



Commercial aerospace could remain challenged, while the defense sector is expected to be stable

Global aerospace and defense (A&D) industry revenue is expected to begin to recover in 2021 after a difficult year in 2020. But this recovery will likely be uneven across the two key sectors, commercial aerospace and defense. The commercial aerospace sector has been significantly affected by the COVID-19 pandemic, which has led to a dramatic reduction in passenger traffic, in turn affecting aircraft demand. As a result, the commercial aerospace sector is expected to recover slowly, as travel demand

is not expected to return to pre-COVID-19 levels before 2024.¹ The defense sector is expected to remain stable in 2021, as most countries have not significantly reduced defense budgets and remain committed to sustaining their military capabilities. However, given the disruption in the complex global supply chain, some defense programs could face minor cost increases and schedule delays in 2021.





Commercial aerospace

A slow recovery in passenger travel may impact aircraft deliveries and industry revenues

Commercial air travel is gradually recovering, albeit at a slow pace, with global passenger traffic substantially lower (-70%) in November 2020 compared with a year ago.² Capacity levels also declined year over year in November 2020 (-59%), while load factors decreased to 58%.³ The continued impact on passenger demand is expected to result in a 61% decline in passenger numbers in 2020, with an expected rebound in 2021 (+56% year over year).⁴ Despite the rebound, passenger traffic will likely remain about 38% below pre-pandemic levels.⁵ An effective vaccine against COVID-19 could result in short-term growth in passenger traffic, driven by pent-up demand. However, this is unlikely to offset the ongoing damage to lucrative business travel, which may take two to three years to recover, as virtual meetings are expected to continue to substitute in-person meetings for a prolonged period.

Passenger traffic may not return to pre-pandemic levels before 2024.⁶ This would negatively affect order books and deliveries for original equipment manufacturers (OEMs). In 2021, global commercial aircraft deliveries are estimated at 950 aircraft, a decline of 41% from 2018, the peak year for deliveries.⁷ Though the commercial aircraft order backlog stood firm at about 13,421 at the end of December 2020, it was down 8.7% from the peak backlogs of about 14,700 at the end of 2018.⁸ Apart from commercial aircraft, deliveries for rotorcraft are also expected to remain nearly 15% below pre-pandemic levels in 2021, at 750 units.⁹ As new orders are likely to remain subdued in 2021 and airlines continue with order cancellations, aircraft backlog could decline further. Moreover, OEM rate reductions would continue to adversely affect the extended commercial aerospace manufacturing supply chain, especially the mid-to-lower-tier suppliers, which may struggle due to lower earnings and cash flows.

The pandemic has resulted in certain behavioral changes among passengers, with an increased focus on short-haul and domestic travel. In 2020, average air travel trip length was expected to drop by about 8.5% globally—the International Air Transport Association (IATA) does not expect a return to pre-pandemic trip length levels before 2025.¹⁰ According to [Deloitte research](#) conducted in January 2021, 81% of consumers surveyed said they are unlikely to take a domestic flight for leisure in the next three months, and 89% responded they are unlikely to fly internationally in that period.¹¹ These changes in consumer behavior could result in higher demand for narrow-body aircraft, which is likely to lead the path to recovery over the medium term.



Due to expected lower aircraft utilization rates, the sale of aftermarket parts and services could also remain weak, especially as airlines delay discretionary maintenance or upgrades to conserve cash. This is likely to have a disproportionate impact on profitability, as aftermarket parts often have higher margins. However, the overall impact on aftermarket services is likely to be lower, since the actual number of flights was down only 42% year over year in 2020, compared with an estimated 61% decrease in the number of passengers.¹²

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Defense

Sector to remain stable as countries plan to sustain their military capabilities

In 2021, defense budgets and revenues for defense contractors are expected to remain largely stable, as military programs continue to be critical to national defense, especially considering geopolitical tensions. Global defense spending is expected to grow about 2.8% in 2021, crossing the \$2 trillion mark.¹³ Countries across the globe continue to spend on strengthening their militaries as geopolitical tensions intensify despite the global pandemic.

In the United States, defense spending is likely to remain flat in 2021. However, fiscal pressures from reduced tax receipts due to the current recession and a potential need to reverse current levels of deficit spending could affect defense budgets from fiscal year 2022 onward. The fiscal year (FY) is the accounting period for the federal government that begins on October 1 and ends on September 30. Under a new administration, there could be some additional downward pressure on defense budgets in FY2022 and beyond, primarily due to debt from any stimulus spending or any shift in focus toward social and domestic programs. The government is expected to continue providing favorable payment terms to support the liquidity and cash requirements of both OEMs and the extended supply chain. Moreover, US foreign military sales (FMS), which increased \$15 billion in FY2020 to reach \$83.5 billion, are likely to offset some of the impact of flat domestic defense spending. Growth in FMS is likely to continue in FY2021, boosting export opportunities for US defense contractors.¹⁴

Most major defense spending nations have remained committed to strengthening their military presence, despite the pandemic's economic impact on fiscal deficits. China announced a \$178.2 billion military budget in May 2020, up 6.6% from the previous year.¹⁵ India is also bolstering its military,¹⁶ and Japan is increasing its air-sea military capabilities. Japan announced a \$51.6 billion defense budget for fiscal 2021, a ninth straight increase.¹⁷ France did not announce any reductions in the defense budget for 2021; in fact, France's lawmakers and the defense industry were expecting additional financial support from the government to counter the effects of the pandemic.¹⁸ However, some countries are diverting spending to other social programs to revive the economy and reduce the repercussions of the pandemic. For example, Russia plans to reduce military spending by 5% between 2021 and 2023 due to the impact of the pandemic on economic growth.¹⁹



Overall, disruption in global and diversified defense supply chains could result in minor near-term cost overruns and schedule delays in 2021. In addition, the sector's operational performance in the coming year could be affected by trade policies or sanctions, including potential Chinese sanctions on US defense players and their suppliers, Turkey's removal from the F-35 program, and possible US government sanctions on Turkey. Also, some commercial aerospace companies are focusing more on their defense businesses to counter the broader pandemic-driven economic pressures. For instance, Spirit AeroSystems received funding from the Department of Defense (DoD) to expand its production capability for advanced tooling and fabrication for the defense sector. The increased work on defense programs helped the company shift more than 400 employees from its commercial business to defense.²⁰ This move may lead to increased competitive pressure for traditional defense companies and disruptive solutions and technologies entering the defense marketplace.

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Space

Satellite broadband, space exploration, and militarization to drive growth

Despite the ongoing pandemic, space launches for the first half of 2020 were mostly at par with previous years; the 41 successful launches were only slightly below the five-year average of successful launches (43).²¹ As funding continues to increase and costs decline, the space industry is likely to experience increased opportunities, primarily in satellite broadband internet access. In 2020, space investments remained strong at \$25.6 billion,²² and the momentum for investments is likely to remain solid in 2021 as well. Space launch services are expected to record strong growth in 2021, with the market forecast to grow more than 15.7% year over year.²³ Space exploration is also expected to continue to evolve and grow in 2021 due to declining launch costs and advances in technology.

Over the long term, costs will likely continue to decline, with companies in the space ecosystem focused on reaching critical mass. For example, there are over 1,000 Starlink satellites launched into orbit by SpaceX, and the company aims to deploy 4,425 satellites in orbit by 2024 as its launch costs decline,²⁴ driven by reusable rockets and mass production of satellites. Launch costs for a satellite have already declined from \$200 million in the past decade to nearly \$60 million currently and have the potential to fall further to as low as \$5 million.²⁵ In addition, the establishment in 2019 of the “Space Force,” a sixth branch of the US military, could drive public sector investment in 2021 and beyond. Furthermore, the US Space Command, which oversees space operations using personnel and assets managed by the Space Force, will likely support A&D companies in accelerating investments in innovative technologies and capabilities. China and Russia are also focusing on strengthening their military capabilities in space.



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Supply chain

Industry to focus on transforming supply chains into more resilient and dynamic networks

Lower aircraft demand and restrictions on the movement of people and goods due to the pandemic led to a breakdown of many essential A&D supply chains. This has resulted in an impact on smaller suppliers, especially those with heavy exposure to commercial aerospace and the aftermarket business. As most A&D suppliers are highly specialized with unique expertise and complex equipment, they could continue to struggle to make quick changes to production in response to varying demand. Moreover, the A&D supply base is not homogeneous, and the crisis will likely continue to affect suppliers in different ways, depending on whether they focus on commercial aerospace, defense, or the aftermarket. The challenge is accentuated as many suppliers serve both commercial aerospace and defense, and any spillover from the commercial side could leave defense OEMs vulnerable with regard to sourcing critical parts for their programs and platforms. Suppliers that depend primarily on the commercial aftermarket are expected to experience lower volume for several years due to reduced flying hours, a glut of used serviceable material, and inventory destocking.

In 2021, the industry's focus is likely to shift toward transforming supply chains into more resilient and dynamic networks, which could be done using strategies such as onshoring, vertical integration, and increased cyber defenses. An example is the introduction of a new security requirement by the US DoD, the Cybersecurity Maturity Model Certification (CMMC). To further strengthen supply chains, OEMs and suppliers should leverage digital tools, including automating internal processes and streamlining workflows, implementing smart management systems, and using data analytics. Also, collaboration with regional players to build capabilities and shift manufacturing capacity when needed could make the A&D supply chain more robust and help the industry manage business disruptions. Many A&D companies are also using an ecosystem approach to strengthen their supply chains. In a [recent survey conducted by Deloitte](#), 72% of industry executives said they are investing in supply chain ecosystems to leverage external alliance partners.²⁶



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Mergers and acquisitions (M&A)

Deal activity likely to recover in 2021 as A&D companies seek long-term growth

After a solid year for M&A in 2019, with \$109 billion worth of deals, 2020 remained subdued with year-to-date deal value only at about \$20 billion²⁷ as the pandemic created considerable uncertainty. In 2021, global deal activity is likely to recover, driven by improved liquidity, especially at financially strong companies that may prioritize M&A to drive long-term growth. Though A&D companies' valuations have declined in 2020, the current EV/EBITDA of the global A&D industry is at 12.3x, only 5.3% below the five-year average. In contrast, US A&D companies trade at lower valuations compared to their global peers, with an EV/EBITDA of 11.5x, 12.1% below the five-year average.²⁸

Well-capitalized suppliers are likely to pursue opportunities for consolidation, as lower production rates in commercial aerospace could force weaker players to sell and restructure assets. Companies in specific A&D segments are likely to pursue M&A to build scale, whereas others could initiate vertical and horizontal integration strategies to capture more value, drive cost-competitiveness, or acquire targeted niche capabilities and emerging technologies. While there may be an increase in the number of deals, there may not be an increase in deal value as compared with the 10-year average.

However, some cross-border deals may be affected by a tightening of US foreign investment rules put in place to restrict opportunistic acquisitions by foreign entities. For example, the rules require the review of acquisitions by companies with ties to the Chinese government by the Committee on Foreign Investment in the United States (CFIUS).²⁹



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Technological developments and innovation

Emerging technologies to transform the industry and drive long-term growth

While the industry has been affected by the pandemic, continued technological developments in 2021 are likely to drive growth and shape the A&D industry over the long term. Some technologies that could transform the A&D industry include:

- **Advanced aerial mobility (AAM):** The technology for AAM is already being elaborated by industry partners and government agencies like the National Aeronautics and Space Administration (NASA) and the Federal Aviation Administration (FAA), and industry players are focusing on safely transitioning AAM into the daily commute globally. This new travel method could bring a complete paradigm shift and entirely transform mobility. 2021 could see more players entering the AAM market and an increased number of OEMs advancing to piloting and testing phases, paving the way for commercialization.
- **Hypersonics:** The defense sector in the United States has been actively pursuing the development of hypersonic weapons since the early 2000s, and its recent efforts have been primarily focused on hypersonic glide vehicles and cruise missiles.³⁰ While China and Russia also indicate a growing interest in the area of hypersonic weapons, the United States has been working on fast-tracking the development and near-term deployment of hypersonic systems. Both Russia and China have conducted several tests of hypersonic glide vehicles and could potentially also field an operational capability in 2020,³¹ but the United States is likely to conduct three flight tests of its hypersonic glide body in 2021.³²
- **Electric propulsion:** As technology evolves rapidly, several companies globally are developing electric propulsion systems, which could reduce carbon emissions, make flights quieter, and decrease costs. Apart from large aerospace propulsion companies, there are various technology startups also involved in the development of electric propulsion engines. In 2021, we could see experimental flights using hybrid or electric propulsion engines as companies progress swiftly in technology development. For example, Rolls-Royce successfully tested its hybrid version of the M250 gas turbine in 2019 and is aiming toward integration on an aircraft and experimental flights in 2021.³³
- **Hydrogen-powered aircraft:** As OEMs across the globe continue to produce more fuel-efficient and environmentally friendly aircraft, hydrogen fuel as a power source is increasingly being recognized. While some startups are already piloting these aircraft, in late 2020, Airbus SE announced the development of a zero-emission aircraft that will rely on hydrogen as the primary source of energy and could enter service as early as 2035. In 2021, Deloitte expects other aircraft OEMs to follow suit, and some could possibly announce concepts and development plans for hydrogen-powered aircraft. Also, startups that are already developing these aircraft may showcase prototypes, conduct test flights, and could begin trial operations, especially for cargo services.³⁴



Industry expected to focus on restructuring, cost reduction, and supply chain transformation in 2021

While the A&D industry, particularly commercial aerospace, is expected to face near-term challenges, the defense sector is expected to remain stable and weather the pandemic's disruption. In 2021, commercial aerospace manufacturers are likely to focus on restructuring and cost reduction to position themselves for profitable growth in the long term. The industry is also likely to take advantage of the pandemic and drop in demand to transform supply chains. Also, A&D companies could pursue M&A opportunities to build scale and capture greater value. Long-term growth prospects for the A&D industry remain strong. The space sector and technological developments, such as advanced air mobility, hypersonics, electric propulsion, and hydrogen-powered aircraft, are likely to drive future growth for the industry.

Let's talk



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