



Global Fleet and MRO Market Forecast  
2020-2030

# IMPACT OF COVID-19 ON COMMERCIAL MRO

March 26, 2020



Dave Marcontell  
Tom Cooper  
Carlos Garcia Martin  
Ian Reagan

## AN INDUSTRY IN UPHEAVAL

Airlines are anticipating that the [impact of the COVID-19 pandemic](#) will be even worse than the 9/11 terrorist attacks, the 2003 SARS epidemic, and the 2008 financial crisis. Many carriers are facing extreme financial pressures and making unprecedented capacity reductions in the face of severe travel restrictions imposed by more than 160 nations now reporting confirmed cases of the latest strain of coronavirus.

While 9/11 represented a sudden, severe shock to the North American aviation market and the 2008 financial crisis presented immense global economic challenges, COVID-19 is proving to be an even greater threat to commercial aviation because of global travel restrictions and massive reductions in consumer demand for air travel, evidenced in cancelled and lost bookings, and the uncertain prospects for a return to normalcy. Commercial airlines have already been forced to make significant cuts to their capacity through a combination of placing aircraft in storage and operating the remaining aircraft at lower levels of utilization.

Predicting with any certainty [fleet decisions and the effect on maintenance, repair, and overhaul activity](#) in response to COVID-19 is nearly impossible at this time, given the disease's evolving nature. These revised forecasts reflect best information and thinking available today; new information, particularly at a regional level, may result in further refinements.

While there are many unknowns about the effectiveness of the ongoing containment efforts, the timing of possible vaccines and treatments, and the ultimate impact to the global economy, the near-term impact to commercial aviation is clearly already severe. Restrictions on international travel may be required for many months as new hotspots continue to emerge. Social distancing practices and fear of infection will reduce both business and leisure demand for air travel through much of summer 2020 at a minimum.

Our current baseline scenario for the global virus expects containment to be achieved over the course of summer 2020 with a gradual increase in travel demand beginning in mid-to-late summer 2020. There will be some regional, domestic, and international variations (see Exhibit 1). This scenario expects an economic slow-down that will become recessionary in some, if not many, areas. The extent of the COVID-19 pandemic and associated recessionary conditions are not known, but the potential exists for the most significant and prolonged reduction in air travel in modern times, especially for international travel.

**Exhibit 1: COVID-19 travel demand scenarios (as of March 24, 2020)**

<b>Region (2020 MRO impact range)</b>	<b>Accelerated</b>	<b>Baseline</b>	<b>Prolonged</b>
<b>North America &amp; Western Europe</b> (\$8 B-\$17 B)	A bottom is reached sometime in April/ May, international restrictions are relaxed, and demand recovers significantly throughout the summer. Demand recovery lasts 9-10 months.	Travel demand continues to decline, bottoming out from April through mid-Summer. Full recovery lasts 12-18 months as virus is contained and demand recovers over the course of a moderate recession.	Recovery does not begin until the end of the year and the pace is slower, lasting over 18-24 months. International travel demand is depressed for a significant period of time as travel restrictions remain in place and there is a severe global recession.
<b>China</b> (\$1 B-\$3 B)	China continues recovery from late February bottom as quarantines are lifted and economic activity resumes. The recovery is quick, lasting six to seven months, with limited long-term growth effects.	China recovery continues to plateau through March and early April due to prolonged quarantines. In April/ May economic activity increases significantly. The recovery is more gradual — full recovery is under 12 months.	Demand remains at significantly reduced levels throughout the fall due to ongoing virus containment and global economic recovery. A full recovery then lasts over 12 months. International travel demand is depressed for a significant period of time.
<b>Asia Pacific</b> (\$3 B-\$7 B)	Demand in key countries begins to bounce back slowly in May, having bottomed in early March, with a quicker recovery that lasts nine months.	Demand continues to remain depressed, even declining further, through June. Summer demand remains weak, and recovery picks up over a period of 12-18 months.	Demand is suppressed throughout 2020 and the pace of recovery is slow, lasting over two years. International travel demand is depressed for a significant period of time.
<b>Rest of World</b> (\$4 B-\$8 B)	There is a moderate decline in most regions, with growth reaching pre-COVID-19 levels by the end of the year, lasting 8-9 months overall.	Declines will begin to accelerate, bottoming out in early summer and recovering in 9-18 months; the Middle East will see the steepest declines, driven by international travel restrictions.	An even larger drop in travel demand is realized and the pace of recovery slows, lasting between 18 and 24 months. International travel demand is depressed for a significant period of time.

To underscore the uncertainty of the situation, we have also developed two additional scenarios.

One assumes an accelerated recovery in which the virus is largely contained by late April with traffic beginning to return in May. In this accelerated scenario, demand begins to return in late spring in many key markets. While various G20 countries are still struggling to effectively contain emerging outbreaks, this scenario remains plausible. Early booking data suggests that demand is slowly starting to rebound in key economies in Asia, where containment has been relatively effective and economic activity is gradually beginning to resume.

The other additional scenario envisions a prolonged response and global economic recession. In this prolonged scenario, the virus is not contained for many months and traffic does not return in earnest until nearly the end of 2020.

## **In-service fleet impact**

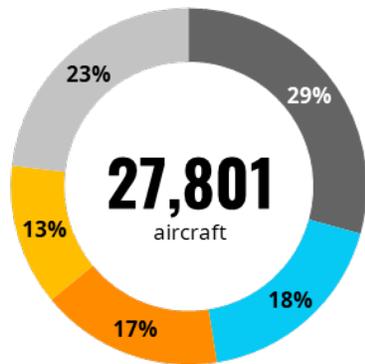
During 9/11, SARS, and the 2008 financial crisis — which also included the H1N1 spread — the in-service fleet contracted quickly, between three and 4.5 percent over a two-to-four-month period. The recovery period was more extended — typically four to 4.5 months for every percentage point reduction. These shocks were the primary drivers of aviation industry contraction, though other factors also contributed including the Iraq war, high oil prices, and the weak financial condition of US airlines — which ultimately led to several bankruptcies.

In the case of the ongoing COVID-19 pandemic, the contraction of the global commercial in-service fleet is already more pronounced than in any of the prior crises: A total decline in size of over 20 percent is expected by the end of May with the highest reductions in regions where the virus has already spread rapidly and generated significant social and economic disruption — Western Europe, Asia Pacific, China, and North America.

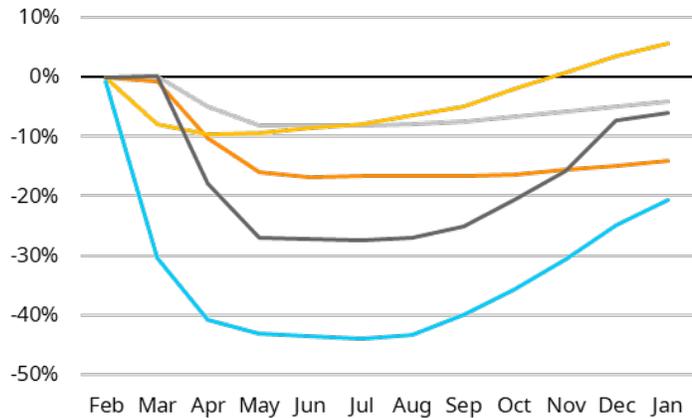
Like previous shocks to aviation, many aircraft that are not already parked are expected to see lower utilization. The pace of recovery is currently difficult to predict, but a period of years may be required to achieve the fleet size seen at the beginning of 2020, even if travel demand returns at a quicker pace. And while many of those aircraft will eventually return to service, experience from previous deep shocks suggests that many aircraft will stay parked and then move straight into retirement. For North American airlines, the improved financial position relative to 2001 may help expedite the pace of recovery, but the depth of the decline and financial uncertainty will inevitably have consequences well into 2021 and possibly beyond.

**Exhibit 2: Baseline Scenario — Depth of in-service fleet decline and pace of recovery**

Global fleet composition, February 2020



Difference from February 2020 in-service fleet, by month



Legend: North America (grey), Western Europe (blue), Asia Pacific (orange), China (yellow), Rest of World (light grey)

Source: Oliver Wyman Analysis; 3/23/20 Outlook

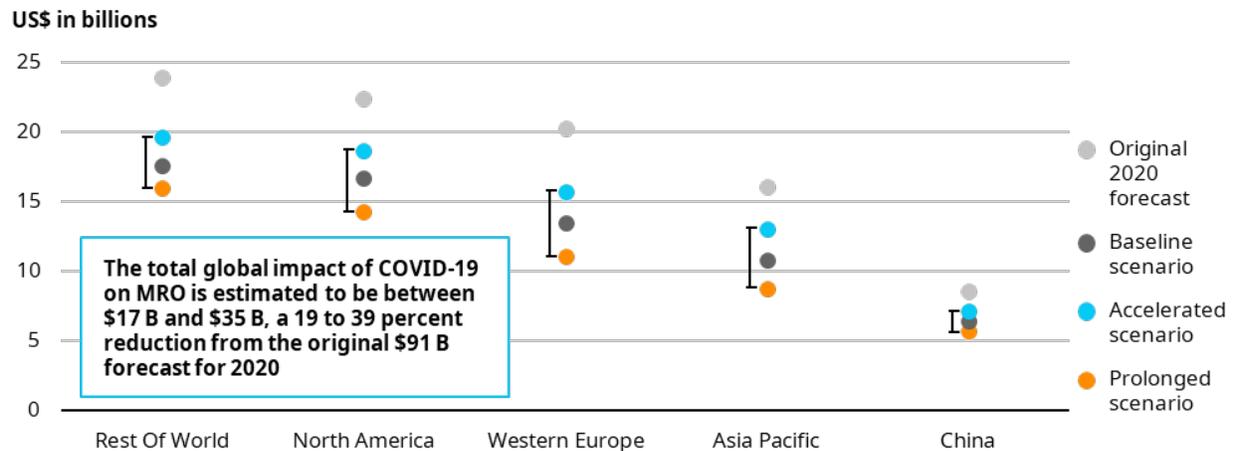
Despite record order books, the financial uncertainties caused by COVID-19 are expected to compel airlines to defer or cancel new aircraft deliveries. In the months after 9/11, new aircraft orders decreased, cancellations increased, and the pace of commercial deliveries dropped throughout 2002 and 2003. As a result of COVID-19, we expect a much more significant and immediate reduction, with operators deferring deliveries where possible until at least the third quarter of 2020 and possibly longer.

In the case of 737 MAX aircraft, we expect many carriers to delay accepting aircraft built, but not previously delivered, despite Boeing's January announcement that the aircraft would be back in service by mid-year.

## Impact to MRO demand

Assuming our baseline scenario that anticipates recovery later this summer, the current trajectory for fleet reductions and lower aircraft utilization would reduce global MRO demand in 2020 by over \$26 billion, or almost 30 percent. North America and Western Europe would suffer the largest impact. Where possible, operators are strategically selecting aircraft to be parked based on their maintenance status and will likely defer non-essential visits like cabin reconfigurations and certain component upgrades.

Should COVID-19 extend beyond our baseline scenario, suppressing travel further and creating more severe, long-lasting economic consequences, the impact on MRO demand could top \$35 billion in 2020, with an additional \$15 billion in 2021. Conversely, if our rapid recovery scenario is realized and the number of COVID-19 cases peak earlier than expected, the MRO impact could be as low as \$17 billion, or 19 percent.

**Exhibit 3: MRO demand 2020**

Source: Oliver Wyman Analysis; 3/23/20 Outlook

As a result of this unprecedented crisis, airlines have focused on cash management and preservation. For many, that will translate into far less MRO services and the cannibalization of existing airplanes for months, if not years, creating a substantial ripple effect across the industry. Therefore, in addition to their own cash flow needs, it will be critical for MRO enterprises to focus on supplier management and the recovery of lost value.

MRO response tactics should include thinking about their own supply chains during the crisis, with a particular focus on fixed costs, and preparing for a long recovery period. For airlines, it will mean determining how to keep certain suppliers viable and identifying what work — if any — should be brought in-house. Additionally, airlines and MROs alike will need to consider how to maintain the existing talent and capabilities in the market, so whenever the industry finally begins to get back on its feet, the necessary resources are there to support renewed growth.

The MRO industry is comprised of an incredibly diverse set of companies. The largest providers have evolved through years of growth and consolidation. COVID-19 will represent another challenge in their evolution, likely the most significant in their history. However, smaller MRO providers, which are much more numerous, may face an existential threat to their business. In less than three months, the COVID-19 pandemic has already wiped out a substantial portion of industry value, both for shareholders and on balance sheets. This will take years to rebuild, but those who react quickly to preserve cash and manage their underlying cost structures will be in a stronger position to capitalize on new and emerging opportunities, once they begin to materialize. What will set apart winners from losers in the wake of the COVID-19 crisis will be the foresight to implement strategic cost reduction initiatives early on.

# Recent publications from Oliver Wyman

For these publications and other inquiries, please visit [www.oliverwyman.com](http://www.oliverwyman.com)



## BIGGER FLEET, BIGGER CHALLENGES

The Global Fleet and MRO Forecast is our 10-year outlook of the commercial airline transport fleet and the associated maintenance, repair, and overhaul aftermarket



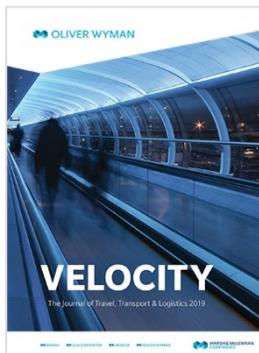
## MRO SURVEY 2019

Our latest survey of executives in the maintenance, repair, and overhaul industry on competition, technology adoption, and challenges facing the sector



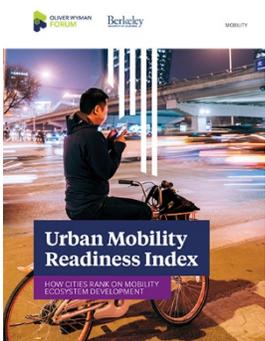
## AIRLINE ECONOMIC ANALYSIS 2018-2019

Oliver Wyman's annual analysis of aviation data and economic challenges and trends affecting the industry's business models



## VELOCITY: THE JOURNAL OF TRAVEL, TRANSPORT & LOGISTICS 2019

Annual journal of Oliver Wyman articles on the latest trends and innovations in travel, transport, and logistics



## THE URBAN MOBILITY READINESS INDEX 2019

Oliver Wyman Forum's index ranking global cities on how prepared they are for New Mobility technologies



## THE MOBILITY TRENDS REPORT 2019

A primer on New Mobility technologies and trends



## NOW ARRIVING

In-depth aviation data daily from [PlaneStats](http://PlaneStats) Subscribe for email delivery at [www.planestats.com/arrival\\_subscribe](http://www.planestats.com/arrival_subscribe)



## FORBES CONTRIBUTORS

Transformative ideas and technologies across travel and transport from our transportation team on [Forbes.com](http://Forbes.com)

## Read our latest insights about COVID-19 and its global impact online

Oliver Wyman and our parent company Marsh & McLennan (MMC) have been monitoring the latest events and are putting forth our perspectives to support our clients and the industries they serve around the world. Our dedicated COVID-19 digital destination will be updated daily as the situation evolves.



[Visit our dedicated COVID-19 website](#)



## About Oliver Wyman

Oliver Wyman is a global leader in management consulting with offices in 60 cities across 29 countries.

Our aviation, aerospace, and defense experts advise global, regional and cargo carriers; aerospace and defense manufacturers and suppliers; airports; maintenance, repair and overhaul companies; and other service providers in the transport and travel sector. We grow shareholder and stakeholder value, optimize operations, and maximize commercial and organizational effectiveness.

The team's capabilities also include: Oliver Wyman CAVOK's technical consulting on safety and compliance, maintenance programs, and certification ([www.cavok.oliverwyman.com](http://www.cavok.oliverwyman.com)); analytical data tools at PlaneStats.com; and strategies and modeling for market share, network, and fleet planning analyses via our Network Simulation Center.

This deep industry expertise and our specialized capabilities make us a leader in serving the needs of the sector.

Oliver Wyman is a wholly owned subsidiary of Marsh & McLennan Companies [NYSE: MMC].

For more information, visit [www.oliverwyman.com](http://www.oliverwyman.com)  
Follow us on Twitter [@OliverWyman](https://twitter.com/OliverWyman)

For more information about this study, please contact Tom Cooper at [tom.cooper@oliverwyman.com](mailto:tom.cooper@oliverwyman.com)

Copyright © 2020 Oliver Wyman

All rights reserved. This report may not be reproduced or redistributed, in whole or in part, without the written permission of Oliver Wyman and Oliver Wyman accepts no liability whatsoever for the actions of third parties in this respect.

Oliver Wyman — A Marsh & McLennan Company