

ARTIFICIAL INTELLIGENCE
IN AEROSPACE AND DEFENSE
**FROM AMBITION
TO ACTION**







Many aerospace and defense executives find themselves unable to use Artificial Intelligence to drive operational efficiencies and create better experiences for customers. Our research reveals four imperatives that companies should address now to build a truly intelligent enterprise.

The aerospace and defense industry is grappling with major disruptive forces—from market developments to technology innovations to geopolitical upheaval. In response, companies are reshaping their portfolios through consolidation and new revenue streams, particularly in the aftermarket and sustainment segments. But they're also turning more and more to digital business models to improve revenue generation, drive efficiencies, and improve supply chain performance. According to our research, 97% of aerospace and defense executives say they are willing to digitally reinvent their business and industry.

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Some other encouraging news: geopolitics and commercial air traffic in the Asian and Middle East markets are continuing sources of aerospace and defense market growth—for both defense and commercial segments. A renewed space race is underway, with new entrants pushing down manufacturing and launch costs. Meanwhile, Silicon Valley players continue to be active in the aerospace sector, and with their involvement comes new capabilities in advanced technologies. And among the most important of those technologies? Artificial Intelligence.

AI is dramatically reshaping industrial processes, allowing aerospace and defense companies the world over to drive high-quality, sustainable, customer-centric business outcomes—at speed. Based on our research, there is widespread acknowledgment of this trend: Most executives see the potential for AI to bring about both transformation and growth. And many, in fact, are investing in AI. They're also collaborating with tech startups and suppliers and changing their operating structures so they can use AI to drive efficiency gains, forge new revenue streams, and create better customer experiences.

Yet many leaders are growing impatient with the speed of their transformation and reinvention. One strategic reason they identify? The inability to build and apply AI to make processes “ambidextrous” (achieve operational and customer excellence at the same time). Two-thirds of aerospace and defense executives agree that AI is advancing faster than their organization's pace of adoption. This rapid change in the technology exacerbates the challenge of achieving simultaneous operational and customer experience benefits.

Fortunately, our research and experience working with clients yields a concrete set of imperatives that businesses can address to overcome the gap between ambition and action, as well as principles to guide your AI journey.

BUILDING THE INTELLIGENT AEROSPACE AND DEFENSE COMPANY

Aerospace and defense companies must build intelligent processes that optimize revenue gains and increase efficiencies over an offering lifecycle.

AI has an increasingly central role to play in achieving that. 80% of aerospace and defense executives agree*, believing that every human in their workforce will be directly impacted on a daily basis by an AI-based decision within the next three years, and they are investing accordingly with smart, digital investments leading the pack. Of course, with the growing prevalence of AI come growing concerns about how it will be used. Making sure that AI is deployed ethically, and its outputs are transparent and free of bias, will become increasingly important. 74% of aerospace and defense executives believe automated systems create new risks including fake data, data manipulation, and inherent bias.

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Intelligently optimizing assets and talent resources will simultaneously drive revenue and efficiency gains. 80% of aerospace and defense firms are increasingly using data to drive critical and automated decision-making, at unprecedented scale. To date, the early candidates for AI implementations center on forecasting, order management, procurement, production, warranty, logistics and repair management. But as companies seek to expand the range of areas where AI will be implemented, aerospace and defense leaders will need to ensure that both their customers and employees understand its use and the general principles for its successful deployment.

AI will not replace people. But it will change their roles and the way that they work within the enterprise. So rather than considering AI as a binary choice between people and machines, the real value comes from machines and people augmenting each another.

Companies must therefore adopt synergistic, human-machine, intelligence-based processes that will drive customer-centric outcomes. Making sure that customers are treated fairly and ethically by AI and the decisions it makes becomes ever-more important as AI moves closer to the customer. That's an imperative recognized by aerospace and defense executives, 83%* of whom see transparency in AI decisions as important to achieve customer trust and confidence.



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And as AI operates alongside people as co-worker, collaborator, and advisor (as 83% of executives expect) they too require transparency of decisions. That will be essential to achieve the cost and operational optimization expected as companies implement intelligent, real-time processes that factor in production flow and equipment status to optimize production flow changes.

Companies must also leverage multiple technologies along with AI to drive intelligence processes that can best optimize in both real-time and long-term decision-making time horizons. Currently, aerospace and defense executives indicate that the application of AI to Extended Reality (AR/VR/MR), Intelligent Products that incorporate IoT devices and autonomous robots are the most beneficial to deliver those real-time insights. But the landscape is constantly evolving, and at a rapid pace. Consequently, two-thirds of executives agree that AI is advancing faster than their organization's pace of adoption.

BECOMING AN INTELLIGENT ENTERPRISE

How can aerospace and defense companies overcome the gap between ambition and action as part of their comprehensive digital strategy? Our research reveals four imperatives businesses must address to become smarter, connected, living, and learning.



FOCUS ON OUTCOMES

Companies must work to build processes that deliver the most efficient outcomes (customer experiences, for example) throughout the offering lifecycle. That means employing a “fail fast” mentality—piloting solutions quickly to understand how they drive business benefits.



AUTOMATE WISELY

Think beyond adopting technology for the sake of technological adoption. Technology alone will not make a truly intelligent enterprise. Instead, aerospace and defense companies need to optimize the combination of humans and machines in every process to achieve the desired customer-centric outcomes at speed.



EMBED INTELLIGENCE WITHIN PROCESSES

That requires understanding the business process and then applying the appropriate AI solution: RPA, intelligent automation, or various forms of machine learning. By using the appropriate AI, aerospace and defense companies will be able to self-generate real-time actionable insights. While, historically, capabilities such as analytics were deployed as a pilot project in a business function, processes that are candidates for AI are now being examined from a broader end-to-end view.



ASSESS IMPACTS IN REAL TIME

Deploying AI can enable real-time impact assessment as well as rapid and continual course-corrections, improving manufacturing operations and business performance.

ABOUT ACCENTURE

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References

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aerospace and defense respondents