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# DESTINATION DIGITAL

How digital transformation can unleash  
growth in aerospace and defense

# EXECUTIVE SUMMARY

**The Aerospace and Defense industry is being hit by disruption on multiple fronts, All of these disruptive forces point to a singular conclusion: the need for digital transformation.**

The Aerospace and Defense industry is being hit by disruption on multiple fronts. With the overall demand for passenger aircraft set to double over the next two decades<sup>1</sup>, OEMs will need to ramp-up production efficiently to keep pace. Defense demand is also growing fast<sup>2</sup> (2.1% CAGR over five years), driven by regional tensions and defense platform replacement in the US and Europe.

New competition, such as agile new entrants offering lower cost propositions and innovative digital business models, is also reshaping the industry. The competition for talent continues to intensify, with the industry finding it tough to compete for the best STEM talent.

All of these disruptive forces point to a singular conclusion: the need for digital transformation. 76% of aerospace and defense executives<sup>3</sup> acknowledge this, believing that digital opens the door to new market opportunities. Those aerospace and defense businesses that have embraced this imperative are already pulling ahead, with new business models that are moving them decisively from today's core operations to new approaches that drive growth. Others need to increase their velocity to reach their own digital destination.

To do that, they need to focus on three things:

## **1. Digitize across the value chain**

## **2. Collaborate to innovate**

## **3. Embrace new business models**

Companies that successfully embrace digital at the core of their businesses are likely to see the rewards. Leaders today achieve up to four times improvement on their digital investments than other industry players (figure 1).<sup>4</sup>

# MAJOR DISRUPTION..

**Market disruption looks set to dramatically reshape the aerospace and defense industry – and companies will need to adapt if they want to be ready for the future.**

## Increased passenger demand

The global commercial aircraft fleet is expected to double<sup>5</sup> over the next two decades. This growth will be fueled in part by rising demand associated with the growing middle classes in Asia Pacific. Indeed, it is estimated that Asia Pacific will account for about 40%<sup>6</sup> of new commercial aircraft deliveries over the next 20 years. Airbus and Boeing currently have respective order backlogs of nine and seven years for their aircrafts.<sup>7</sup> While airlines are putting new aircraft into service, reasonable fuel prices and short-term aircraft delivery issues are causing airlines to keep existing aircraft in service longer, which, in turn, is driving incremental aftermarket service market growth.

## Global uncertainty

Regional tensions in Asia Pacific and Middle East, along with defense platform replacement in the United States and Europe, are expected to drive defense expenditure around the world, with global defense spending estimated to increase at a CAGR of 2.1%, over the next five years.<sup>8</sup> Manufacturers of military equipment are rushing to seize opportunities presented by growing defense budgets.

## Workforce transformation

It's vital that the Aerospace and Defense industry is able to recruit the talent it needs to take advantage of the opportunities presented by new technology. But at the moment, they're struggling to do so.

The pool of STEM talent is small, and aerospace and defense businesses are competing for the best talent with major tech organizations such as Google and Amazon. This has made recruitment a real challenge for the industry.

## New entrants and new business models

To cater to changing demands, aerospace and defense companies will need to come up with new business models and manage the wise pivot between today's core operations. Some new entrants are already doing so. For example, small low-earth orbit satellites and reduced launch costs by new entrants such as SpaceX, have made it easier for new competitors, including those powered by VC funding, to enter the market.

## Technology disruption

Aerospace and defense companies are witnessing a rise in the adoption of digital technologies. For example, blockchain is impacting the way companies manage supply chains and procurement. Digital twins are transforming the way companies manage product lifecycles. DARQ (distributed ledger, artificial intelligence (AI), extended reality, quantum computing) will become an integral part of any successful modern enterprise, and the convergence of these digital technologies will drive business innovation. 84% of aerospace and defense executives state their company is currently experimenting with one or more DARQ technologies, expecting them to be key differentiators.<sup>9</sup>

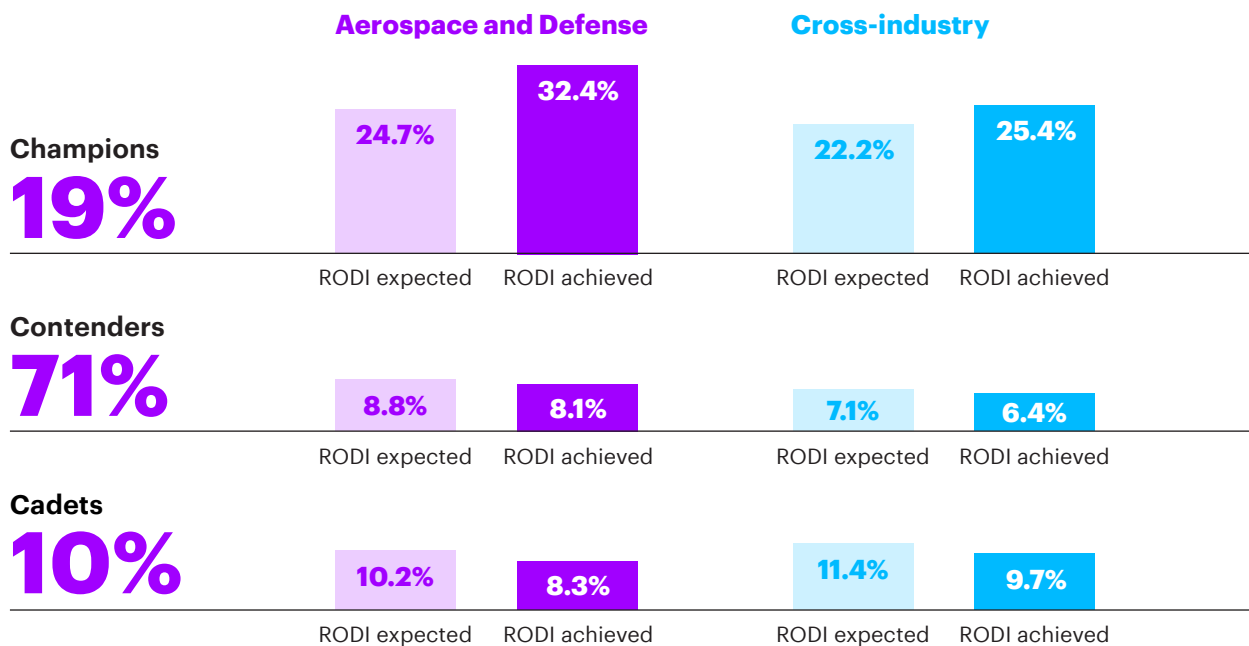
# MAJOR REWARDS...

**For all aerospace and defense companies, a comprehensive digital transformation strategy is essential to meet the challenges that they face.**

A growing number of aerospace and defense companies are embracing a range of digital technologies, from AI to robotics, across key business functions and seeing the rewards of doing so on the bottom line. Our research shows that the top 19% of aerospace and defense companies, the champions, achieve

significantly higher than average returns on their digital investments, compared with their industry peers (figure 1). Their digital returns even beat the industry average for returns on overall invested capital (ROIC). What's more, champions are successfully scaling more than 50% of their digital proofs-of-concept.

**Figure 1: RODI for aerospace and defense champions<sup>10</sup>** (RODI is calculated as Return on Investments (Net Gain/Total Investments) from scaled digital POCs across all the key business function)



# A THREE-POINT PLAN FOR THE DIGITAL FUTURE

**For the champions achieving significantly higher returns on their digital investments, it's clear that digital transformation offers both big rewards and a strategy to manage disruption.**

The 71% of aerospace and defense companies who aren't succeeding like champions have considerable room for improvement.<sup>11</sup> However, it's clear that they see great potential. 76% of aerospace and defense executives believe digital opens the door to new market opportunities for unmet customer needs.<sup>12</sup> And 81% agree that the integration of customization and real-time delivery is the next big wave of competitive advantage.<sup>13</sup>

The question therefore is how should aerospace and defense companies move forward to realize the potential they clearly identify? We've come up with a three-point approach to help companies adapt to these disruptions, successfully embrace a digitally-driven future and reap the rewards of doing so.

## 1. Digitize across the value chain

To adapt to the disrupting forces reshaping both the Aerospace and Defense industry and the wider world, companies will need to embed digital across the entire value chain, from sales and contract, design and engineering to supply chain, manufacturing and aftersales service, human resources and finance.

## 2. Collaborate to innovate

Aerospace and defense organizations operate in a complex ecosystem. To drive innovation and boost future readiness, they'll need to collaborate across the industry and technology ecosystem, working together with a wide range of different partners, suppliers and vendors on new product and services.

## 3. Embrace new business models

New developments require new business models: aerospace and defense organizations need to manage the wise pivot between today's essential ongoing business and new business models for the future, balancing current needs with the requirement to move decisively to the new.

Companies that successfully adapt to the changing landscape and embrace digital could reap huge rewards. Improvements could include increased revenue, higher return on investment, greater shareholder returns and higher future value. It's also likely that failing to act could have harmful repercussions. Over 80% of aerospace and defense executives fear substantial cost escalations alongside losing significant market share if they fail to overcome organizational challenges for digital reinvention.<sup>14</sup>

# MAPPING THE ROUTE TO A DIGITAL FUTURE

**To harness the three-point approach and accelerate purposefully towards digital transformation, companies need to establish a “digital-first” mindset across all aspects of their business.**

That means putting digital at the heart of operations and building digital capabilities across the value chain. In addition, companies must pay careful attention to transformation management to establish a working culture in which digital initiatives can thrive.

A successful digital transformation will rest on defining clear objectives at the outset – companies must set a destination with a comprehensive digital vision. This needs to be broad enough to encompass their own organization and wider ecosystem, as well as articulating what the vision means for other stakeholders. The digital value proposition must also be defined upfront, with a clear idea of the performance drivers and strategic objectives that will inspire innovation and create value.

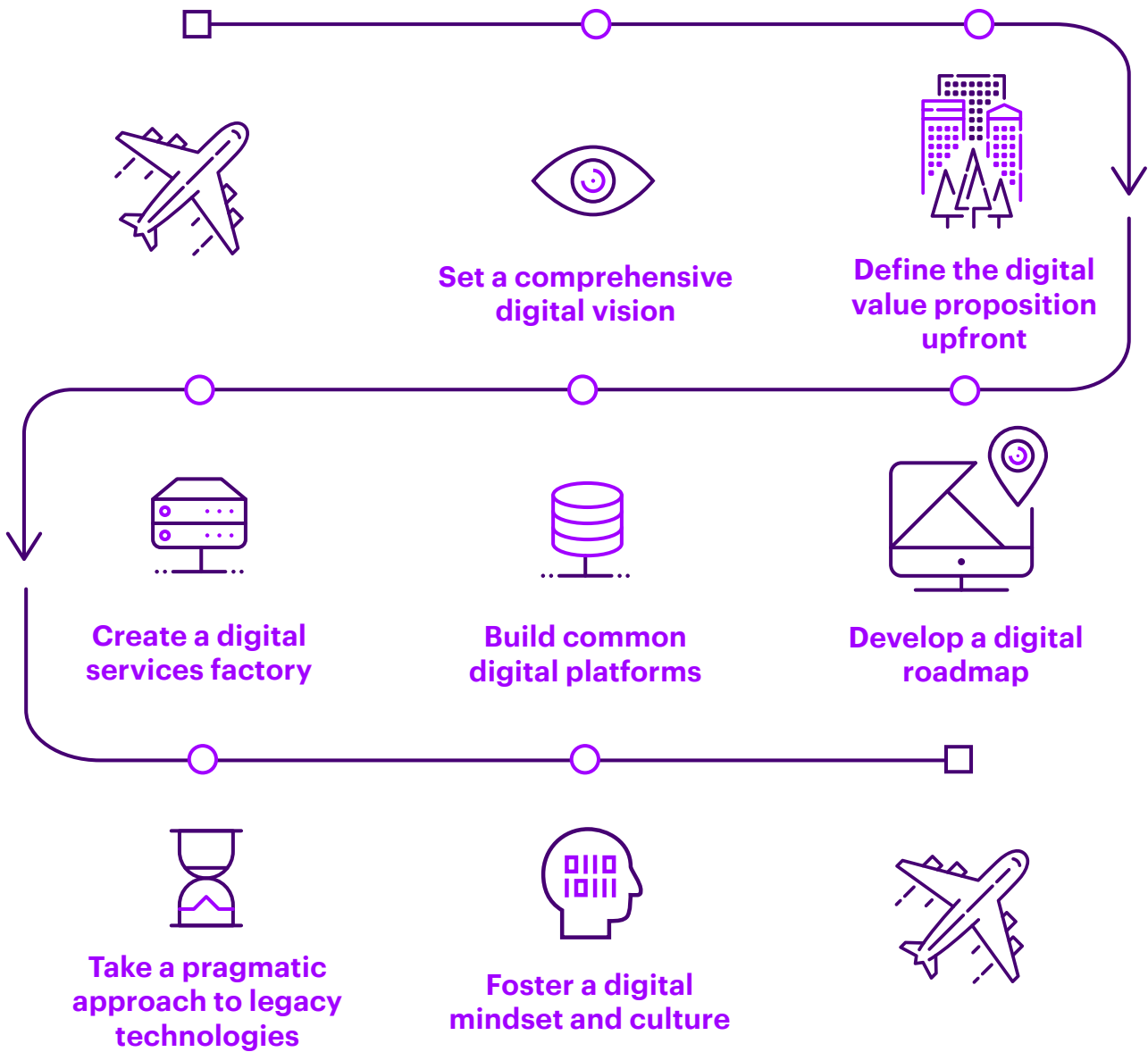
With that vision set, companies must develop a digital roadmap, setting the clearly defined milestones they’ll need to reach along the way to their ambitious destination.

To support their journey to digital transformation (figure 2), companies must build digital platforms to break down silos, maximize data and solution synergies and reduce the cost of digitization by avoiding the need to ‘reinvent the wheel’ for each digital program. Deploying digital twins and digital threads can ensure smooth product lifecycle management across different functions and organizations.

At the same time, however, it’s important to take a pragmatic approach to legacy technologies, with a multispeed IT approach that builds digital capabilities progressively. And in addition to digital technologies, it’s essential to foster a digital mindset and culture to embed and sustain new ways of working across the organization.



Figure 2: Digital Transformation Journey



# DESTINATION DIGITAL: READY FOR TAKE-OFF

**By carefully navigating digital transformation, aerospace and defense companies can overcome new threats from market disruption, successfully transform and pivot to the new. The time to transform is now!**



## References

- <sup>1</sup> [Airbus Global Market Forecast 2019-2038, Boeing Commercial Market Outlook 2019-2038](#)
- <sup>2</sup> [Stockholm International Peace Research Institute \(SIPRI\) Military Expenditure Database and Accenture analysis](#)
- <sup>3</sup> [Harness the Engine of Innovation – Technology Vision 2019](#), aerospace and defense respondents
- <sup>4</sup> [Rethink, Reinvent, Realize. How to successfully scale digital innovation to drive growth 2019](#), aerospace and defense respondents
- <sup>5</sup> [Airbus Global Market Forecast 2019-2038, Boeing Commercial Market Outlook 2019-2038](#)
- <sup>6</sup> Ibid.
- <sup>7</sup> [Airbus and Boeing company reports](#), as of June 30, 2019
- <sup>8</sup> [Stockholm International Peace Research Institute \(SIPRI\) Military Expenditure Database and Accenture analysis](#)
- <sup>9</sup> [Harness the Engine of Innovation – Technology Vision 2019](#), aerospace and defense respondents
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