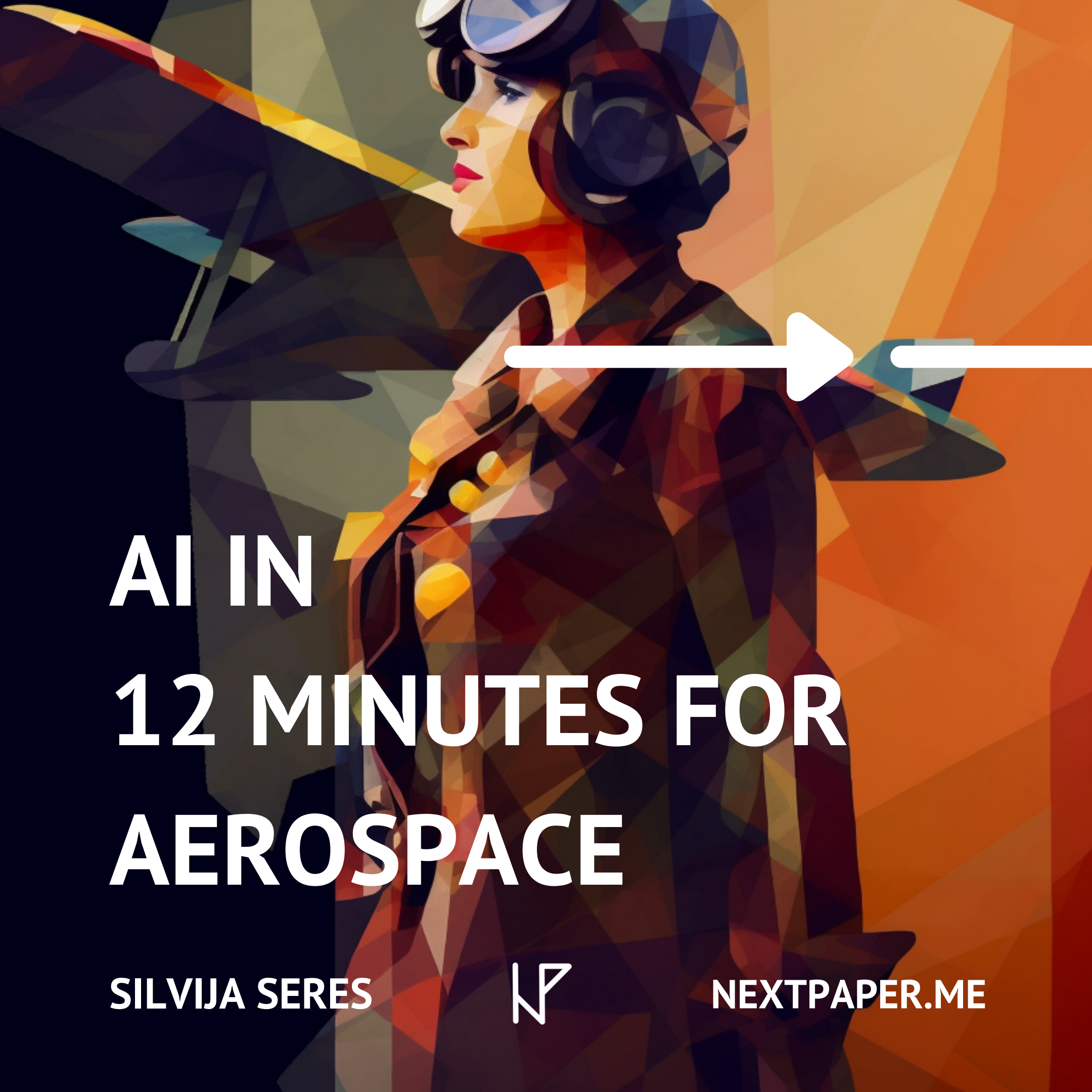

AI IN 12 MINUTES FOR AEROSPACE

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MOTIVATION - WHY AI?

Enhancing flight safety and efficiency.
Streamlining manufacturing processes.
Improving aircraft maintenance and diagnostics.
Advancing space exploration capabilities.
Personalizing passenger experiences.

2/24
INDUSTRY

Commercial Aviation
Military Aviation
Space Exploration
Unmanned Aerial Vehicles
Aircraft Manufacturing

3/24
STRATEGIC TRENDS

Sustainable aviation fuels
Electric and hybrid propulsion
Advanced materials for lighter aircraft
Autonomous flight systems
Satellite mega-constellations
Reusable space launch vehicles
AI in air traffic management
Drone delivery services
Enhanced in-flight entertainment
Predictive maintenance using AI

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4/24
WHY CHANGE?

Carbon footprint reduction
Airspace congestion
Maintenance cost savings
Passenger demand for comfort
Space debris management

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5/24
LEADING THE CHANGE

Boeing
Airbus
SpaceX
Lockheed Martin
Northrop Grumman
Raytheon Technologies
GE Aviation
Blue Origin
Thales Group
BAE Systems

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6/24
DIGITAL TRANSFORMATION

3D printing for aerospace parts
AI-driven simulation and design
Robotics in assembly and inspection
Augmented reality for maintenance
Quantum computing for optimization
High-strength, lightweight composites
Electric propulsion systems
Advanced avionics and sensors
Big data analytics for operations
Satellite navigation advancements

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7/24
AI DISRUPTION

Predictive analytics for component failure
AI in cockpit to assist pilots
Machine learning for route optimization
Autonomous drones for cargo delivery
AI for satellite imagery analysis
Robotics in spacecraft assembly
Natural language processing for ATC communication
AI-enhanced cybersecurity for avionics
Virtual reality for astronaut training
AI algorithms for air traffic flow management

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8/24
GREAT EXAMPLES OF AI

Boeing's autonomous flight technology
Airbus's Skywise platform for predictive maintenance
SpaceX's Falcon rockets landing algorithms
Lockheed Martin's AI in military simulations
Northrop Grumman's autonomous UAV systems
Raytheon's AI-driven air traffic control systems
GE Aviation's digital twins for engine monitoring
Blue Origin's New Shepard autonomous flight safety
Thales's AI for airport security and efficiency
BAE Systems' AI applications in defense aerospace

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9/24 ECOSYSTEM REQUIREMENTS

Robust data sharing and analysis platforms
Global regulatory standards for AI and drones
Skilled workforce in AI and aerospace engineering
Partnerships between aerospace and tech firms
Investment in AI research and development

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10/24

AI ⏩ SUSTAINABILITY

Reduced emissions with AI-optimized routes

Lightweight materials decreasing fuel consumption

Efficient maintenance reducing resource waste

Electric propulsion lowering carbon footprint

AI in managing airspace for environmental protection

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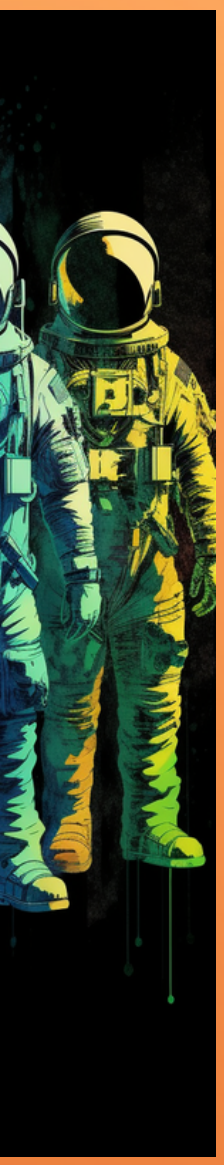

11/24
NEW RISKS - ETHICAL, LEGAL, SOCIAL

Cybersecurity threats to connected aircraft
AI reliability and decision-making in critical systems
Privacy concerns with drones and surveillance
Job displacement in manufacturing and piloting
Space debris risks from increased satellite launches

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12/24 AI MISUSE EXAMPLES

Drones for unauthorized surveillance

AI systems hacking in avionics

Misleading AI in air traffic management

Automated systems causing unintended harm

AI biases in security screening processes

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13/24
THREE
AI DILEMMAS

Autonomy vs. human oversight in flight safety?
AI data collection vs. passenger privacy?
Prioritizing investments: space exploration or environmental sustainability?

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14/24 ORGANIZATIONAL REQUIREMENTS

AI ethics and safety protocols
Continuous training in AI technologies
Cross-disciplinary teams for innovation
Cybersecurity measures for AI systems
Sustainable design and operation practices

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15/24
STEP BY STEP APPLICATION

Identify AI opportunities in operations
Develop AI pilots in design and manufacturing
Scale AI across production and maintenance
Implement AI in customer service enhancements
Evaluate and refine AI applications continuously

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16/24 BEST PRACTICES

Emphasize safety and ethics in AI use
Collaborate globally on AI standards
Innovate sustainably with AI technologies
Engage with stakeholders on AI advancements
Foster agility in AI adoption and adaptation

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17/24
AI TOOLS & MODELS

Neural networks for design optimization
Reinforcement learning for autonomous systems
Decision trees in maintenance diagnostics
Generative adversarial networks for simulation
Cluster analysis for traffic management

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18/24
USEFUL
DIGITAL TWINS

Digital twins of aircraft for testing
Virtual reality simulations for space missions
AI models of air traffic scenarios
Digital replicas of satellites for monitoring
Virtual launch platforms for mission planning

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19/24
COOL NORWEGIAN CASES

Nammo: Aerospace and defense.
Kongsberg: Aerospace technology.
Andøya Space: Satellite launches.
Norsk Titanium: 3D-printed components.
Hexagon Purus: Hydrogen systems.
Roccor Norway: Satellite mechanisms.
Norse Atlantic Airways: Airline.
Hydrolift: Electric ferries.
Orbiton: UAV services.
Fieldmade: 3D printing for aerospace.

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20/24
GLOBAL LEADERS

United States: Space exploration, aerospace manufacturing.
Europe: Collaborative space agencies, aviation tech.
China: Rapid space mission advancements.
Russia: Historic space achievements.
Canada: Satellite technology, aerospace engineering.

21/24
FUTURE JOBS

Aerospace AI engineer
Space mission AI analyst
Drone traffic management specialist
AI avionics technician
Sustainable aerospace materials scientist

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22/24
THE FUTURE OF AI

Fully autonomous commercial flights
AI-managed global airspace
Spacecraft with AI life-support management
AI for real-time satellite data analysis
Enhanced passenger experience with AI

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23/24 RECOMMENDED READING

"The Space Barons" by Christian Davenport

"Ignition!" by John D. Clark

"Rocket Men" by Robert Kurson

"AI Superpowers" by Kai-Fu Lee

"Lean AI" by Lomit Patel

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24/24 GOOD TED TALKS

"The future we're building -- and boring" by Elon Musk

"How AI can save our humanity" by Kai-Fu Lee

"What a driverless world could look like" by Wanis Kabbaj

"The thrilling potential for off-grid solar energy" by Amar Inamdar

"Adventures of an asteroid hunter" by Carrie Nugent

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WHAT WOULD YOU ADD?

LET ME KNOW!

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