refers to the EU operating as a single area for customs purposes, whereby no customs duties are paid on goods moving between Member States; all Member States apply a common customs tariff for goods imported from outside the EU; goods that have been legally imported can circulate throughout the EU with no further customs checks.

Dry Bulk: Commodities in this segment include animal feed, iron ore, coal, fertilizer, cement, bauxite and alumina. This market segment can be particularly affected by adverse or mild weather conditions during the course of a year.

DTTAS: Department of Transport, Tourism and Sport.

EU26: Refers to the number of Member States in the EU, excluding Ireland and the UK.

EU27: Relates to the number of Member States in the EU, excluding the UK.

EU28: Is the current number of Member States in the EU, including the UK.

Great Britain: Relates to England, Scotland and Wales of the United Kingdom.

HGVs (Heavy Goods Vehicle): Are those with a total weight above 3,500 kg. (vehicle and load).

Horizon 2020: Is a European Commission research and innovation funding programme with nearly €80 billion available from 2014 – 2020.

IMDO: Irish Maritime Development Office.

IMTE: Irish Maritime Transport Economist is published by the Irish Maritime Development Office on an annual basis which tracks trends in Ireland's maritime industry and highlights the issues that influence the performance of this important industry sector: https://goo.gl/eHS8Mf

Landbridge: Describes the movement of Irish imports and exports between Ireland and the European continent via the UK road and ports network

Liquid Bulk: Is a commodity that ranges from petrol for cars, cooking oil for home consumption, to crude oil or liquefied natural gas. Due to their physical characteristics, these are not boxed, bagged or hand stowed, but are instead stored in large tank spaces, known as the holds, of a tanker.

LoLo (Lift-on Lift-off): LoLo involves a specific ship that engages in the transportation of containerised freight, that is loaded and unloaded with the use of different cranes or other lifting devices at a port.

Longsea Routes: Refer to the routes which take longer than 3 – 4 hours to reach their destination from the island of Ireland; Dublin – Liverpool (8hrs); Dublin – Heysham (9hrs); Belfast – Birkenhead (8hrs); Warrenpoint – Heysham (8hrs); and Belfast – Heysham (9hrs).

Merchandise Trade: Goods which add or subtract from the stock of material resources of a country by entering (imports) or leaving (exports) its economic territory. Goods simply being transported through a country (goods in transit) or temporarily admitted or withdrawn (except for goods for inward or outward processing) do not part of this.

Motorways of the Sea: Aims to introduce new intermodal maritime-based logistics chains in Europe, to improve the EU's transport organisation within the years to come.

Northern Corridor: Involves shipping traffic operating from Northern Irish ports with Great Britain, such as Belfast with Brikenhead, Cairnryan and Heysham; Larne with Cairnryan; and Warrenpoint with Heysham. There are four corridors in total, Central, Continental, Northern and Southern.

RoRo (Roll-on Roll-off): RoRo involves vessels designed to carry wheeled cargo, such as cars, trucks, semi-trailer trucks, trailers, etc., that can be driven on and off the ship on their own wheels, or using a platform vehicle, such as a self-propelled modular transporter.

Shortsea Routes: Refer to shipping routes where the transit times to reach their destinations from the island of Ireland; are between 3 – 4 hours. This includes Dublin – Holyhead (3hrs); Belfast – Cairnryan (2hrs); Larne – Cairnryan (2hrs); Rosslare-Europort - Pembroke (4hrs) and Fishguard (3hrs).

Single Market: Refers to the EU operating without any internal borders or other regulatory obstacles to the 'four freedoms', which are the free movement of goods, persons services and capital. It was established by the Single European Act of 1987, in order to reignite momentum towards a fully functioning EU market, and to replace the original Common Market, that was created when the EU was founded in 1957.

Southern Corridor: Refers to shipping traffic operating from Rosslare-Europort to Pembroke and Fishguard. There are four corridors in total, Central, Continental, Northern and Southern.

TEN-T (Trans-European Network): A European Commission policy directed towards the implementation and development of a Europe-wide network of roads, railway lines, inland waterways, maritime shipping routes, ports, airports and rail-road terminals.

APPENDIX A

SURVEY QUESTIONNAIRE

SECTION 1 / 6

The Irish Maritime Development Office (IMDO) has been tasked by the Department of Transport, Tourism and Sport (DTTAS) to conduct a research report into the use of the Landbridge by Ireland, and how Brexit could impact that use.

We would very much appreciate your input by taking part in this survey through this link, which will take approx. 15 minutes:

It has three sections: “Using the Landbridge”, “Air Freight” and “Decision Making Factors”.

Your valuable insights will be used to help inform the DTTAS about future policy changes on this important issue.

In order for the data received in this survey to be as robust as possible, we ask for a contact email address for respondents as we may need to follow up to check validity and accuracy. Please note however, that all information collected in this survey will be aggregated, ensuring the absolute confidentiality of your responses and contact details will only be used for administrative purposes.

We would appreciate if this survey could be forwarded onto those within your organisation, where their professional experience relates to the subject of the Landbridge, and could aid us in our findings.

We would like to thank you for your assistance in this survey.

Ciarán O’ Driscoll,

Economic Researcher

QUESTION 1:

Do you use the Landbridge to move products to / from the EU?

Yes – Continue to Next Section

No – Go to Section 6

SECTION 2 / 6

Section 1: Using the Landbridge

This section will help us understand how your company engages and makes use of the Landbridge in your logistical operations.

QUESTION 2:

Are you an Importer, Exporter, Freight Forwarder or Haulage Company?

1. Importer
2. Exporter
3. Freight Forwarder
4. Haulage Company

QUESTION 3:

How many shipments did you move through the Landbridge in 2017, as expressed in 40ft. containers or trailers:

QUESTION 4:

What percentage of your Imports or Exports does this represent?

If you do not import or export, please select 'None' as an answer.

	None	0 - 20%	20 - 40%	40 - 60%	60 - 80%	80 - 100%
Export	☐	☐	☐	☐	☐	☐
Import	☐	☐	☐	☐	☐	☐

QUESTION 5:

What products do you move through the Landbridge

If you do not import or export, please select 'None' as an answer.

	None	Beverages and Tabaco	Chemicals & Pharmaceuticals	Food & Live Animals	Machinery & Transport Equipment	Manufactured Articles	Others
Export	☐	☐	☐	☐	☐	☐	☐
Import	☐	☐	☐	☐	☐	☐	☐

QUESTION 6:

What percentage of your Landbridge traffic is destined only for the EU?

If you do not import or export, please select 'None' as an answer.

	None	0 - 20%	20 - 40%	40 - 60%	60 - 80%	80 - 100%
Export	☐	☐	☐	☐	☐	☐
Import	☐	☐	☐	☐	☐	☐

QUESTION 7:

What % of your Landbridge traffic moves through these ports where the UK is not the final destination?

If you do not use a specific port, please select 'Does Not Use' as an answer.

	Does not use	0 - 20%	20 - 40%	40 - 60%	60 - 80%	80 - 100%
Belfast	☐	☐	☐	☐	☐	☐
Dublin	☐	☐	☐	☐	☐	☐
Larne	☐	☐	☐	☐	☐	☐
Rosslare-Europort	☐	☐	☐	☐	☐	☐
Warrenpoint	☐	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐	☐

QUESTION 8:

Does your company have in-house administrative skills and IT knowledge to deal with a full re-imposition of customs and border controls on the Landbridge? E.g.: custom declarations paperwork.

Yes

No

Other

QUESTION 8A:

If No, will you be sourcing these skills Externally or conduct In-House Up-skilling?

Externally

In-House Up-Skilling

Other

SECTION 3 / 6

Section 2: Use of Air Freight

This section focuses in particular in how your company uses the transport option of Air Freight to the UK.

Air Freight refers to the commercial transfer and shipment of goods via an air carrier. Such shipments travel out of commercial and passenger aviation gateways to anywhere planes can fly and land.

QUESTION 9:

Do you use Air Freight?

Yes – Continue to next section

No – Go to Section 5 (Section 3: Decision Making Factors)

SECTION 4 / 6

Section 2: Use of Air Freight (continued)

QUESTION 9A:

How many Air Freight shipments did you move through the UK airports in 2017, as expressed in tonnes?

QUESTION 9B:

What % of your UK Air Freight traffic is first transported from Ireland to the UK is destined only for the EU?

	0 - 20%	20 - 40%	40 - 60%	60 - 80%	80 - 100%
Percentage of Air Freight...	☐	☐	☐	☐	☐

QUESTION 9C:

What products do you transport through Air Freight?

If you do not import or export, please select '**None**' as an answer.

	None	Beverages and Tabaco	Chemicals & Pharmaceuticals	Food & Live Animals	Machinery & Transport Equipment	Manufactured Articles	Others
Export	☐	☐	☐	☐	☐	☐	☐
Import	☐	☐	☐	☐	☐	☐	☐

QUESTION 9E:

Please rank the following factors that influence your decision to use Air Freight.
1 = Very Important, 6 = Least Important

You may award a ranking e.g.: 1 = Very Important", to more than one factor.

	1	2	3	4	5	6
Frequency of Services	☐	☐	☐	☐	☐	☐
Route Options	☐	☐	☐	☐	☐	☐
Transit Cost	☐	☐	☐	☐	☐	☐
Transit Time	☐	☐	☐	☐	☐	☐
Value of Cargo	☐	☐	☐	☐	☐	☐
Security Concerns	☐	☐	☐	☐	☐	☐

SECTION 5 / 6

Section 3: Decision Making Factors

This final section will help us in understanding why your company uses certain transportation options to the European continent and how might Brexit impact your decisions in the future.

QUESTION 10:

Please rank the following factors that influence your decision to use the Landbridge. 1 = Very Important, 6 = Least Important

You may award a ranking e.g.: 1 = Very Important", to more than one factor.

	1	2	3	4	5	6
Frequency of Services	☐	☐	☐	☐	☐	☐
Route Options	☐	☐	☐	☐	☐	☐
Transit Cost	☐	☐	☐	☐	☐	☐
Transit Time	☐	☐	☐	☐	☐	☐
Value of Cargo	☐	☐	☐	☐	☐	☐
Security Concerns	☐	☐	☐	☐	☐	☐

QUESTION 11A:

In terms of Brexit, please consider a scenario where there is a full re-imposition of custom and border controls on the Landbridge, and that it currently takes approx. 4 Hours, and approx. €500 to clear the ports entering and exiting the UK. At what point would increases in time result in your company opting to use alternative routes to the European continent, instead of the Landbridge?

	4 - 6 Hours	6 - 8 Hours	8 - 10 Hours	10 - 12 Hours	12 - 14 Hours	16+ Hours
Increases in Time	☐	☐	☐	☐	☐	☐

QUESTION 11B:

In terms of the same Brexit scenario, at what point would increases in costs result in your company opting to use alternative routes to the European continent, instead of the Landbridge?

	€500 - 600	€600 - 700	€700 - 800	€800 - 900	€900 - 1000	€1000 +
Increases in Cost	☐	☐	☐	☐	☐	☐

QUESTION 12:

What other factors do you think would impact your company using the Landbridge if a full re-imposition of customs and border controls?

SECTION 6 / 6

You have completed this survey, thank you

We would like to thank you for your submissions to this survey as part of our research report into the impact Brexit might have in Ireland's use of the UK as a transport landbridge to the European continent.

You can find more information about the Irish Maritime Development Office by contacting us at:

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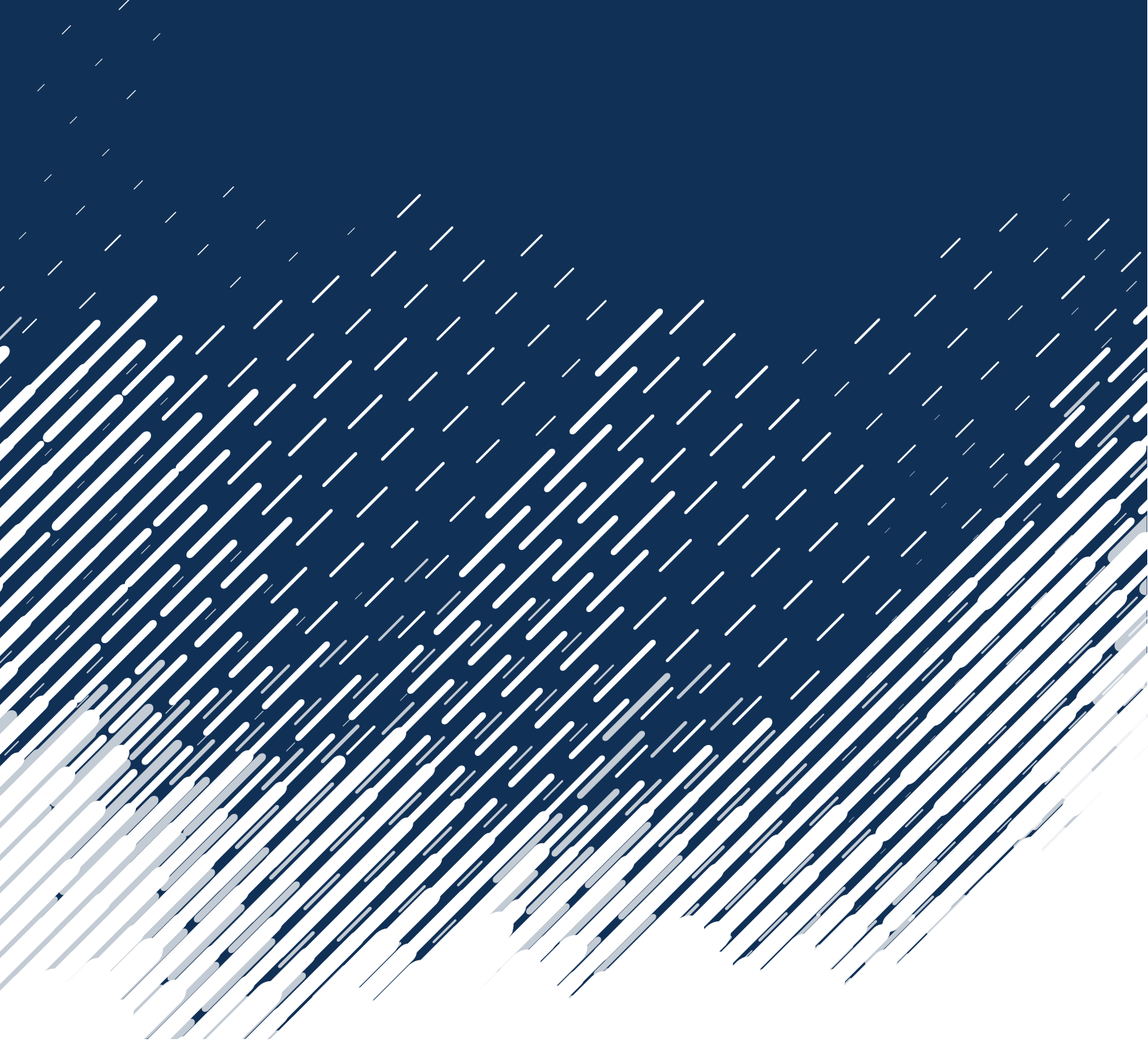

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