



Rialtas na hÉireann  
Government of Ireland

# Focus on Aerospace & Aviation

August 2020



# Aerospace and Aviation

## Description

The aviation industry encompasses aircraft-related enterprises and includes activities such as aircraft assembly and related parts manufacturing, aircraft and engine finance, aircraft MRO (maintenance, repair, overhaul), after-market support services and recruitment.

## Snapshot

Global		Market Size (pre-March 2020)	Growth Forecast
	Passenger Numbers <sup>i</sup>	4.3bn passengers (2018)	8.2bn by 2037
	Revenues <sup>ii</sup>	\$714bn (passenger and cargo) 2018	\$351bn (passenger and cargo) 2020 forecast
National	Employment	<p>MRO 2,600<sup>iii</sup></p> <p>Aircraft leasing 1,971<sup>iv</sup></p> <p>Estimated employment of 4,500<sup>v</sup> in companies serving the space sector.</p> <p>(Over 140,000 jobs supported by the air transport sector in Ireland including - 39,000 (airlines, airport operators, airport on-site enterprises, aircraft manufacturers, and air navigation service); with an estimated additional 105,000 jobs supported by the air transport sector: 25,000 in the supply chain; 11,000 as a result of employee spending; and 69,000 by international tourism.)<sup>vi</sup></p>	

- i. <https://www.iata.org/pressroom/pr/Pages/2019-02-07-01.aspx>; <https://www.iata.org/pressroom/pr/Pages/2018-10-24-02.aspx>
- ii. <https://www.iata.org/en/iata-repository/pressroom/fact-sheets/fact-sheet---industry-statistics/>
- iii. Economic Evaluation of the Aircraft Maintenance, Repair and Overhaul Sector in Ireland, Indecon International Economic Consultants for Department of Transport, Tourism and Sport. (4500 including indirect and induced employment)
- iv. CSO Aircraft Leasing in Ireland 2018
- v. <https://dbej.gov.ie/en/Publications/National-Space-Strategy-for-Enterprise-2019-2025.html>

- vi. <https://www.iata.org/en/iata-repository/publications/economic-reports/ireland--value-of-aviation/> (this figure includes MRO, leasing activity, space sector and pilots)

## Pre-COVID-19 Position

***The global Aerospace & Aviation sector was buoyant prior to the pandemic and was performing particularly well in Ireland. There was growing demand for airline travel due to rising disposable incomes in emerging markets and increasing international tourism among the retired.***

- The International Air Transport Association (IATA) expected 8.2 billion passengers to travel in 2037, a doubling of the 4 billion air travellers in 2017.
- The two biggest manufacturers, Boeing and Airbus, reported positive production levels with Boeing 737s and A320s reaching an unprecedented 60 aircraft per month each in 2019.
- The worldwide commercial fleet, approximately 25,000 in-service aircraft, was forecast to expand to 37,800 over the next decade.<sup>1</sup>
- The Global Aviation industry, excluding airlines, is believed to have been worth c. \$870bn in 2018 (OEM's, parts, support industry) with airlines revenues c.\$838bn flying 4.52bn passengers and 61m tonnes of air cargo in 2019. The industry had undergone the longest growth streak across all its sectors with 14 years of unparalleled growth, profits and hiring.
- Industry growth is linked on all levels with global GDP growth and inter-connected value chains across manufacturing (tired supply chains), after-market services (MRO & Technical), airport support, finance & leasing and airport retail. The worldwide market for aircraft and aviation related services (incl. tourism) was expanding due to growing demand for airline travel from rising disposable income in emerging markets and increasing international tourism among the retired and millennial markets.
- The significant increase in aircraft numbers was estimated to see a global requirement for an additional 800,000 new pilots, 750,000 engineers and c.900,000 cabin crew over the next twenty years. Europe alone would require an additional 146,000 new pilots, 135,000 engineers and technicians and 187,000 cabin crew by 2037.

***Ireland is a global leader for the aircraft leasing industry<sup>2</sup>, exhibiting a growing capability in supplying the industry, drawing on strong competences in precision engineering and materials. A main concern prior to COVID-19 was Brexit which presents real challenges for the aviation market.***

- Over 140,000 jobs are supported by the air transport sector in Ireland and the air transport industry, including airlines and its supply chain, is estimated to support €8.9billion of GDP. Approximately, 6.8% of GDP was supported by air transport and foreign tourists arriving by

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<sup>1</sup>KPMG The Aviation Industry Leaders Report 2018

<sup>2</sup>The National Aviation Policy Second Progress Report February 2019  
<https://assets.gov.ie/19302/0a2f16b326e14e71af36250960b53c77.pdf>

air in 2018 and spending by foreign tourists supports a further €8.7 billion of the country's GDP.

- The Irish aviation ecosystem is predominantly divided into three separate parts: airlines, aviation after-market services and leasing. There are currently nine airlines operating from Ireland including Ryanair (64% all aircraft), Aer Lingus (9%), ASL Airlines (7% Cargo and Passengers), Norwegian International, CityJet and Stobart (Aer Lingus Regional). C.8% of European Fleet of 7,560 aircraft are Irish registered. Ryanair is the largest airline in Europe by passengers carried and routes and largest by fleet size.
- IDA Ireland and Enterprise Ireland clients are primarily in the leasing and MRO sectors with manufacturing activities engaged in global sub-supply and tier two and tier three sub-suppliers for aircraft and engine OEM's in Europe.
- Since Tony Ryan established Guinness Peat Aviation in 1975, Ireland has become a world leader in the aviation leasing industry. Prior to COVID-19, it was estimated that an Irish-leased aircraft took off from a runway around the world every two seconds. Irish lessors also own over 60% of the world's fleet of leased aircraft.
- The sector is a flagship for the rest of Ireland's international financial services industry and proof that Ireland can attract and retain decision-makers and be a global leader in finance. The sector is also a provider of highly skilled jobs, not just in Dublin but also in the Shannon region, with room for further regional expansion.
- Aircraft leasing companies in Ireland manage assets valued at over €159 billion, which is equivalent to 63% of the world's fleet of leased aircraft. The number of aircraft under lease increased by 36% between 2012 and 2016 with growth of 22% expected by 2021.
- 14 of the world's top 15 largest leasing companies having significant operations based here including major international players from China and the US.
- The leasing sector generated total fee income of €17.9 billion in 2018. There were ~2000 people directly employed in aircraft leasing activities in Ireland in 2018,<sup>3</sup> having grown from 400 in 2007. These are highly paid jobs, with annual pay averaging more than €208k in 2018.
- Lessors are attracted to Ireland by the availability of expertise and experience in the sector, including a pool of world class legal, taxation and financial professionals; access to a Tier-1 safety regulatory regime (Irish Aviation Authority); strong Governmental support; and by the volume of double-taxation treaties that are in place worldwide (74) as well as a conducive corporate taxation environment.
- Between 2009 and 2018 the assets of the aircraft leasing sector rose by €96.9 billion, from €43.2 billion in 2009 to €140.1 billion in 2018. Income increased by from €5.4 billion in 2009 to €17.9 billion in 2018.

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<sup>3</sup>CSO Aircraft leasing in Ireland 2018. IBEC and PWC estimate that the aircraft leasing sector supports approx. 5,000 FTE employees.

- The Maintenance, Repair, Overhaul (MRO) sector supported 2,600 high-skilled jobs directly and over 4,500 jobs overall across the economy. MRO providers spent €130m on payroll costs / wages and salaries in 2017. The MRO sector is estimated to support €192m in incomes across the Irish economy concentrated around Dublin and Shannon Airports. The MRO industry in Ireland generated revenues estimated at €413m in 2017. The estimated GVA of MRO providers in Ireland was €213m in 2017. A further €67m can be associated by the activity of the industry in terms of indirect impacts.
- MRO (aircraft and engines) is the foundation bedrock of the aviation industry in Ireland providing the technical and asset management skills that allows the leasing industry in Ireland to operate. It also provides the technical competencies required for the emergence of new specialist after-market services e.g. in predictive maintenance for aircraft operations, regulatory management services.
- Technical training in Ireland is provided jointly by industry and Solas/ETB's through the apprenticeship programmes as well as the small (by international scale) but respected Aeronautical Centres in UL, LIT, DIT and IT Carlow.
- The Irish Aviation Authority is the European Aeronautical Safety Authority (EASA) designated regulator for Ireland, very well respected globally, and is an important component of the development of the Industry.

## Impact of COVID-19 on Sector

### GLOBAL

- The global airline industry is forecast to lose a record \$84 billion this year, which is 3.2 times higher than in the Global Financial Crisis. Travel demand is expected to gradually recover from the low point in April with the step-by step opening of markets. However, recession and loss of traveller confidence will have an impact on travel demand for the rest of the year.<sup>4</sup>
- Looking to 2021, a return to profitability will be difficult for the industry. Although economic activity is expected to improve sharply in 2021 a return to pre-crisis levels of air transport activity looks unlikely. IATA expect the cautious behaviour of travellers will continue to affect travel demand at the start of 2021 and the recovery in business travel will come with a lag. Industrywide losses are expected to extend into a consecutive year. However, the losses in 2021 will moderate to \$16 billion with the rise of revenues.
- IATA estimate that total employment by airlines will decline from 2.9 million in 2019 to 1.9 million in 2020.
- Much of the global aircraft fleet was grounded throughout the second quarter of 2020 with a gradual return to activity initiated in June in Europe and in the major domestic markets in

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<sup>4</sup><https://www.iata.org/en/iata-repository/publications/economic-reports/record-loss-in-2020-extending-to-2021-but-at-a-lower-level/> IATA

China, the US and Germany, many of which have Irish suppliers. International long-haul flights remained severely impacted throughout June down c.95%, although large market states such as China have begun to allow certain foreign airlines to resume flights into the country. It should be noted that long haul passenger services are a key component for global air cargo including mail, expedited packaging (online purchasing) and high value medical products.

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- Airlines continue to look for national Government bailouts including extra furlough support for employees in lieu of full layoff's in coming weeks. e.g. BA to furlough 80% of UK staff on UK Government support but also looking at 19,000 redundancies, including at Aer Lingus.
- Major airlines bailed out to date include Lufthansa which secured c. €12bn from the Governments of Germany, Austria and Switzerland; Air France-KLM securing €7bn French/Dutch Government funding. TAP Portugal receiving €1.2bn (EU approved) with Finnair receiving €600m plus raising €500m in new cash. Cathay Pacific receiving \$5bn from the HK Government.
- Aircraft manufacturing has been severely impacted worldwide due to lack of demand. Cash flow and collapse is a concern for that side of the industry. After-market services operations for the most part (Maintenance MRO, parts repair, parts supply) is also suffering from demand and expectation that major slump will continue well into 2021. Cash and support will be key to survival for most until recovery.
- Expectation is that even post-recovery, MRO maintenance and certain after-market services will decline by at least 20% globally in 2020 as airline operations restart but have lower requirement for heavy maintenance (engine re-builds, mandatory operating based checks).

## NATIONAL

- Air travel has been heavily impacted by the pandemic. The Irish Aviation Authority (IAA) reported that 18,290 flights overall were handled by its air traffic controllers during May 2020. This represents a decrease of 83% compared to the same month in 2019. Ireland is amongst the group of worst affected countries across the European aviation network and has seen a larger decline than the average across Europe.<sup>5</sup>
- The reduction in global air passenger travel has impacted the demand for new aircraft. Airbus/Boeing have reduced their monthly airplane production rates. For example, Airbus recently announced output cuts of 33%-42% to limit damage as the pandemic grounded airlines around the world. These production rate cuts have impacted Irish suppliers of

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<sup>5</sup>Irish Aviation Authority, <https://www.iaa.ie/news/2020/06/ireland-s-air-traffic-decline-among-worst-in-europe>.

components to the industry as they are faced with this reduced demand. In addition to the reduction in demand, the Irish supplier base is also seeing a delay in payments.

- On the MRO side there has been a slight drop in demand. The MRO sector is seasonal, and demand traditionally falls off around Easter as aircraft go back into the sky for holiday season. The Irish MROs, who undertake heavy maintenance, expected a drop off and usually manage their work force through the fallow period over the summer when planes are flying. The Irish MROs saw some slight reduction in demand but most of the scheduled maintenance that was due to take place did occur bar one or two cancellations. Ancillary services like Landing Gear and APU Overhaul have seen future demand for services impacted as airlines delay making decisions until there is some surety around when they return to the skies.
- Every enterprise in the aviation value chain, with the sole exception of dedicated cargo operators, have seen severe depletion of business and are facing various degrees of financial challenge.
- DAA estimates the pandemic will cost it €160m this year alone even after 1,000 redundancies.
- The air transport sub-sector faces the most challenging outlook in the sector with ongoing concerns about viability while social distancing measures and restrictions on international travel are in place, with job losses already announced at Aer Lingus and Ryanair.
- In relation to administrative and support service (e.g. travel companies), the leasing of air transport equipment relies on businesses in other sectors of the economy being open and the level of activity within these sectors. The longer the duration of closures across these related sectors, the larger the impact on this sector. The tourism and aviation sector may have longer term challenges in terms of the levels of demand needed to sustain their business model and some potential permanent loss of activity.<sup>6</sup>
- There are also significant impacts on the wider aviation value chain with airports, airlines and their suppliers all having to down-size and reduce their workforce.
- All of the major providers of aviation services spanning airlines and airports have begun the process of implementing downsizing measures of at least 20-25% of the workforce.

## Issues, Opportunities and Challenges for the Sector

- Prospects for passenger air travel recovery is linked to the tourism industry, which is forecast to decline substantially in 2020. Ireland is a significant player globally for aircraft leasing, an industry which contributes a €541 million to the Irish economy, supporting nearly 5,000 jobs. The prolonged disruption of Ireland's air connectivity with the rest of the world could impact on our competitiveness in the sector due to uncertainty around the robustness of our supply chain and the impact on air cargo costs.

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<sup>6</sup><https://dbej.gov.ie/en/Publications/Economic-Considerations-for-Reinstating-Economic-Activity.html>, 2020

- The prolonged disruption of Ireland's air connectivity with the rest of the world could also impact on our competitiveness in the FDI sector. Where air services are suspended, re-activation is not automatic as restrictions are lifted. Developing services to markets, particularly long-haul, is a long-term investment and some of these hard-won routes may be lost for some time.
- The international transport sector makes investment decisions based on a long-term view - where financial risks associated with substantial capital costs are spread over time based on projections around the socio-economic context in which they operate. In the context of wider economic uncertainties for the sector, the current lack of clarity as to when Ireland will be able to facilitate a return to overseas travel presents a significant challenge for the sector.
- Irish MRO clients cannot travel for business development purposes due to the 14-day self-quarantine restrictions in force both in the destination country and back at home.
- Ireland will benefit from the experience of others in terms of the effectiveness of measures being applied. Effectively, this could feed into Ireland's approach for restoring international connectivity, providing some level of certainty for carriers and those economic sectors that rely on international travel to plan in an informed manner, and ultimately ensure that Ireland is positioned to re-engage its international connectivity optimally and safely.
- IATA estimates that airlines had pre-crisis cash reserves allowing them to survive an average two months of crisis conditions. Unaided, many airlines could go out of business before travel restrictions are lifted. Some governments have already provided loans or taken temporary equity stakes in airlines and airports to moderate disruption, for example in France, the Netherlands, Scandinavia, and the US.<sup>7</sup>
- State airports remain open with decimated revenue streams. Regional airports have sought continuation of supports under the Regional Airports Programme.

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<sup>7</sup> <https://www.iata.org/en/iata-repository/publications/economic-reports/third-impact-assessment/>