Exponential Change

90% of A&D companies see a new era of tech advancement marked by exponential change.

Industry KPIs

COMMERCIAL AVIATION
• Quieter, more fuel-efficient & environmentally friendly aircraft
• MRO revenue growth
• Improved safety & lower design, testing & certification costs

SPACE
• Launch cost reduction & commercialization of space
• Satellite miniaturization, constellations & high-altitude pseudo-satellites
• Advanced telecommunication, observation & exploration capabilities

ECONOMIC
• Rising defense spending
• Cost of maintenance, repair & operations (MRO)
• Low margins

POLITICAL
• Geopolitics
• Space: the final frontier
• Tariffs & trade

LEGAL
• Noise & emissions
• Safety
• Certification

TECHNICAL
• Autonomous systems
• Digital enterprise
• Advanced materials & additive manufacturing
• Electrification
• Enhanced communications & 5G

COMPETITION
• Supplier consolidation
• The new space race
• Emerging markets
• Disruptors & startups

ENVIRONMENT
• Emissions reduction

SOCIAL
• Aging workforce
• 24/7 connectivity

Digital Transformation

68% of aerospace companies investing in digital technologies as part of overall business strategy.

97% of aerospace executives willing to digitally reinvent their businesses. (Yet aerospace trails auto and industrial manufacturers in digital implementation.)

Industry Internet of Things (IIoT)

Simulation-based digital twin mirrors the life of an asset for performance optimization and predictive maintenance.

Additive Manufacturing

Only simulation predicts distortions and thermal stresses; helps avoid trial-and-error 3D printing.

Advanced Robotics

The complex optimization of weight, sensors & electronics integration, control software and power management is enabled by multiphysics simulation.

Simulation-based Production

Simulation-based design

Digital twins

AI Data

For new products, sensor-laden systems can be generated with a high-similarity.