accenture

Commercial Aerospace Insight Report

In it for the Long Haul

October 2020

Executive Summary

Commercial aerospace needs to balance now versus next as a challenging recovery lies ahead

Aerospace companies are faced with overwhelming, competing challenges and uncharted skies as they continue to navigate the impacts of the COVID-19 pandemic. Out of necessity, CEOs have prioritized the "Now"—supporting their people, customers and suppliers, addressing supply chain disruption, stabilizing cashflow, aligning their businesses with evolving demand and identifying new growth pathways. Leaders are rapidly turning their attention to the "Next," a period of unpredictable and possibly muted economic recovery with new competitive threats and opportunities. The disruption and challenges posed by the COVID-19 crisis are driving critical decisions that need to be addressed immediately while also considering longer-term resilience issues.

Prolonged negative financial impacts, aircraft order deferrals and cancellations, fleet reductions by airlines, uncertain economic conditions and ongoing trade disputes are leading to an existential crisis for commercial aerospace. We expect the overall 2020 commercial aerospace market to decline at 37%, compared to 2019. Significant revenue and global operational impacts are already emerging as a result of production and workforce cutbacks by both Boeing and Airbus, with their financial losses reaching $2.4B and $1.7B in 2Q20 respectively.[1]

The combined deliveries of Airbus and Boeing declined 58% YoY in 1H20 with Airbus delivering 196 planes, decreasing 50% YoY, whereas Boeing delivered only 70 aircrafts, decreasing 71% YoY.[2] There may be some respite if the planned resumption of 737 MAX deliveries commences in 4Q20, subject to its re-certification.

The Asia Pacific market is expected to be down only 8.2% YoY in 2020 and is witnessing a much faster recovery compared to Europe or North America, driven by recoveries in state owned Chinese aerospace companies and domestic air traffic in China.

Airlines will experience their worst year, by far, in history. Airline net losses are expected to be $84B, according to IATA estimates.[3] Air travel demand in 1H20 was down by 58% versus 1H19, with a gradual recovery occurring from the lows reached in April.[4] However, the recovery has been almost entirely driven by domestic markets and the near-term outlook continues to be bleak. A full recovery to pre-COVID 19 level revenue passenger kilometers (RPKs) is not expected to occur before 2024. Airline industry margins, which were on the decline even prior to the pandemic are projected to decline to -23.4% in 2020 with the pandemic impact.[5]

Macroeconomic risk factors are top of mind for aerospace executives featured in our Commercial Aerospace industry survey results, with uncertainty due to the pandemic, worsening economic conditions and exchange rate changes being the areas of greater near-term concern. The threat of a "no-deal" Brexit looms large over UK suppliers, which may also see increased tariffs on their sales across Europe if there is no trade agreement as the Brexit transition period ends in December 2020. The Boeing-Airbus WTO dispute over aircraft subsidies has resulted in both the US and EU announcing retaliatory tariffs. All these factors could lead to further reduction in book-to-bill in 2020 for both Airbus and Boeing.

Suppliers will be faced with the challenge of rebalancing their production lines as uncertainty persists and demand changes. Governments in North America and Europe are assisting the aerospace value chain in navigating the current environment, including the US providing $61B in grants and loans[6] and the French government providing $17B in funding to its aerospace sector.[7]

Aftermarket spend has been negatively impacted due to lower aircraft utilization. As airlines defer overhauls to conserve cash, global 2020 MRO spend is projected to reduce in the range of 40% to 60%.

Commercial aerospace companies had been focused on aftermarket services, even prior to the pandemic. According to our research, 76% of aerospace executives offer adjacent digital services around their products and solutions, and the anticipated increase in new digital services sales to customers is expected to increase 2.4X over the next 5 years.[8] The pandemic is proving to be a catalyst for digital transformation, and aerospace executives are now increasingly evaluating new business models and alternative revenue streams as the economic downturn caused by the pandemic has impacted aircraft sales.

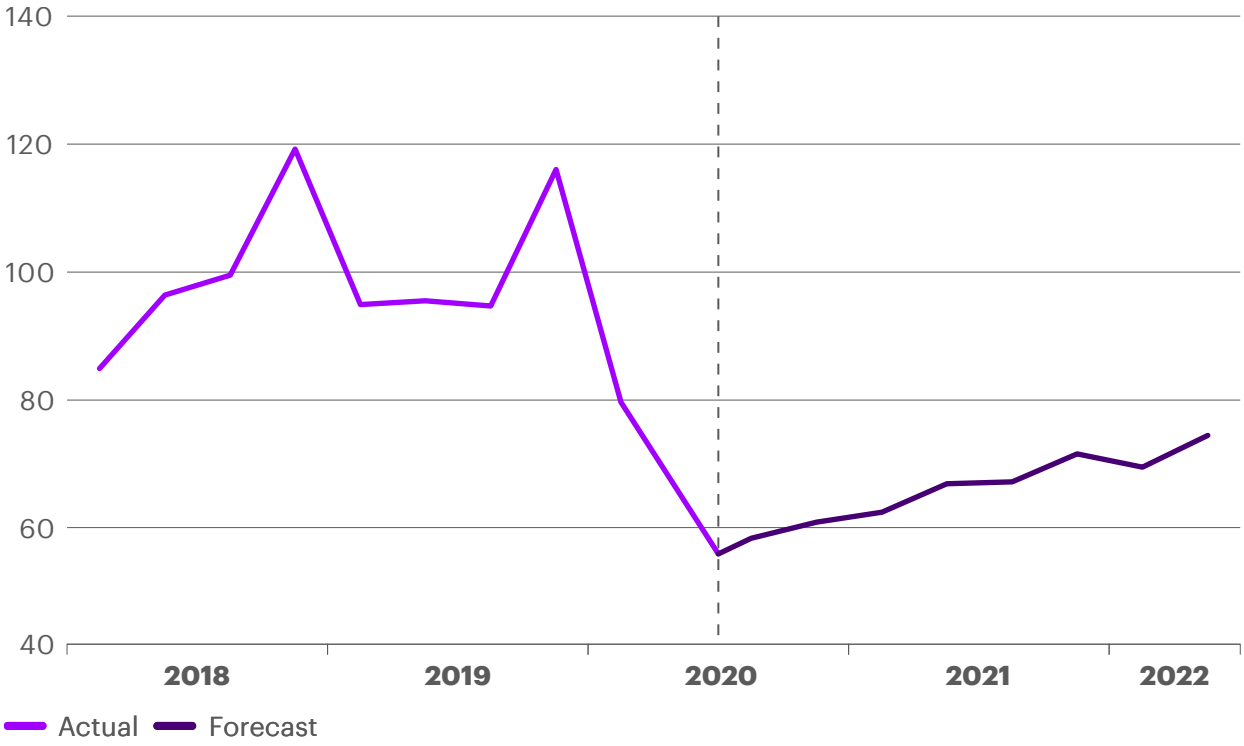
Global Outlook

2020 set to go down as the worst year ever for commercial aerospace, however probable resumption of 737 MAX deliveries and airline fleet restructuring signal new hope for 2021

We expect 2020 global commercial aerospace revenues to decrease 37% YoY (see Figure 1). The industry is poised to face significant revenue decline for 2020 with Boeing and Airbus having already announced losses of $2.4B and $1.7B in 2Q20 respectively, in addition to announced production cuts ranging from 30% to 50%.[9] Recent IATA estimates show lost airline revenue for 2020 at $419B, a 50% reduction from 2019, driving an expected industry net loss of $84B.[10]

For 2021, we expect commercial aerospace demand to increase 5.2% YoY as the impact of the pandemic eases and aviation travel demand begins its recovery. However, even with this recovery the global industry would still be down 33% compared to 2019.

Figure 1. Global Commercial Aerospace Index (USD, 2018 = 100)



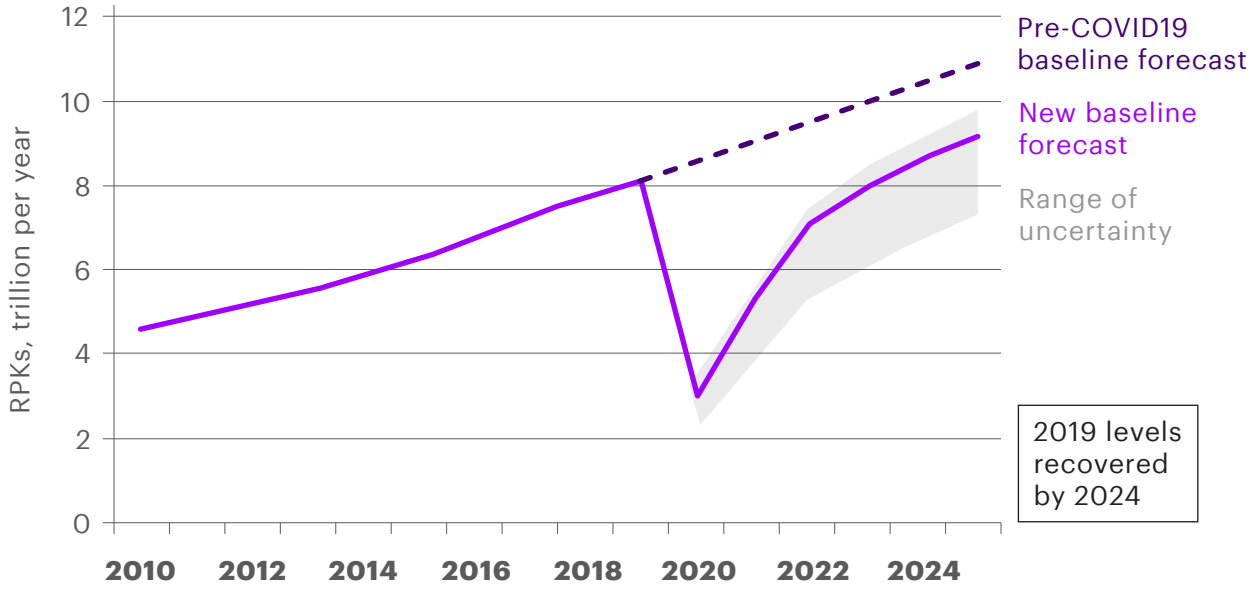
Airline Performance

Uncertainty looms over recovery ahead

The near-term outlook for airlines remains weak. Global revenue passenger kilometers (RPKs) was down almost 80% in July 2020 compared to July 2019. IATA's latest estimates show that a full recovery to pre-pandemic level RPKs is not expected to occur before 2024 (see Figure 2).[11] 40% of the aerospace executives we surveyed believe it will take at least 24 to 36 months for airline revenues to recover, with many taking a longer-term view on that recovery period.

Airlines are also going through a severe liquidity crisis with most of them relying on financial support in the form of government aid. Weakened airlines will only survive by preserving cash and continuing to manage vastly reduced schedule cuts and other cost-cutting measures. US airlines announced over 45,000 combined layoffs of staff and management on September 30th alone, as CARES Act funding began to wind down.[12]

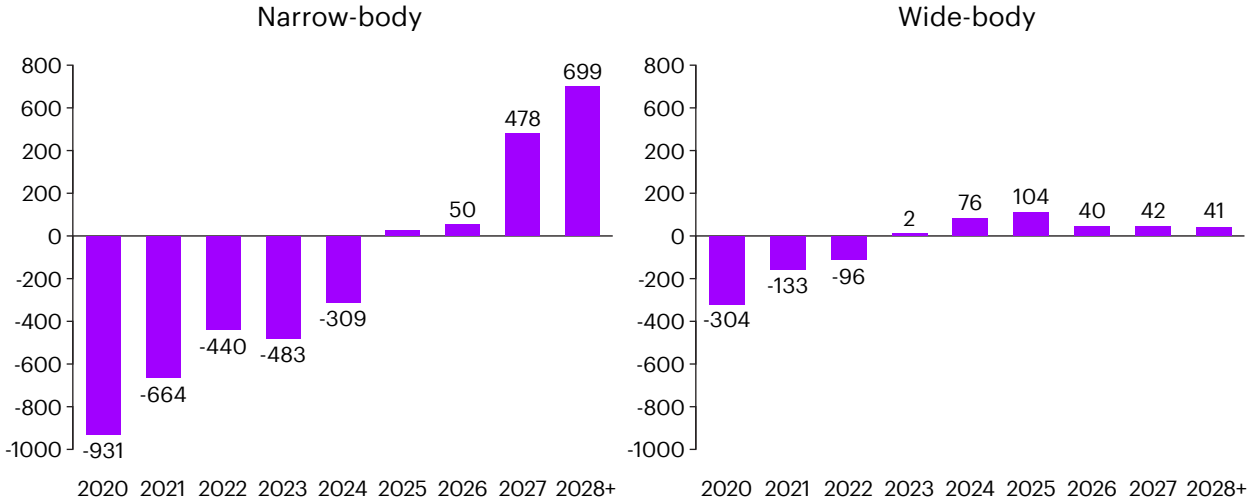
Figure 2. Global RPK's (trillion per year): Five years to return to pre-pandemic level of passenger demand: IATA

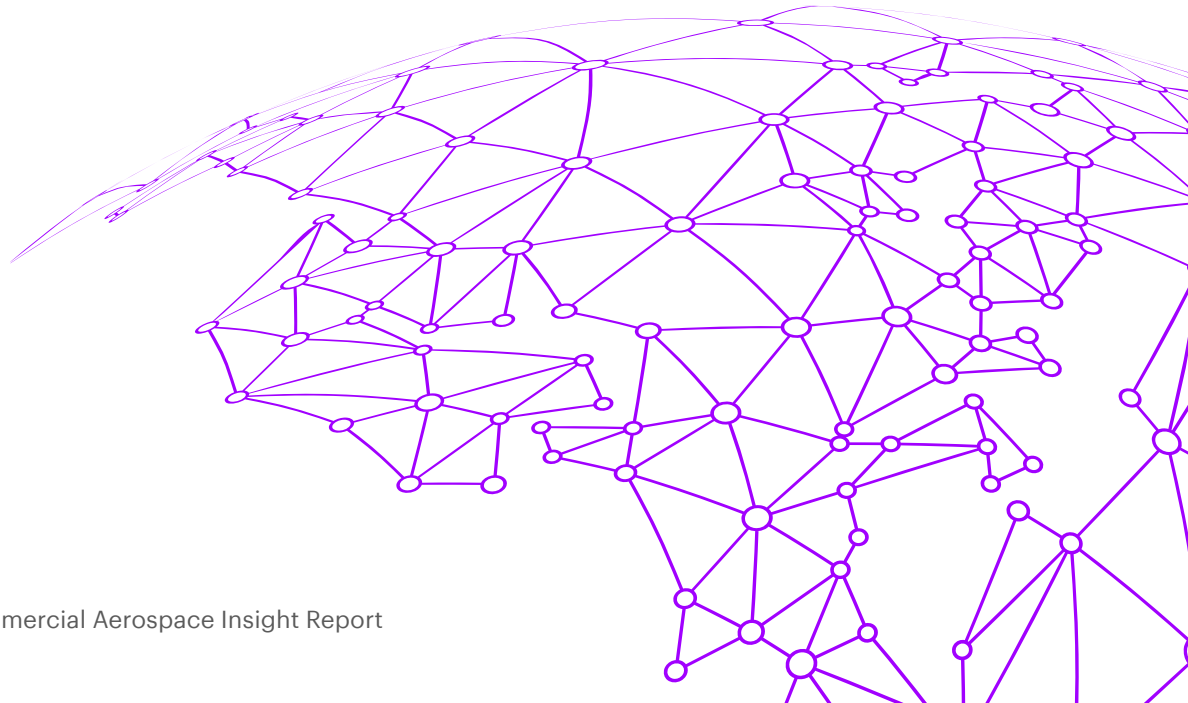


Aircraft delivery deferrals and cancellations are happening at levels unseen in any prior downturn and are expected to continue. There has been a cumulative reduction of over 1,500 narrow-body aircraft and 228 wide-body aircraft in the delivery schedule for the next eight years compared to the same delivery schedule as of March 2020 (see Figure 3).[13] Over 1,900 deliveries planned for 2020 and 2021 have either been pushed back or cancelled, and we expect further reductions in the coming months.

Looking forward to next year, unless there is a dramatic rebound from current forecasts, airlines will at best be able to slightly moderate their ongoing losses. In any event, airlines will enter 2021 focused on the same critical actions as the second half of 2020: managing their daily cash losses and balance sheet risk while attempting to stimulate passenger demand through safety protocols and pricing. They will have to postpone any real growth prospects until the pandemic and the traveling economy have recovered. However, there will remain a significant portion of the global airline fleet which will need replacement in the next five years. This will be the primary driver of new aircraft deliveries.

Figure 3: Change to passenger aircraft delivery schedule (September 2020 vs. March 2020)





What keeps aerospace executives up at night?

Macroeconomic risk factors continue to weigh on executives' minds

Uncertainty due to the pandemic, worsening economic conditions and exchange rate changes are laying the groundwork for near-term executive concerns. Our survey indicates that other geopolitical risk factors such as political instability, terrorism, regional armed conflicts and interest rate changes will not be a cause of significant concern for executives in the near term or over the next one or two years (see Figure 4).

Figure 4: Risk factors and concerns for commercial aerospace executives (Greater/Same/Less)

	Next 6 months	Next 12 months	Next 2 years
Global Pandemic	**Greater**	Same	Less
Terrorism	Same	Same	Same
Political instability	Same	Same	Same
Worsening economic conditions	**Greater**	Same	Same
Regional armed conflicts	Less	Same	Less
Interest rate changes	Same	Same	Same
Exchange rate changes	**Greater**	Same	Same

Navigating the downturn: The new normal

A three-step approach to long-haul recovery

Aerospace companies are faced with overwhelming, competing challenges and uncharted skies as they continue to navigate the impacts of the COVID-19 pandemic. Out of necessity, CEOs have prioritized the "Now"—supporting their people, customers and suppliers, addressing supply chain disruption, stabilizing cashflows, aligning their businesses with evolving demand and identifying new growth pathways. Leaders are rapidly turning their attention to the "Next," a period of unpredictable and possibly muted economic recovery with new competitive threats and opportunities.

The disruption and challenges posed by the COVID-19 crisis are driving critical decisions that need to be addressed immediately while also considering longer-term resilience issues. As a result of the business impact of COVID-19, 57% of the executives we surveyed rank supply chain and production among the top two challenges or areas of concern for their company over the next six-month period. However, 63% rank liquidity and financing among the top two challenges for their company over the next 6 to 18 month period.

We recommend a three-step proactive approach to navigate a long-haul recovery, while ensuring that companies adapt to the post COVID-19 new normal (see Figure 5). For now, business leaders have been taking immediate actions to ensure that critical business operations continue. 80% of the executives we surveyed cite business continuity planning, factoring in multiple waves of COVID-19 type outbreaks, as the top action they will consider over the next six-month period, along with health and safety measures, which are cited by 77% of executives.

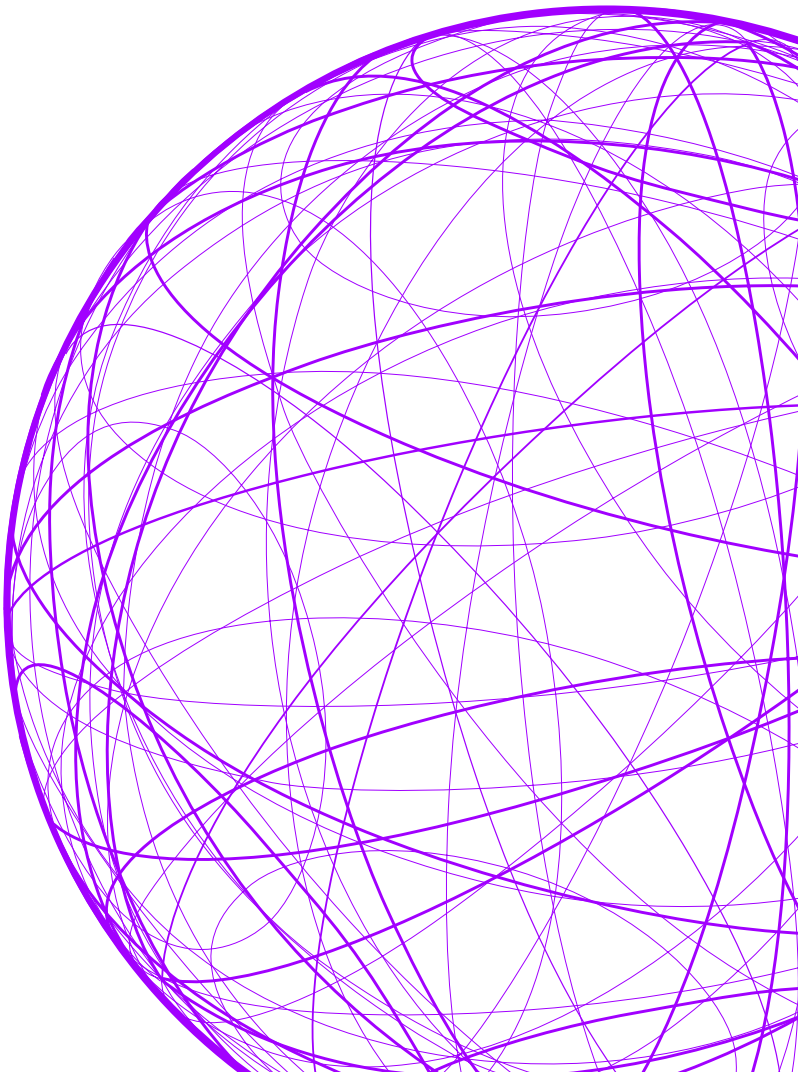
Figure 5: Managing "Now" and "Next"

	Triage & Prioritize	Reconfigure	Scale & Maintain
Liquidity & Financing	Establish a liquidity control tower for real-time cash forecasting and modeling of working capital management	Stress test capital flexibility and securing new funding sources	Ensure new capex governance and supplier market intelligence for production continuity
Supply Chain & Production	Assess availability of critical components and parts and seek alternate sourcing options	Ensure production scheduling can rebalance production lines as demand changes	Ensure business continuity planning that factors in multiple waves of COVID-19 type outbreaks
Workforce	Ensure health and safety, building safety and cleaning are fully in place	Identify additional roles and processes that can be executed remotely	Scale adoption of virtual collaborative platforms and cloud-based solutions
Systems Resiliency & Security	Fully enable employees with technology and secure network connectivity	Resolve national security/ ITAR/GDPR implications	Define adequate remediation measures to prevent cyber attacks
	NOW	NEXT	

For example, Boeing has launched the "Confident Travel Initiative," partnering with airlines, global regulators, and infectious disease experts to enhance aircraft cleanliness procedures and identify other areas to further reduce the risk of airborne illness transmission.[14] 66% of our surveyed executives also mention reducing production rates further for affected products as a key action to consider over the next six months.

A critical action to successfully navigate the ongoing COVID-19 turbulence is to create a rapid response infrastructure with clear ownership of crisis monitoring and tracking. This infrastructure should communicate important and ever-changing information to senior decision-makers and integrate tools to develop and execute response protocols, harnessing the power of artificial intelligence and data science. 57% of our surveyed executives mention leveraging artificial intelligence for inventory management/supply chain as the top action item they will consider over the next 6 to 18 month period.

While many commercial aerospace companies have some form of remote-working environment, most have never conducted a remote-worker deployment at scale, which has created a surge of digital activity that can overwhelm older IT platforms and infrastructures. Systems resilience and remote security are vital, but embracing cloud technologies, machine learning, augmented/virtual reality and analytics can drive resilience, innovation, and lead to greater efficiencies and spur new collaboration for the long term. 40% of our surveyed executives mention scaling adoption of virtual collaborative platforms and cloud-based solutions over the next 6 to 18 month period. For example, Airbus has adopted a new aircraft handover and "e-delivery" virtual process guaranteeing continuation of its delivery stream, while integrating the requisite health and safety requirements during the pandemic.[15]

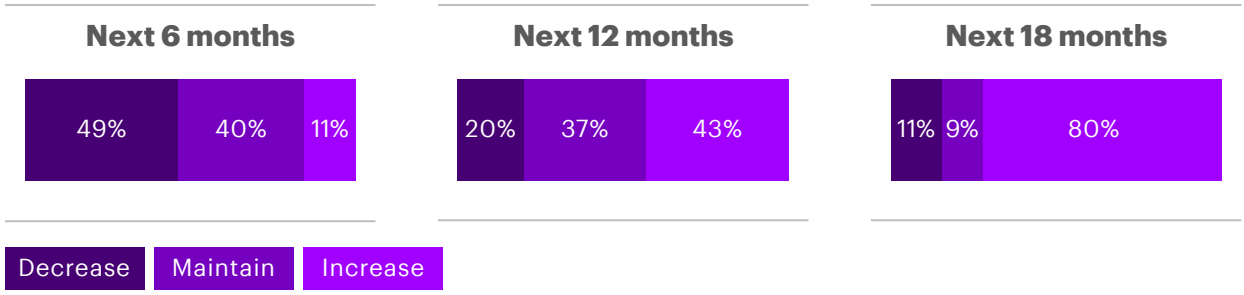


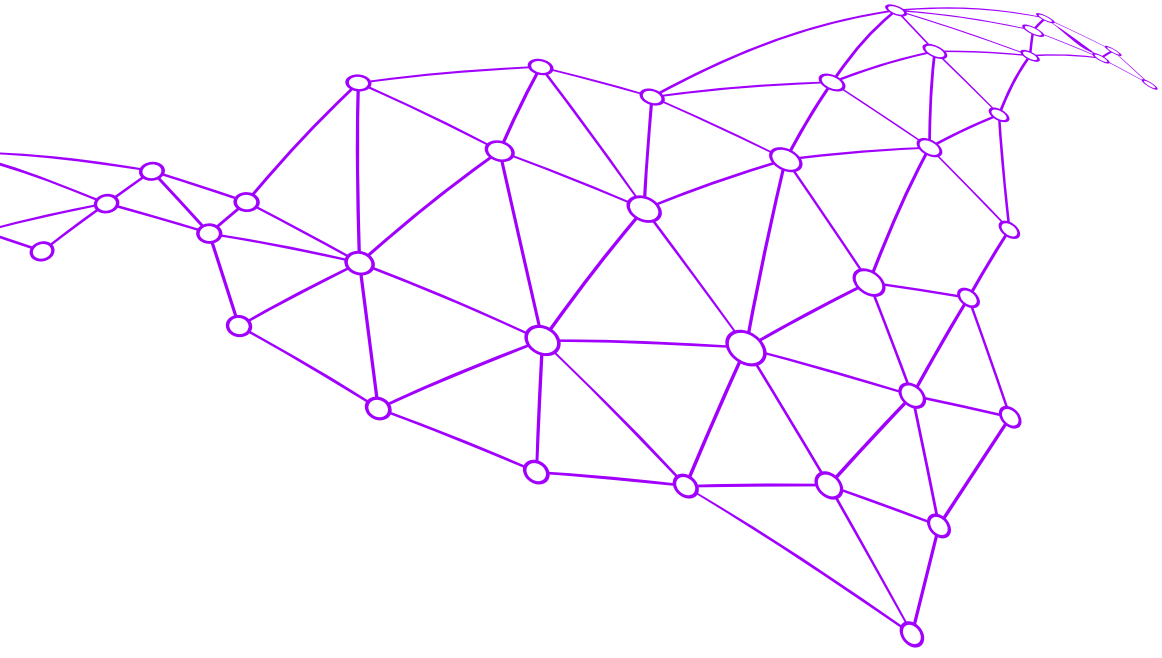
Business-Cycle Stance

Slow ramp-up to follow revenue decline over the next six months

Production cuts by Airbus and Boeing have resulted in sharp revenue decline for some of the major suppliers, as evident in their recent quarterly results.[16] Overall commercial deliveries for 2020 are expected to be in the range of 600 to 700 compared to approximately 1,200 deliveries in 2019 and 1,800 in 2018 before the 737 MAX grounding. Nearly 90% of surveyed aerospace executives expect their commercial aerospace revenues to decline, or at best be flat, over the next six month period (see Figure 6). Following that, there will be periods of recovery off the new lower base. A key driver of market growth over the next year will be the resumption of deliveries from built and stored 737 MAX inventories, subject to certification of the aircraft.

Figure 6: Business-cycle stance: commercial aerospace revenue outlook (percentage of executives surveyed)





Customer Deliveries

Significant decline due to production cuts and undelivered 737 MAX inventory

69% of surveyed aerospace executives expect unit deliveries of their commercial aerospace products to decrease in 2020 compared to the previous year, whereas only 6% expect a decrease in unit delivery rates in 2021 versus 2020 (see Figure 7). Boeing delivered only 87 aircraft for the first eight months in 2020, down 68.5% YoY, whereas Airbus delivered 284 aircrafts during the same period, down 43.2% YoY.[17] The overall orderbook for the first eight months of 2020 plunged to negative as Boeing and Airbus reported 445 and 67 cancellations respectively.[18] A challenging path lies ahead to recovery as cancellations continue to outpace new aircraft orders. 46% of surveyed aerospace executives expect narrow-body aircraft deliveries to further decrease over the next six months, whereas 66% expect wide-body aircraft deliveries to further decrease over the same period.

Figure 7: Delivery outlook: Commercial aerospace products (percentage of executives surveyed)

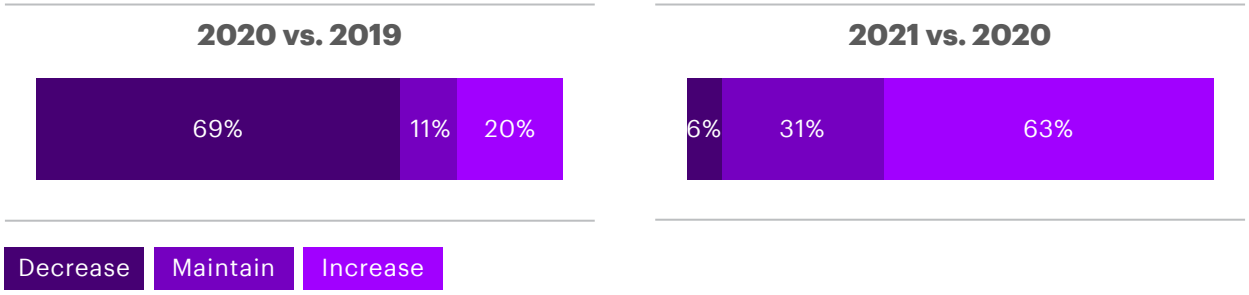


Figure 8: Delivery outlook: Narrow-body aircraft (unit deliveries shipped to customers)

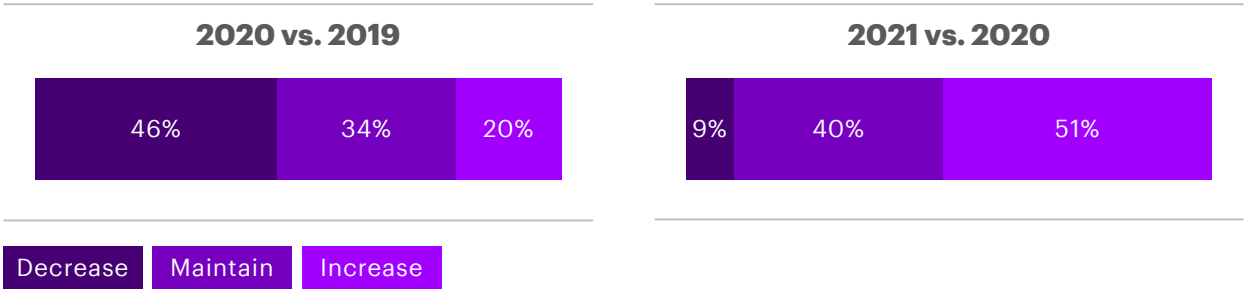
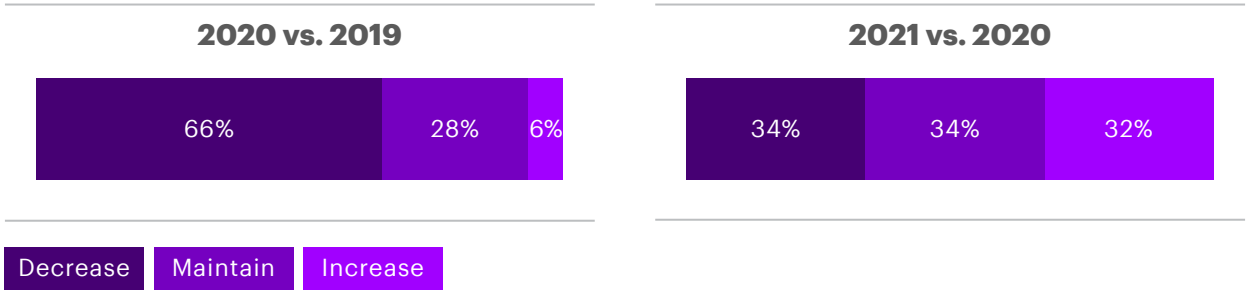


Figure 9: Delivery outlook: Wide-body aircraft (unit deliveries shipped to customers)



Aftermarket

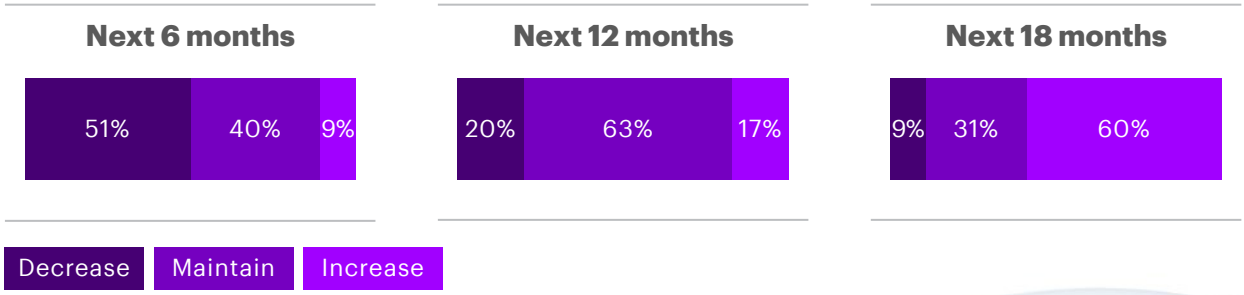
Pandemic causes severe downturn driving MROs to go digital

Aftermarket spend has been negatively impacted as airlines defer overhauls to conserve cash, with global 2020 MRO spend projected to reduce in the range of 40% to 60%. This trend is reflected in our survey results, in which more than half of the aerospace executives expect MRO spending to decline over the next six months and more than 80% expect it to remain flat or be lower over the subsequent next six months (see Figure 10). One-third of the global fleet is grounded, and this will drive demand for short-term aircraft storage services, out-of-storage checks and return-to-service maintenance as demand picks up. Airlines are likely to push back delivery schedules and phase out older aircraft.

For example, Lufthansa intends to reduce its fleet by 100 aircraft by 2023 which is more than 10% of its fleet.[19]

Commercial aerospace companies had been focused on aftermarket services even prior to the pandemic. According to our research, 76% of aerospace executives offer adjacent digital services around their products and solutions and the anticipated increase in new digital services sales to customers is expected to increase 2.4X over the next five years. The pandemic is proving to be a catalyst for digital transformation, and commercial aerospace companies are now increasingly evaluating new business models and alternative revenue streams as the economic downturn caused by the pandemic impacts aircraft sales.

Figure 10: Maintenance, Repair and Overhaul (MRO) activity outlook (percentage of executives surveyed)



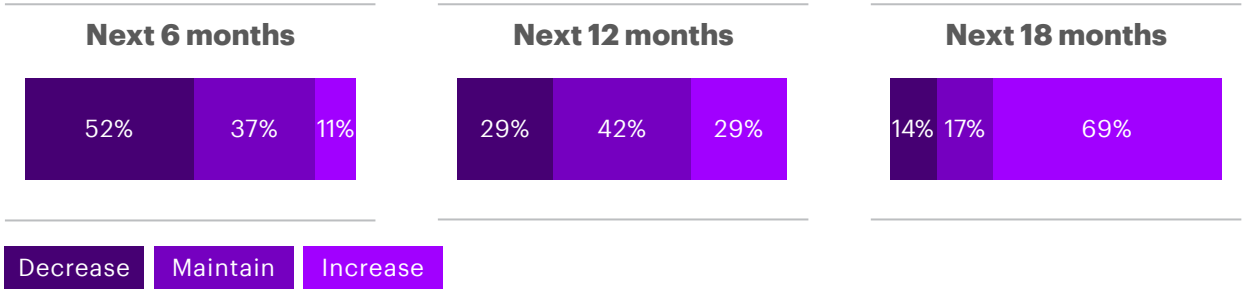
Production Outlook

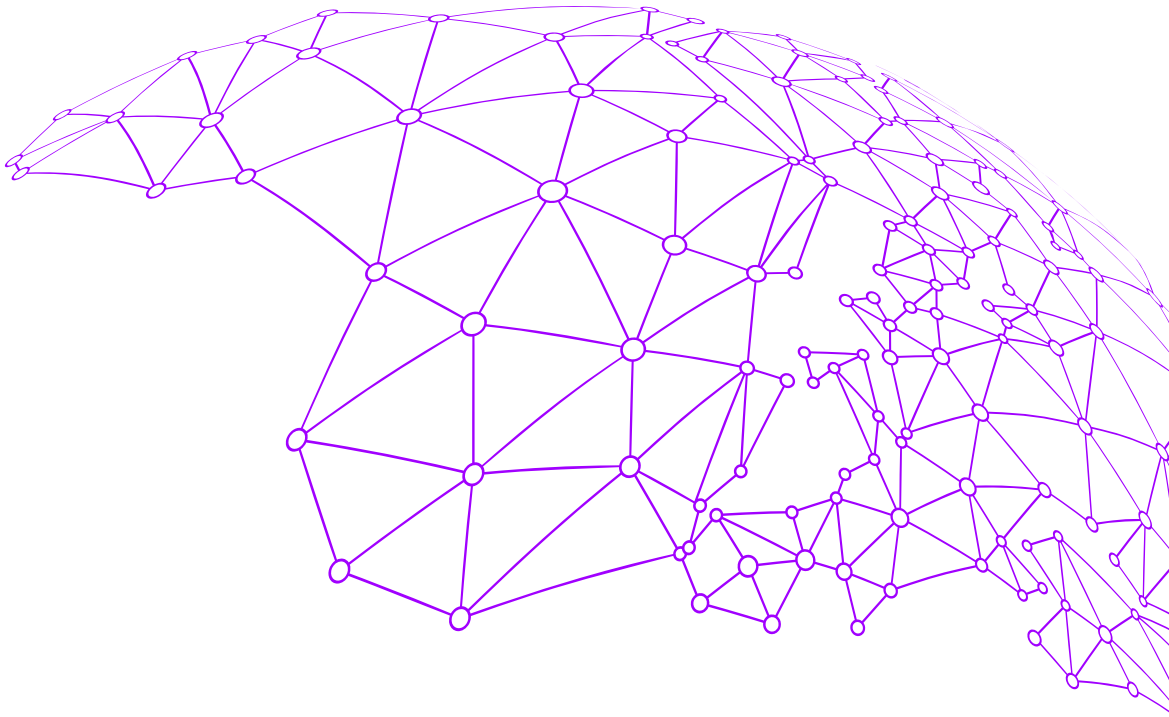
Risk of further production cuts looms large

OEMs and suppliers are dealing with a long and painful recovery following rapid business erosion and temporary closures due to the pandemic. Overall production cuts by OEMs range from 30% to 50% and are impacting the financial health and operations of all suppliers as they adjust to the decreased demand.

Moreover, further production cuts or a much slower than forecast recovery cannot be ruled out, as airlines are not showing any signs of sustained recovery in the near term. Over half of aerospace executives surveyed expect their production capacity to decrease over the next six months (see Figure 11).

Figure 11: Production capacity outlook (percentage of executives surveyed)





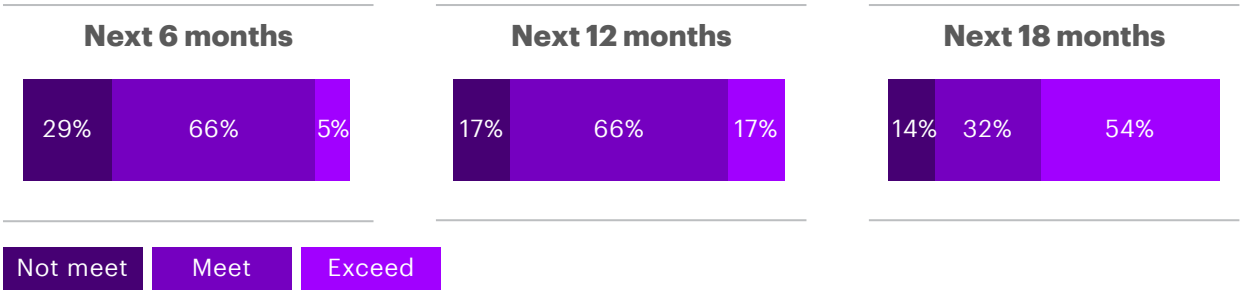
Supplier Delivery Outlook

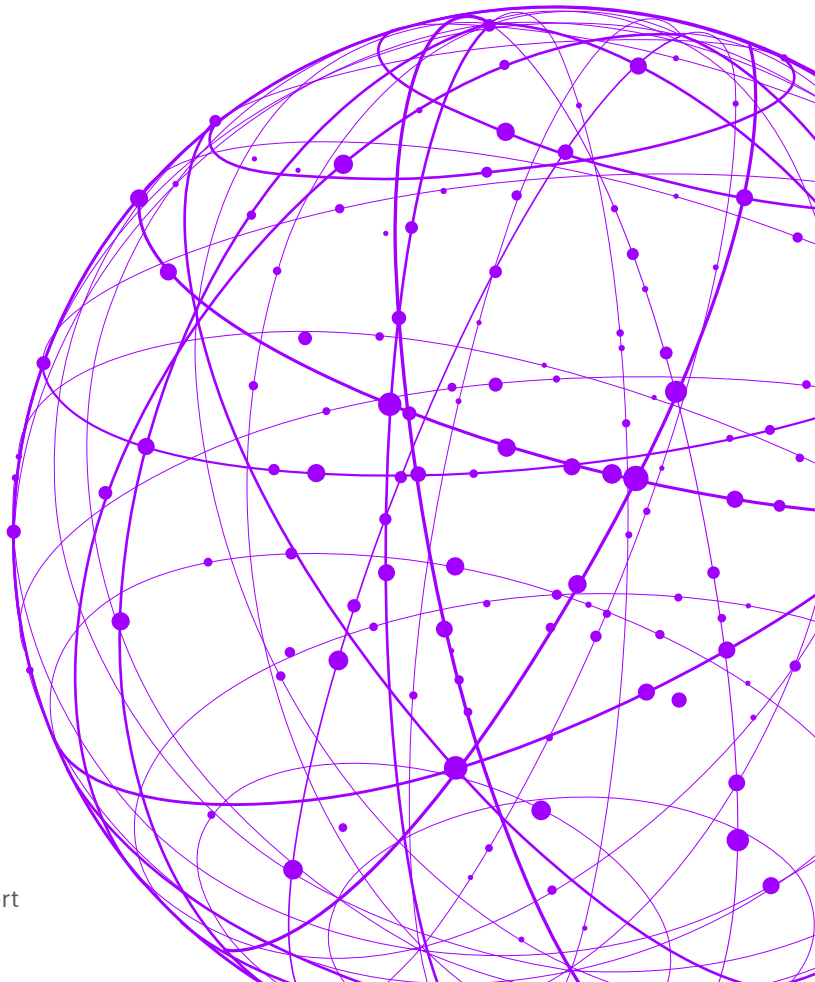
Building a resilient supply chain

While the supply chain will ultimately meet OEM expectations as they adjust to reduced demand, many suppliers continue to face challenges as some of the Tier 1 suppliers ask their suppliers for price cuts ranging from 5% to 20%.[20] OEMs are working closely with their suppliers to manage risk and adjust delivery schedules to reflect slower ramp up. For example, Spirit AeroSystems significantly slashed its production output for fuselage and other components for 737 MAX by two-thirds from the original target.[21]

29% of surveyed aerospace executives, perhaps higher than might have been anticipated, expect their suppliers will be unable to meet expectations and deliver on time over the next six months (see Figure 12). OEMs and Tier 1 suppliers continue to assess the availability of critical components and parts, seek alternative sourcing options and ensure production scheduling can rebalance production lines as demand changes.

Figure 12: Supplier delivery outlook (percentage of executives surveyed)





Production Input Cost Outlook

Near-term increase not expected

Almost half of surveyed aerospace executives expect raw material costs to remain the same over next 6 to 12 months, but more than half expect increasing costs across production labor and raw materials over the longer 18-month time horizon (see Figure 13). 37% of surveyed aerospace executives expect subsystem and parts costs to decrease over the next six months, but the majority of surveyed aerospace executives expect it to increase in early 2022 (see Figure 14).

The market for highly skilled workers, whether in manufacturing or design, will remain highly competitive, with competition for talent coming from other industries such as high-tech. At the same time, driving innovation and culture change across the myriad functions in the typical aerospace company remains a top challenge for its leadership: digital skills are essential to drive this innovation. According to our research, 75% of aerospace executives expect up to 20% of their workforce to reskill or work in new domains in the next five years.[22]

Figure 13: Raw materials cost outlook (percentage of executives surveyed)

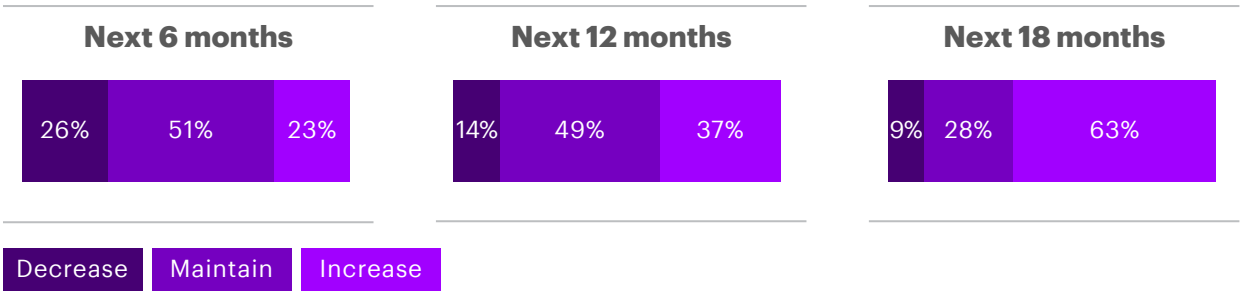


Figure 14: Sub-system or parts cost outlook (percentage of executives surveyed)

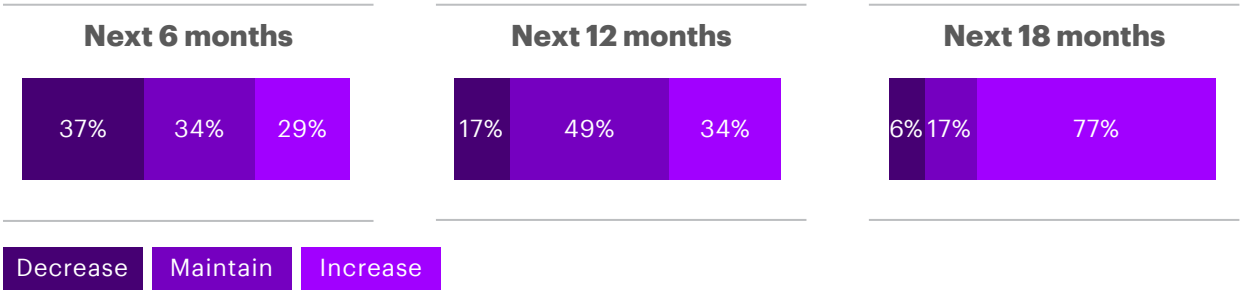
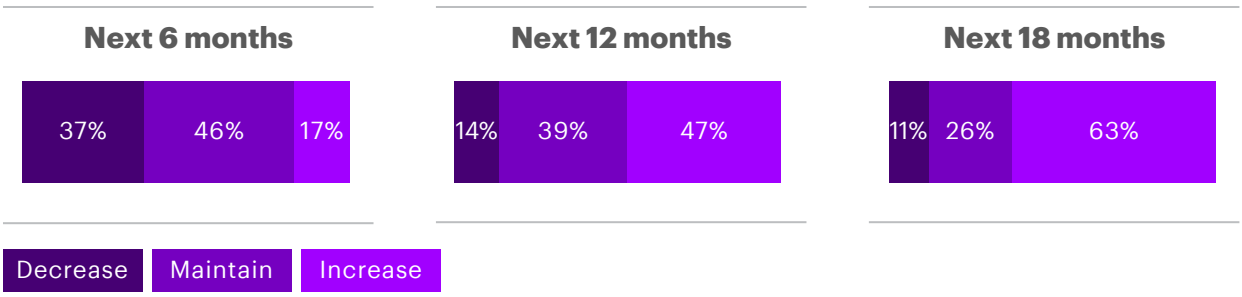


Figure 15: Production labor cost outlook (percentage of executives surveyed)



Regional Outlooks

North America Outlook

2020 North America commercial aerospace demand is expected to decline 35% YoY amid falling demand

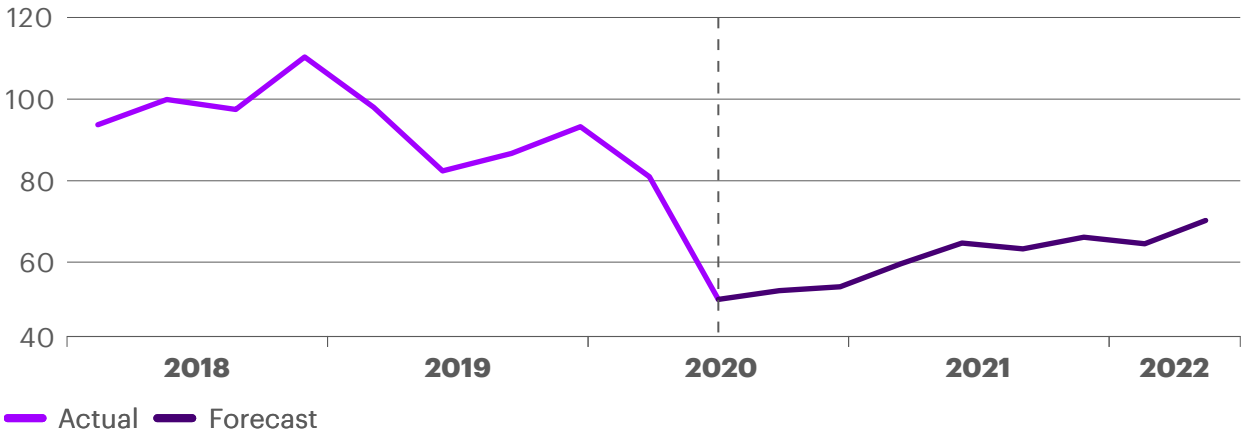
The first half of 2021 will witness higher YoY growth, as Boeing plans to resume 737 MAX deliveries. Although 2021 promises to get the North American market back on track, with growth anticipated to increase 6.5% YoY, commercial aerospace will still be 31% lower versus 2019 and 38% lower compared to 2018 pre-pandemic levels seen before 737 Max groundings (see Figure 16).

Growth is expected to sustain in 2022; however, the path to recovery to pre-pandemic levels will be much longer. Boeing has already announced significant production rate cuts on its commercial aircraft programs. For example, Boeing is reducing 787 production to six per month by 2021 and transferring production to South Carolina, reducing the combined rate of 777 and 777X to two per month by 2021, along with a slow ramp of 737 to reach thirty one per month by 2022.[23] Reaching pre-pandemic levels of aircraft deliveries will likely take at least as long as a full Airline industry recovery.

Figure 16: North America Outlook

2020 vs. 2019	1H21 vs. 1H20	2021 vs. 2020
		
Declining	Declining	Rising

Figure 17: North America Commercial Aerospace Index, (USD, 2018 = 100)



Europe Outlook

Order deferrals and fleet reductions propel worst decline ever

European aerospace demand is expected to be down 43% YoY in 2020, primarily driven by Airbus order deferrals. Airbus 1H20 commercial revenues were down 49% YoY in 2020 and deliveries were down 50% YoY, with no line of sight that the second half is expected to improve.[24] Overall, 2020 commercial aerospace annual growth in Europe is expected to decline by 43% YoY.

Although the anticipated 2021 YoY growth is expected to be 4.2%, the European Commercial Aerospace industry would be facing a 41% decline compared to pre-pandemic levels seen in 2019. Moderated recovery would be expected to sustain in 2022 (see Figure 19).

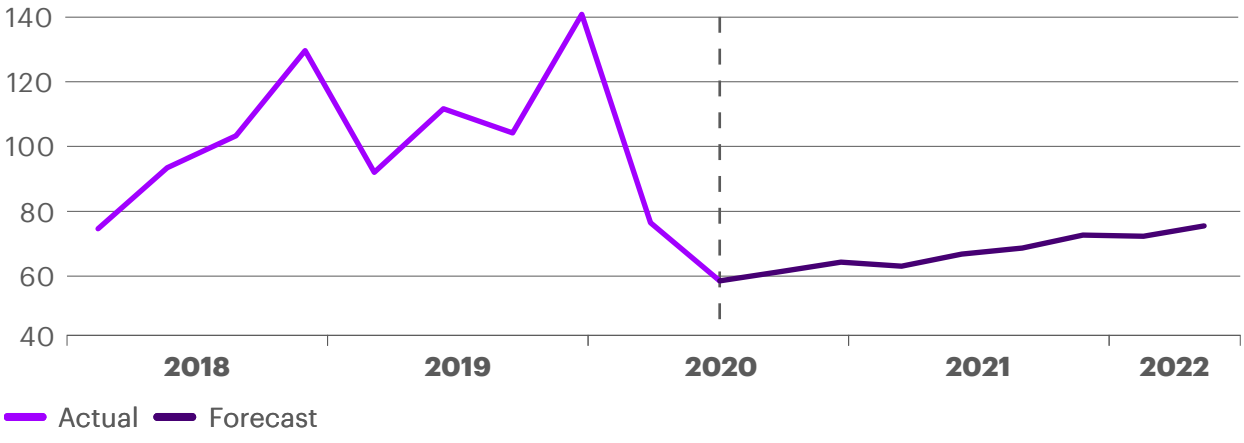
Notably, the risk of a no-deal Brexit threatens to disrupt the aerospace supply chain, which could negatively impact Airbus manufacturing in the UK. Growth, particularly in that region, could be adversely impacted during the post-Brexit transition period as some companies, such as Rolls-Royce, have moved their engine design work to Germany.[25] Several UK aerospace companies are seeking to be regulated under the jurisdiction of the European Aviation Safety Agency (EASA) or other EU authorities in order to be able to sell new components or parts to European customers in the event of a no-deal Brexit (the transition period ends in December 2020).[26]

There is a long and challenging period ahead in order to reach pre-pandemic levels as Airbus and its suppliers prepare to navigate through this crisis by relying on the French government's €15B bailout funds.[27] Airbus is planning on reducing 11% of its workforce by 2021. It had already reduced production rates by one-third on its major commercial aircraft programs.[28]

Figure 18: Europe Outlook

2020 vs. 2019	1H21 vs. 1H20	2021 vs. 2020
		
Declining	Declining	Rising

Figure 19: Europe Commercial Aerospace Index, (USD, 2018 = 100)



Asia Pacific Outlook

Supply chain disruption and weakness in aftermarket MRO triggers downfall

2020 annual demand is expected to decline 8.2% YoY, driving a faster relative recovery compared to other regions. Relative to 2019, APAC 2H20 commercial aerospace is expected to decline 14% YoY, primarily driven by revenue impact on the supply chain of Boeing and Airbus and aftermarket MRO players in the region.

There have been substantial 2020 negative impacts, such as Mitsubishi Heavy Industries expecting a 30% decline in their 2020 aerostructures business, a 50% decline in their MRO business and a significant reduction in the SpaceJet program budget.[29]

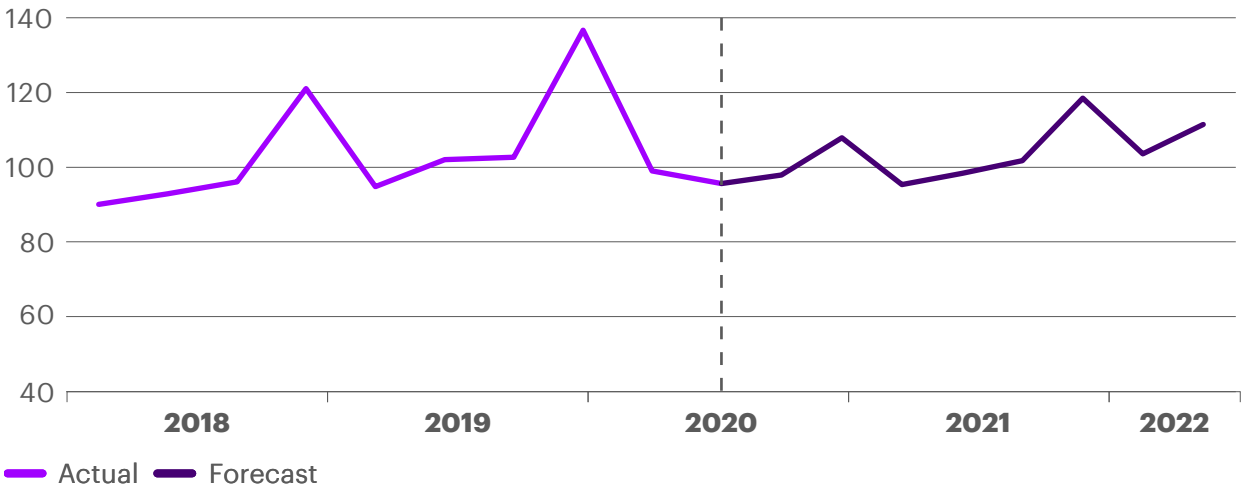
However, the regional decline is tempered when compared to Europe or North America primarily due to smaller revenue impacts seen on Chinese state-owned commercial aerospace companies. At a time when the overall industry is reeling under aircraft order cancellations and deferrals, COMAC has received order for 100 ARJ21 and C919 aircraft from China Express Airlines.[30] Its revenue declined 15.4% in 1H20 compared to 1H19 which is far lower than the high double-digit declines seen in Airbus or Boeing.

The anticipated 2021 YoY growth is expected to be 3.4% YoY, primarily driven in the second half of the year. Also, the region is expected to be only 5.1% lower in 2021 compared to 2019 pre-pandemic levels, indicating a much faster recovery than other regions. Growth is expected to sustain in 2022 (see Figure 20).

Figure 20: Asia Pacific Outlook

2020 vs. 2019	1H21 vs. 1H20	2021 vs. 2020
Declining	Declining	Rising

Figure 21: Asia Pacific Commercial Aerospace Index, (USD, 2018 = 100)

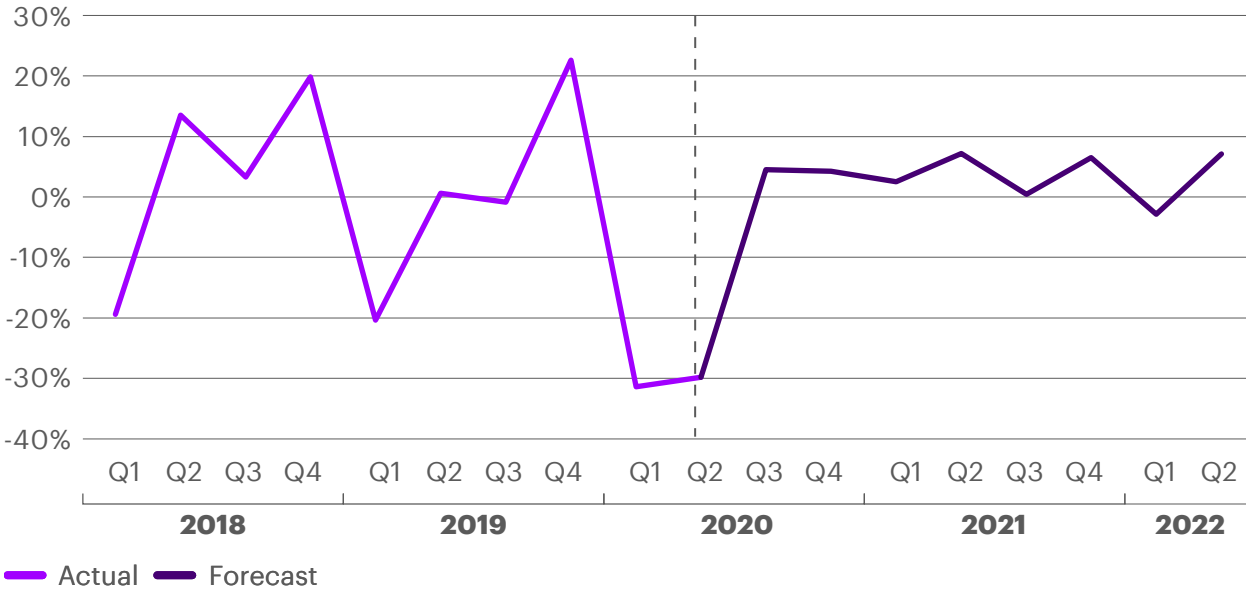


Appendix

Global and Regional Indices Quarter over Quarter Performance (QoQ)

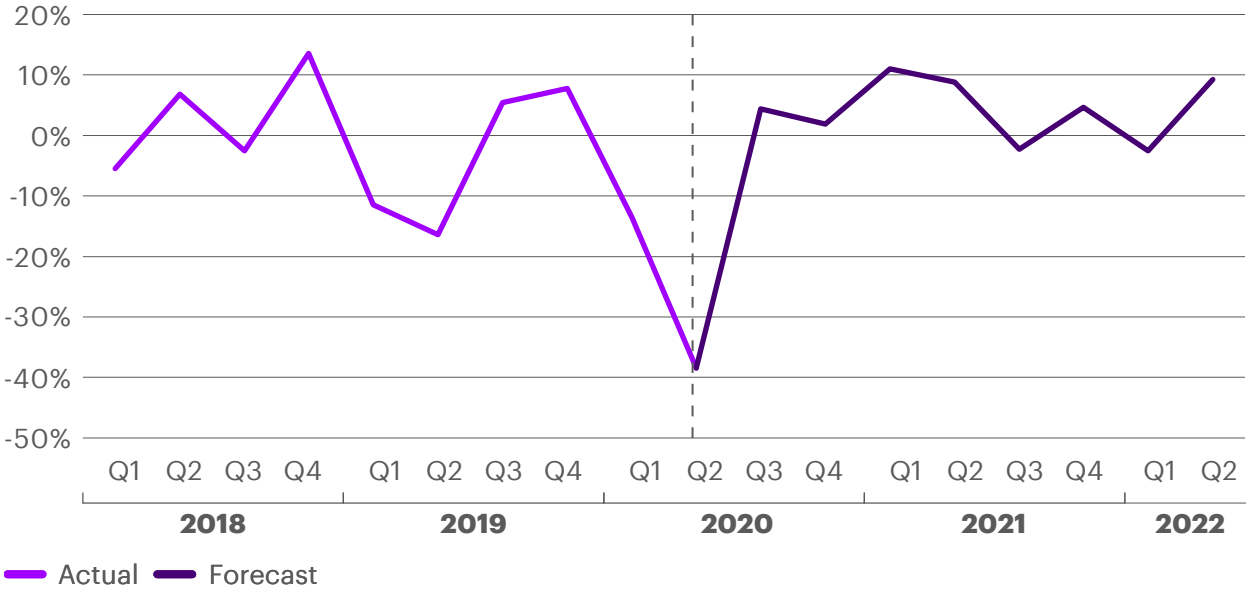
Global

Figure 22: Global Commercial Aerospace Index Performance (QoQ percentage change)



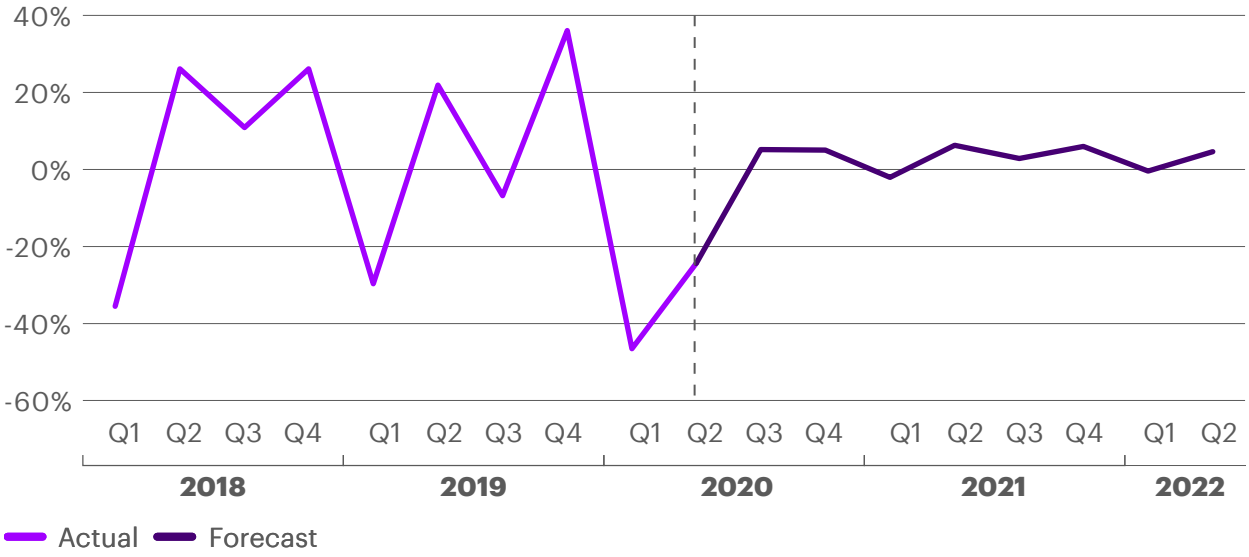
North America

Figure 23: Global Commercial Aerospace Index Performance (QoQ percentage change)



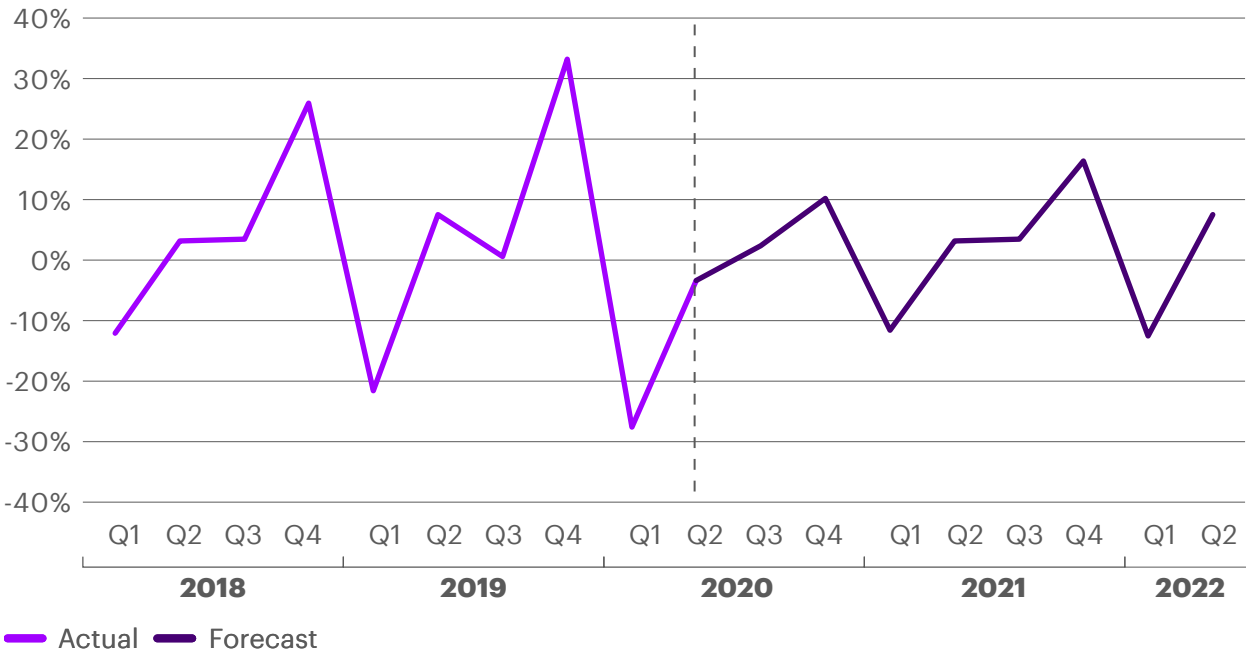
Europe

Figure 24: Europe, Commercial Aerospace Index Performance (QoQ percentage change)



Asia Pacific

Figure 25: Asia Pacific Commercial Aerospace Index Performance (QoQ percentage change)

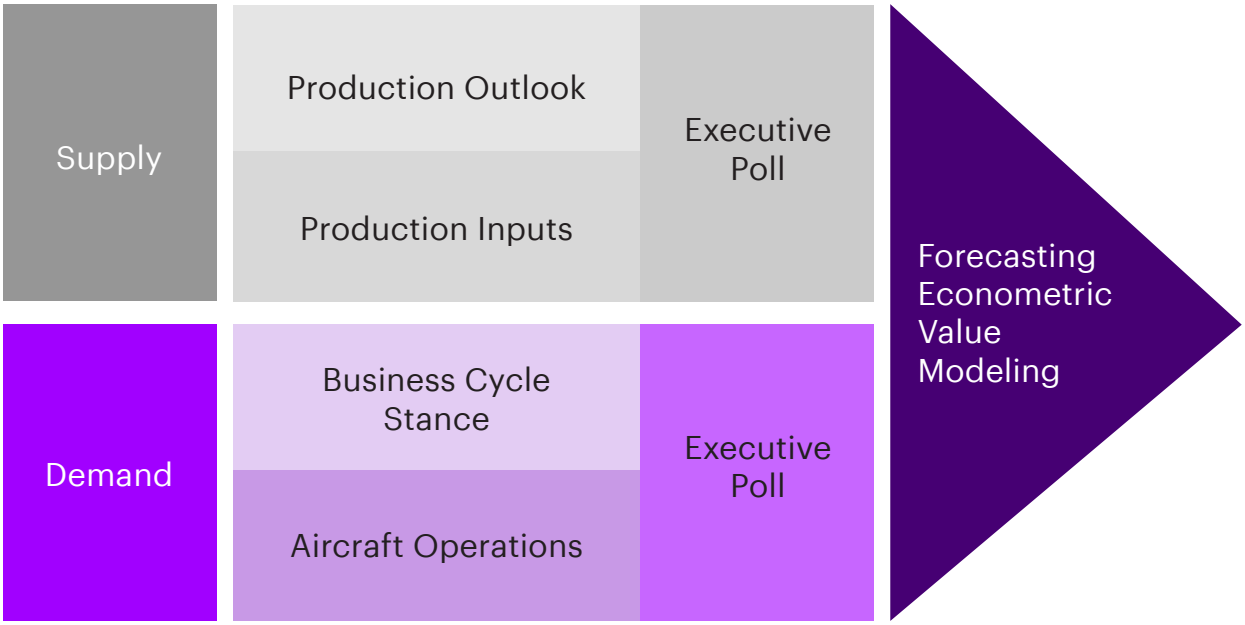


About The Accenture Commercial Aerospace Insight Report

Combining sophisticated econometric modeling methodologies to drive quantitative quarterly forecasts on the health of the commercial aviation market, with insights from leading aerospace executives worldwide, the "Accenture Commercial Aerospace Insight Report" provides a unique perspective on short and medium-term trends and drivers in this market. Instead of focusing solely on OEM sales, the report covers a wide range of activities, from suppliers to MROs (see Figure 26).

To complement the econometric modeling, executives at major commercial aerospace companies were polled for their insights on future supply and demand outlook. The outlook indicators in this report are based on the combination of the econometric modeling and a global commercial aerospace executive poll. Our poll was conducted in August 2020 and views are subject to considerable change as conditions can rapidly evolve.

Figure 26: The Accenture Commercial Aerospace Insight Report – a unique perspective on market trends



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Authors

John Schmidt
Aerospace and Defense Global Industry Lead
john.h.schmidt@accenture.com

Marc Gelle
Aerospace and Defense Europe Industry Lead
marc.gelle@accenture.com

Key Contributors from Accenture Research

Jeffrey Wheless
Principal Director, Accenture

Anshul Sharma
Associate Manager, Accenture

Jonathan Thomas
Senior Principal, Accenture

Fernando Bermudez
Senior Analyst, Accenture

Key Contributors from Seabury Consulting

Stephen Strange
Managing Director, Seabury Consulting

David Walfisch
Principal Director, Seabury Consulting

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