accenture

LAUNCHPAD TO RELEVANCE

AEROSPACE AND DEFENSE
TECHNOLOGY VISION 2018

In today's tumultuous times, where aerospace and defense companies are contending with myriad challenges—from insurgent competitors to breakneck technological change to geopolitical instability—being relevant is vitally important. That's why many in the industry are working furiously to come up with new and innovative ways to serve the needs of their customers, suppliers, partners, and employees in those high-value touch points or "moments that matter." In this way, they are becoming more like living businesses, building and sustaining symbiotic ties with their stakeholders as if those relationships are with dear friends.

Yet many aerospace and defense executives are growing impatient with the progress their organizations are making toward being hyper-relevant in those moments that matter. Still, they are increasingly focused on innovating new products and services, with 67% saying that this is the top responsibility for their organization.

To succeed in this new era of B2B hyper-relevance, companies must be continuously willing to abandon the old. As new technologies shift client journeys and expectations, they can also enhance companies' abilities to engage with customers, suppliers, partners, and employees alike in the most relevant ways. Often, the greatest roadblock is a company's lack of willingness to transform their processes, organizations, and mindsets as needed.

DISRUPTION ABOUNDS

The aerospace and defense industry is grappling with disruptive forces—from market developments (aggressive production ramp-up rates) to technology innovations (autonomous aircraft) to geopolitical upheaval (Brexit). In response, companies are reshaping their portfolios through consolidation and new revenue streams, particularly in the aftermarket and sustainment segments.

They also are embracing digital business models to improve revenue generation, drive efficiency, 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.

Meanwhile, 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 also underway, with new entrants pushing down manufacturing and launch costs.

Silicon Valley players continue to be active in the aerospace and defense sector. New technologies such as Artificial Intelligence, 3D printing, extended reality, cloud computing, the Internet of Things, and blockchain all promise increased supply chain efficiencies, faster time to market, and new value propositions.

MAJOR FORCES CONTINUE TO RESHAPE THE FUTURE OF AEROSPACE AND DEFENSE

COMMERCIAL

NEW MODEL INTRODUCTIONS

Airbus A350XWB
Boeing 737MAX
Bombardier C-Series
Embraer E-JET E2

SUPPLY CHAIN PRESSURE

+13% to 23% production rate increases now implemented

AFTERMARKET BATTLE

OEMs seeking bigger share of $72b market

Lufthansa Technik Autoinspekt

DEFENSE

US DOD & INTERNATIONAL EXPANSION

$100B Trump Bump & international teaming "beyond offsets" (F16 India, Australia submarines)

FIXING SUPPLY CHAIN AND LOGISTICS

Reduced time to Initial Operational Capability

Parts availability across extended supply chain

SUSTAINMENT BATTLE

Primes focusing on $111B market

SPACE

LOW COST LAUNCH

SPACEX offers $300m+ (77%) launch cost reduction

LOW EARTH ORBIT CONSTELLATIONS

2,400 nano-satellites launched through 2023

NEW BUSINESS MODELS AND PARTNERSHIPS

Airbus aerial fuses satellite and drone imagery

Intel and Intelsat for 5G spectrum share

Completing the picture

GROWTH ON THE SURFACE, TURBULENCE BELOW

While steady industry growth on the surface may indicate smooth progress, the aerospace and defense industry is changing at an unprecedented rate. In the commercial sector, we're seeing industry consolidation and rising M&A activity.

New models such as the Airbus A350 XWB and the Boeing 737 MAX are being introduced at a time when the growing middle classes in emerging economies are driving demand, and fleets are being expanded and replaced to accommodate increasing passenger volumes. OEMs are continuing to sharpen their focus on providing services and capturing opportunities in the $73 billion commercial aviation aftermarket.

In the defense sector, modernization programs are set to address aging military aircraft fleets, with spend growing particularly fast in the Asia-Pacific region. The integration of new technologies is a priority, and all this is taking place against a backdrop of regional tensions and new security threats. Platforms have become increasingly complex, with software-driven capabilities often the principle cause of initial operating capability delays.

The space industry is also seeing major changes. Low-cost launches from companies such as SpaceX are decreasing costs by up to 77%. New manufacturers are changing the game, with private-sector players such as Blue Origin taking an ever more prominent position. Space is opening up to a much wider range of players, with an estimated 2,400 nano-satellites set to launch by 2023. The sector is attracting funding from venture capital that will increase the number of new entrants to the sector, while new collaborative business models—sometimes between unlikely partners—are expanding.

Behind all these developments lie the disruptive innovation and new business models reshaping aerospace and defense future. Across the board, aerospace and defense businesses are investing in digital to drive innovation. These companies are deploying innovation labs or digital accelerators. In fact, according to our research,70% of aerospace and defense executives are planning for new and emerging technology adoption in a period of two years or less. They are broadening the diversity of the technologies being explored, with over half saying that they have invested in artificial intelligence, the Internet of Things, augmented/virtual reality, robotics and drones.

FIVE TECHNOLOGY TRENDS RESHAPING AEROSPACE AND DEFENSE

For the past six years, Accenture has identified key technology areas impacting the enterprise. This year's Accenture Technology Vision highlights five emerging trends that will have a decisive impact on the entire value chain, from aircraft design to passenger or pilot experience.

Trend 1
CITIZEN AI

As artificial intelligence grows in its capabilities—and its impact on people's lives—businesses must move to "raise" their AIs to act as responsible, productive members of society. Aerospace and defense executives recognize that AI will play an increasingly central role in their organizations. Some 83% of executives expect AI to be working alongside humans as co-workers and advisers in the next two years. But the pace of AI development is accelerating to the extent that two out of three executives believe that their organization's adoption is unable to keep up. Just last year, executives had believed that AI would be having an impact and transform their company over the next three years.

Trend 2
EXTENDED REALITY

Virtual and augmented reality technologies are removing the distance to people, information, and experiences, and are transforming the way that people live and work. Extended reality is a key trend for aerospace and defense, with 96% of executives citing extended reality solutions as important to close the gap of physical distance when engaging with employees or customers. While the aerospace and defense executives' responses signal strong use of the technology, Accenture's experience indicates that most organizations are still in experimental mode, conducting proofs of concepts versus undertaking full-scale implementations.
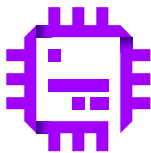
Trend 3
DATA VERACITY

As organizations become increasingly data-driven across their operations, the importance of trusting the data that companies use is rising inexorably. Inaccurate, manipulated, or biased data can have far-reaching, adverse consequences, such as corrupted business insights and skewed decisions. With 80% of aerospace and defense firms increasingly using data to drive critical and automated decisions, it's little surprise that 73% also believe that those same automated systems create new data risks including fake data, data manipulation and inherent bias. And that concern is reflected in the insistence of 90% holding their ecosystem partners to the same or higher standards for data reliability and integrity that they maintain within their own organization.

Trend 4
FRICTIONLESS BUSINESS

Ecosystem partnerships are becoming more important across the aerospace and defense industry. Not only do 64% of respondents say that the size of their ecosystem has at least doubled in the past two years, but 90% expect to be exchanging more data with these partners within two years than they do today. This trend is apparently accelerating. Last year, less than half (48%) of the executives surveyed reported that ecosystems were changing how they deliver value, and only 32% were aggressively taking steps to participate in digital ecosystems.

Trend 5
INTERNET OF THINKING

93 percent of aerospace and defense executives believe that the next generation of intelligent solutions are moving into physical environments. The ability to enable intelligence anywhere requires an agile infrastructure built around these technologies, while also balancing cloud and edge computing to ensure that businesses can operate effectively wherever they need to.

Conclusion

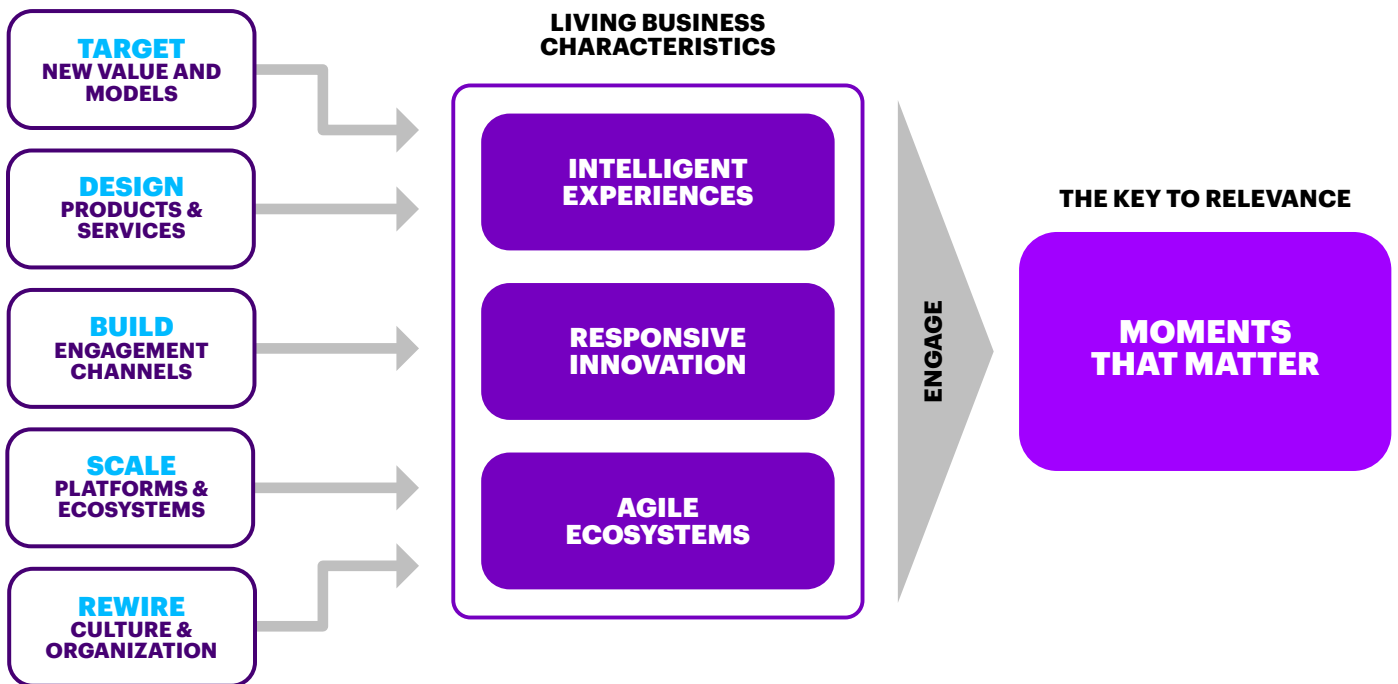# THE ANSWER? A NEW KIND OF LIVING BUSINESS

Aerospace and defense companies have been developing digital capabilities for years. Yet the urgency to harness digital to deliver the "moments that matter" across the organization, partners, and customers has never been greater. That's why organizations are transforming themselves to better serve their customers', partners', suppliers', and employees' most relevant needs in the moment. In other words, they're striving to become more like living businesses—to build and sustain symbiotic ties with every stakeholder in their ecosystem.

How? By conveying exactly the right message or offer in exactly the right context. And delivering truly intelligent experiences that shape offerings and adapt in real time to the needs and preferences of customers, partners, suppliers, and employees. It's about the moments that matter, whether that's using Big Data to predict when an aircraft will need maintenance, or deploying augmented-reality to provide over-the-shoulder coaching to field technicians or mechanics on the other side of the world.

On another level, living businesses enable responsive innovation, allowing companies to get ahead of the curve in markets by creating a culture and infrastructure that continuously embrace new ideas, behaviors, and technologies. Lower cost space launches from Blue Origin and SpaceX are great examples of responsive innovation. Both enable the acceleration of new communications and earth observation services at revolutionary price points and at an unprecedented pace.

To create intelligent experiences and responsive innovation, companies need to become agile, shifting to a more fluid, nimble, and open relationship model that enables dynamism across the organization, partners, and customers. Ultimately, a company's infrastructure will be primed to embrace new ideas and technologies and anticipate and respond to changing customer and market opportunities. Consider the example of Airbus Aerial, which fuses a space-based, earth-observation satellite fleet with unmanned aircraft to create timely and actionable data for its customers, such as disaster response or being able to perform runway maintenance under extremely tight timeframes.

Conclusion

PATHWAYS TO A LIVING BUSINESS

LIVING BUSINESS CHARACTERISTICS

TARGET NEW VALUE AND MODELS

DESIGN PRODUCTS & SERVICES

BUILD ENGAGEMENT CHANNELS

SCALE PLATFORMS & ECOSYSTEMS

REWIRE CULTURE & ORGANIZATION

INTELLIGENT EXPERIENCES

RESPONSIVE INNOVATION

AGILE ECOSYSTEMS

ENGAGE

THE KEY TO RELEVANCE

MOMENTS THAT MATTER

To become living businesses, aerospace and defense companies should transform based on five key pathways:

1. Target Core and Disruptive Growth Initiatives.

This path involves identifying new value and business models by rethinking investments based on a better understanding of customers' digital needs. With that understanding in place, it's a matter of deciding whether a new idea or opportunity is worth it. Does an idea solve existing customer pain points? Could it open new sources of value? Or is it a "flavor-of-the-month" distraction? These new business models or services are funded by optimizing costs elsewhere.

2. Design Products and Services as Hyper-relevant Platforms.

The second path is about innovating compelling new experiences and maximizing the relevance of a product, service, or experience to customers. Should products be flashy and bleeding edge? Or staid but practical? Answers will come from customer-needs assessments that steer design decisions. Smart, connected technologies are leading the pack in terms of aerospace and defense technology investment. Artificial intelligence, extended reality, robotics and autonomous robots are top investment areas that help drive a hyper-relevant platform.

3. Build, Prototype, and Scale New and Innovative Experiences.

This third pathway to becoming a living business is all about developing the kinds of engagement channels that allow continuous evolution—and an organization that can prototype, deliver, and scale the most innovative experiences at breakneck speed. 94% of executives believe the next generation of intelligent solutions are moving into physical environments. The top technology solutions driving intelligent experiences are extended reality, IoT devices, and autonomous robots. 70% of executives are planning to adopt new and emerging technologies in less than two years.

4. Scale by Plugging into a Broader Set of Ecosystem Partners.

Embracing this approach means formalizing new or established collaborative relationships with alliance partners. It requires employing technologies like cloud and blockchain to connect employees and partners with the customer data that matters, and to do so seamlessly and securely. Innovation is increasing the product of collaboration, with the majority (64%) of industry executives reporting that their ecosystem has more than twice the number of partners today than two years ago. The majority believe that the strength of their ecosystem depends on their technology and the ability to act as an orchestrator across different partners.

5. Rewire the Culture by Infusing a Mindset that Keeps Customers at the Core.

Relevance demands constant reinvention. On an organizational level, that means changing the company's mindset to put customers front and center, then equipping employees with the skills they need to become responsive. 67% of executives believe that their top priority must be to innovate new products and services.

Ultimately, the key is pushing past your comfort zone to develop a new stronghold. The process of becoming a Living Business not only offers a way to retain or regain traction now, but also ensures readiness to capture future growth.

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ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions – underpinned by the world's largest delivery network – Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 442,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com.

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Accenture Labs incubate and prototype new concepts through applied R&D projects that are expected to have a significant near-term impact on clients' businesses. Our dedicated team of technologists and researchers work with leaders across the company to invest in, incubate and deliver breakthrough ideas and solutions that help our clients create new sources of business advantage. Accenture Labs is located in seven key research hubs around the world: Bangalore, India; Beijing, China; Dublin, Ireland; Silicon Valley, California; Sophia Antipolis, France; Washington D.C.; and Israel.

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