

# UPDATE: IMPACT OF COVID-19 ON COMMERCIAL MRO

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## INDUSTRY IN UPHEAVAL

It is difficult to overstate the impact the COVID-19 pandemic is having on commercial aviation. In the months since the new strain of coronavirus that causes COVID-19 first emerged, passenger air travel has come to a near standstill as the result of government-imposed stay-at-home orders and the traveling public's fear of contagion. Add to that international travel restrictions aimed at containing the rapid spread. In the absence of meaningful passenger demand, air carriers around the world face extreme financial pressures with many already filing for bankruptcy, several simply shutting down, and all cutting back on capacity.

Simultaneously, the pandemic has sent the global economy into a tail spin, with unemployment rates above 10 percent. The downturn will make the industry's road to recovery that much harder. From the industry's perspective, there are no real precedents to provide lessons on a clear way forward, including the terrorist attacks on September 11, 2001 or the collapse of business that accompanied the 2008-2009 global financial crisis. Neither created the magnitude of dip in global gross domestic product (GDP) — or in air travel demand, for that matter — anticipated from COVID-19. The latest projections of the International Monetary Fund show the global economy contracting by almost five percent in 2020 versus about a 0.1 percent drop in 2009.

One fact is clear: All paths to recovery begin with epidemiology. Until we get a grasp on what lies ahead with COVID-19, we can't expect to rebuild either the economy or aviation on a firm foundation.

## ANTICIPATING THE FUTURE

In an effort to get ahead of what's to come, Oliver Wyman has developed the [Pandemic Navigator](#). The model forecasts the number of new and cumulative coronavirus cases across nearly 40 countries, incorporating the effectiveness of public health containment and suppression measures. We combined its output with forecasts on GDP growth and historical and future air travel booking data. From this, we generated six-month forecasts for many countries and multiple-year scenarios for recovery of air travel.

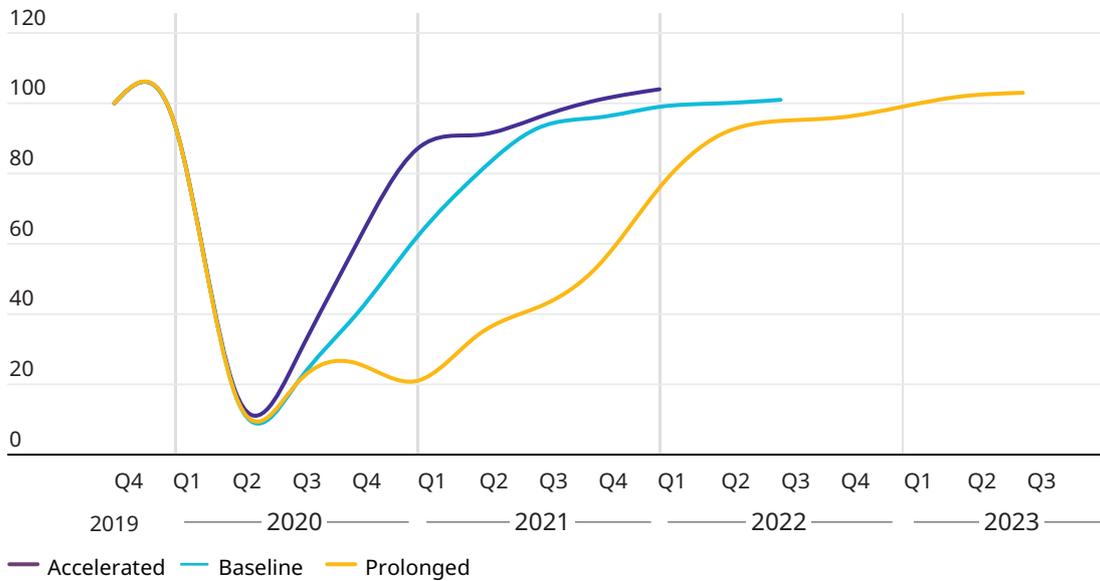
Our baseline forecast for global virus containment — which represents a moderate view of what lies ahead for the industry — assumes multiple waves of contagion. Under this scenario, global passenger revenue from domestic travel begins its recovery in late summer 2020 and reaches 40 percent of pre-COVID levels by late autumn when it will plateau as new infection hotspots flair up. Growth will remain suppressed until a vaccine is developed and distributed, which we expect to happen by the third quarter of 2021 assuming fast-tracking by regulators. Based on the severity of recent outbreaks in nations like the United States, Brazil, and India, we consider it unlikely that global domestic travel revenue will recover to the 2019 level before the second half of 2022. On a global basis, international travel is expected to recover to its 2019 level in 2023.

To underscore the degree of uncertainty behind any forecast, we also developed two alternative scenarios — an accelerated and a prolonged. We now consider our accelerated scenario to be highly unlikely, given the failure to contain the virus in so many large economies. It also assumed a single wave of outbreaks and several countries where the virus was considered contained are now reporting new outbreaks.

The third, worst-case scenario envisions a prolonged epidemiological response during which there are multiple waves of contagion and delayed vaccine development. It also assumes an extended global economic recession. In this most pessimistic scenario, the virus is not contained until the first half of 2021. The recovery is also much more gradual, not reaching pre-COVID levels until sometime in 2023.

**Exhibit 1. Long-term air travel demand scenarios**

Our moderate to prolonged global scenarios suggest a 20 to 25 percent recovery to 2019 levels by the end of 2020



	<b>Accelerated (early 2022)</b>	<b>Baseline (mid-2022)</b>	<b>Prolonged (mid-2023)</b>
<b>Scenario assumptions</b>	Single-wave outbreak with steady recovery and GDP bounce-back	Multi-wave outbreaks, continual, gradual recovery	Large multi-wave outbreaks depress recovery and GDP
<b>Implications</b>	Short planning horizon, quick and predictable recovery	Multiyear horizon, more variable profile	Longer horizon and most variability; requires maximum flexibility

Source: Oliver Wyman modeling for epidemiological curves, macro-economic factors, past infectious disease outbreak and financial crisis data

## FLEET IMPACT

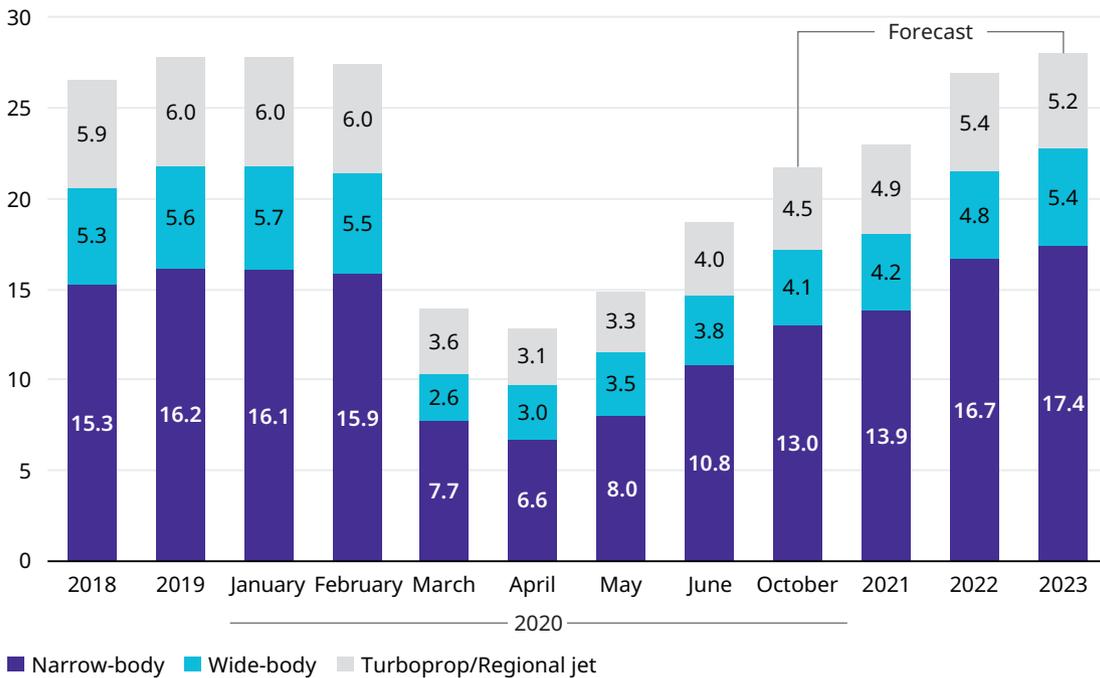
The contraction of the global commercial in-service fleet is already more pronounced than in any of the prior crises, including 9/11 and the 2008-2009 financial crisis. As of early July, almost 70 percent of the pre-COVID fleet of 27,884 commercial aircraft had been parked at some point this year, with many never to return to service. Previous shocks to aviation have also led to early aircraft retirements, but the volume of COVID-related retirements will surpass them. While for the last five years annual retirements have ranged from 550 to 750 planes, we expect to see roughly 2,000 aircraft leave the fleet permanently during the next 12 months — a slight improvement from expectations in the spring.

The global fleet first began to contract in March, when operators in China — the first country forced to close down its economy because of COVID-19 — parked over 300 aircraft. As the virus spread worldwide, the size of the global fleet shrank significantly, reaching its nadir in April at 12,724 aircraft, 46 percent of the pre-COVID size. In June, as economies in many countries began to re-open, airlines pulled over 2,000 aircraft out of storage — albeit to face the same low levels of utilization the rest of the in-service fleet was already experiencing.

Despite the addition, the in-service fleet in early July stood at only 65 percent of its size at the beginning of the year. Our baseline scenario does not envision the fleet returning to its pre-COVID size until 2023.

### Exhibit 2. Slow climb back for the global fleet to 2019 size

Forecast number of in-service aircraft (in thousands), 2018-2023F<sup>1</sup>



<sup>1</sup> As of beginning of year

Source: Oliver Wyman Global Fleet and MRO Market Forecast, 2020-2030, Revised; Oliver Wyman Analysis

For nearly a decade before COVID-19, order books with Boeing and Airbus hit new historic highs annually as demand for aircraft exceeded the manufacturers' capacity to produce. COVID-19 has now upended that picture with frightening speed. In April, Boeing and Airbus both announced production slowdowns of 30 to 50 percent, depending upon model type. They now face hundreds of cancellations and delivery deferrals as cash-strapped airlines search for ways to cut costs.

With demand for new deliveries lower than current production, even with the cuts, we expect to see a substantial number of white tails produced — referring to aircraft built without committed customers. The current imbalance in supply and demand will require an extended period of lower production rates, perhaps even below those in effect today. Ultimately, we do not expect a return to pre-COVID levels for four years, even for narrowbody aircraft which are expected to continue to gain favor over less flexible and more expensive widebodies.

### IMPACT ON MRO DEMAND

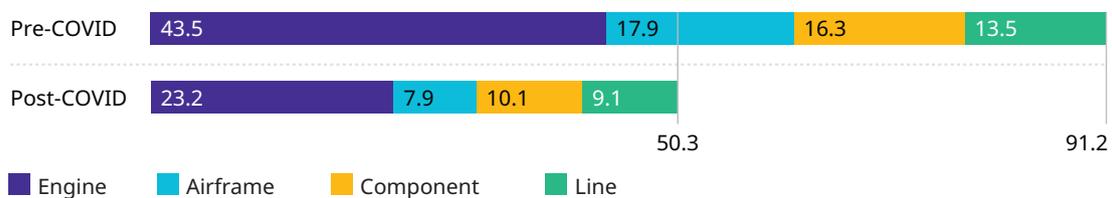
Given the current outlook and assuming our baseline scenario, global demand for maintenance, repair, and overhaul (MRO) in 2020 would be about \$50.3 billion, 45 percent lower than our original pre-COVID forecast of \$91.2 billion. All regions of the world, aside from China, will experience declines in MRO spending of 40 percent or more.

Simultaneously, MRO providers face disruption in the used serviceable materials (USM) market, as the inventory of sidelined and retired aircraft are stripped for parts. This cannibalization will create a substantial ripple effect throughout aviation's supply chain and will make it critical for MRO providers to ensure reliable sources of used parts.

Oliver Wyman forecasts spending on all parts and materials — used and new — in 2020 will be \$26 billion, down from a pre-COVID estimate for the year of \$60 billion. USM will constitute about 11 percent, or \$2.8 billion. In 2019, the market for parts and materials was \$52 billion, of which about nine percent, or \$4.7 billion, was USM.

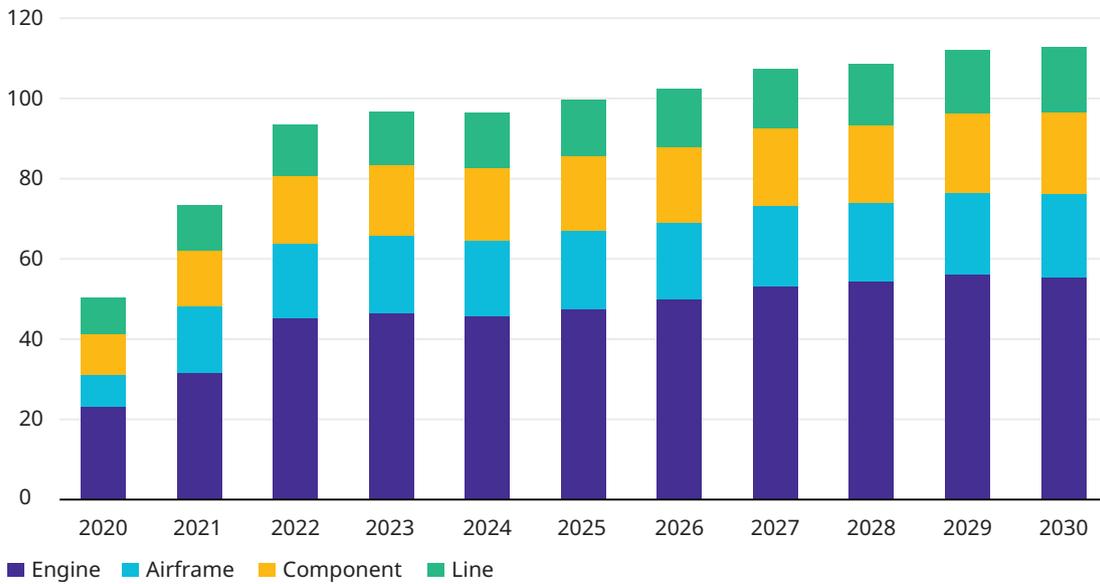
**Exhibit 3. MRO spend will be 45 percent less than what was expected**

US\$ billions



Note: Forecast updated as of April 28, 2020  
 Source: Oliver Wyman analysis; Baseline scenario

**Exhibit 4. 10-year forecast on MRO demand by sector**  
2020 to 2030 (US\$ billions)



Source: Oliver Wyman analysis

Access to a stable source of used parts, which are less expensive than new components, will be an advantage to MRO providers once air travel demand returns and airlines look to cut costs on operations. Because of this, MRO strategies need to focus on both supply chain resilience and fixed costs as they prepare for a long recovery period. Currently demand and prices on USM are relatively low, and it would not be surprising to see market players, such as aerospace manufacturers, buy up supply to limit their loss of revenue on new parts.

## AIRLINE LIQUIDITY

As a result of this unprecedented crisis, airlines are laser-focused on cash management to ensure their survival. For many, the struggle to maintain cash-flow has meant raising unprecedented levels of new debt, much of which is secured by aircraft and other assets. Tight liquidity also may bode badly for aircraft on order if their delivery means large payouts by airlines.

Given the rapidly changing conditions, executives have needed to monitor demand signals each week, if not each day, to keep forecasts and efforts to right-size their operations in line with bookings and ticket sales. Adjustments to labor agreements and zero cost-budgeting strategies are also being implemented to create a more flexible and variable cost structure.

Beyond 2020, airlines will need to continue adjusting fleets and operations to better match this rapidly changing demand outlook, with the most significant adjustments required by airlines with highest exposure to international and business travel. The reduction in new aircraft deliveries is also likely to alter future MRO spending. For instance, most carriers will see lower maintenance expenses over the short term from operating smaller fleets, but that will be partially offset over time by the maintenance needs of the older aircraft retained to avoid taking delivery of new models.

## **THE INDUSTRY EVOLUTION**

The MRO industry is comprised of an incredibly diverse set of companies, including burgeoning operations within aerospace manufacturers. 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. Especially for the smaller MRO providers, which are much more numerous, the COVID-related falloff in demand and recession may prove existential threats to their operations.

In just seven months, the COVID-19 pandemic has wiped out a substantial portion of industry value, both for shareholders and on balance sheets. This will take years to rebuild, but those who have reacted quickly to preserve cash and manage their underlying cost structures will be in a stronger position to capitalize on new opportunities, which history has shown will inevitably appear.

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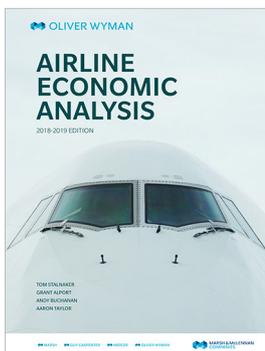
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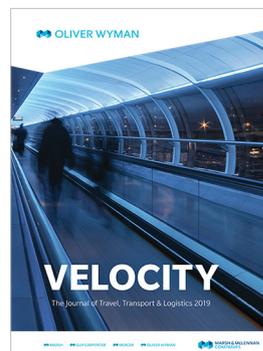
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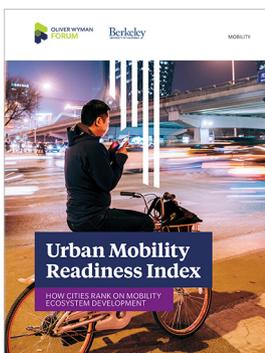
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