Safety vs Combat Power

SAFETY

- Briefing
- Inspection
- Restriction

VS

COMBAT POWER

- Aggressive
- Combat Ready

Combat Power

- Combat Aircraft
- Trained Aircrew
- Skilled Technician
- Mission Experience

Combat Power

CAPABILITY GAP

SAFETY

Combat Power

How hard a force can fight?

How many times it gets to fight?

SAFETY

More Sorties

Combat Aircraft

Trained Aircrew

Mission Experience

Safety as a Combat Multiplier

Preparing Air Forces for High-Tech & High-Risk Air Operations

INTERNATIONAL FLIGHT SAFETY SEMINAR 2026

To discuss how safety enhances combat capability in a high-tech, high-risk battlespace



Safety as a Combat Multiplier — Wg Cdr Rabby

Emerging Technologies & Future Risk — Sqn Ldr Shahriar

Safety System in Complex Environments — Wg Cdr Elahi

Networked Battlespace





Capability ↑

Vulnerability ↑

Satellites

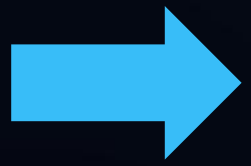
Radar

Data Links

Maintenance Systems

Traditional Safety Enough?

1. Fit Aircrew
2. Good Maintenance
3. Correct Procedure



NOT THE AIRCRAFT

BUT

THE SYSTEM

Traditional Safety Isn’t Enough



What Is a Combat Multiplier?

A factor that increases the effectiveness of a force without necessarily increasing its size



Intelligence



Training



Technology



Leadership



Safety

Safety as Combat Power



90
Available

10
Unavailable
Due to preventable accident

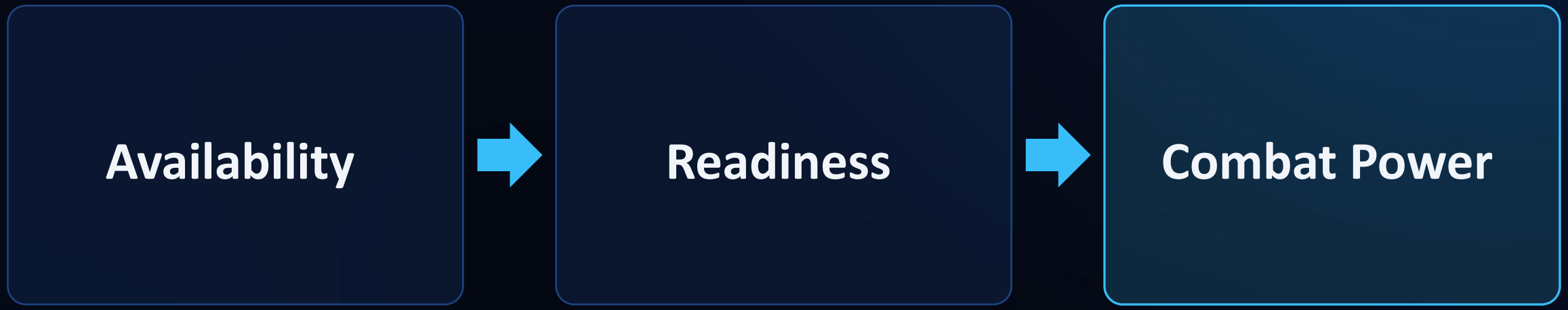
SAFETY

COMBAT POWER

What Does Safety Preserve?



Safety to Combat Readiness



Safety preserves readiness

The Accident Loop



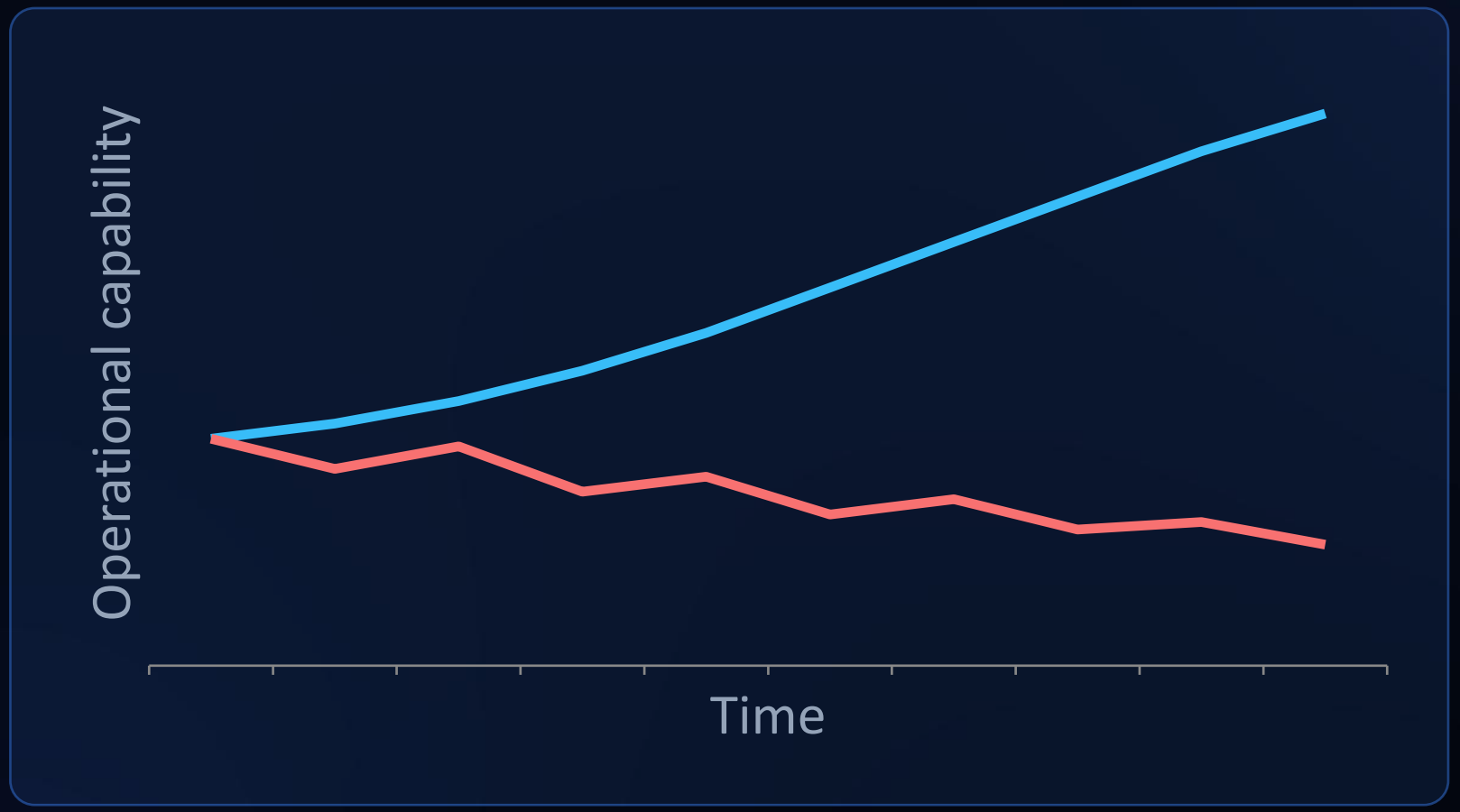
Safety Does Not Mean Zero Risk

Informed, Controlled and Justified risk

THE OBJECTIVE: RISK THAT IS…

- Understood
- Assessed
- Controlled
- Consciously managed

Same Aircraft, Pilots and Technicians



Learns continuously

Reacts after accidents

Emerging Technologies & Future Risk

The Aircraft Is No Longer the Only Safety Boundary

KEY CHANGE

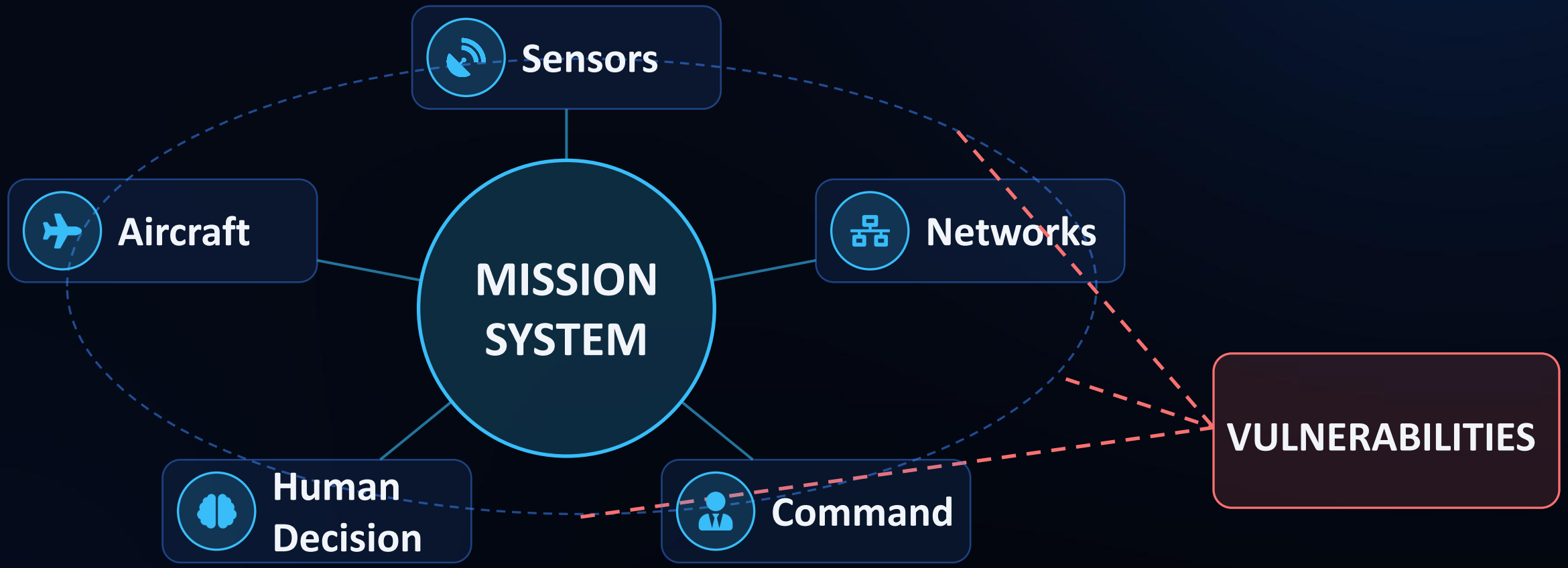
Can the Aircraft Fly?

Is Technological Ecosystem Reliable?

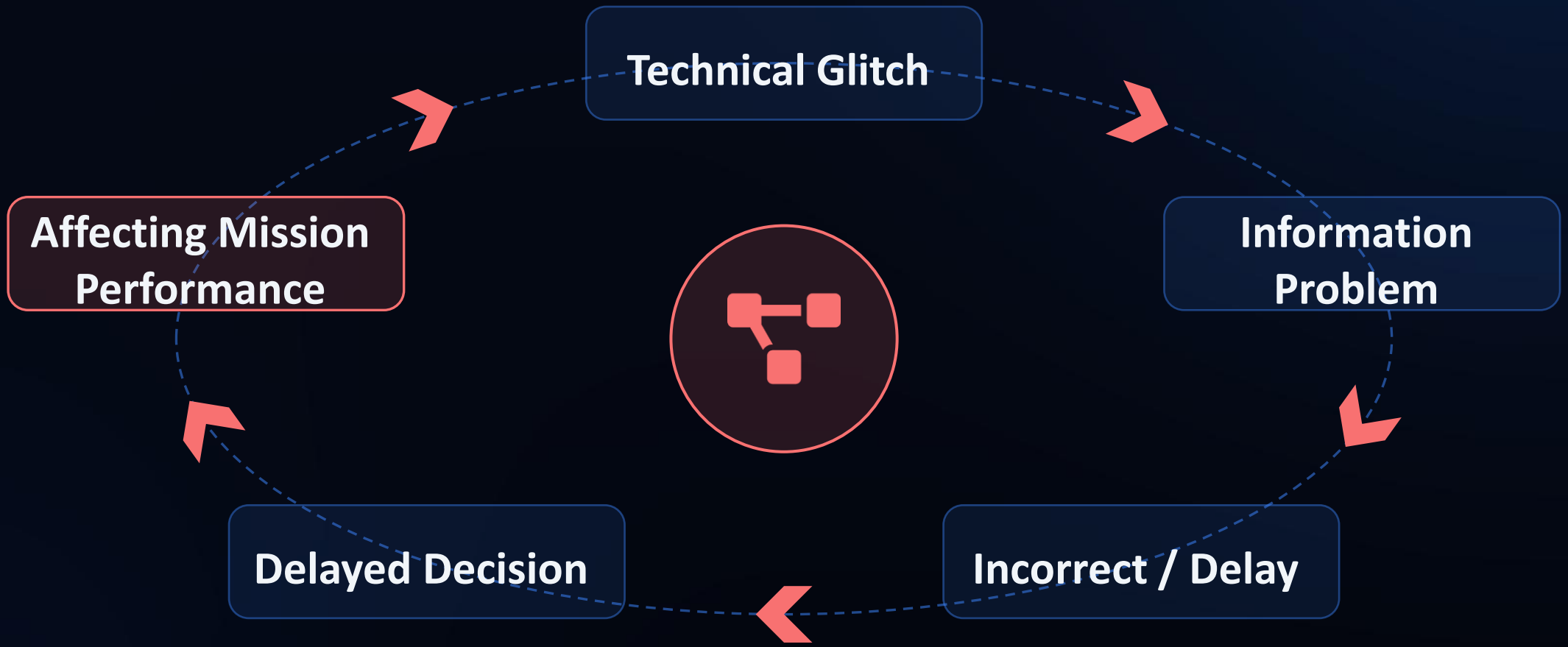


DIGITAL ECOSYSTEM

Modern Mission System



Risk Propagation in Connected Systems



From Platform Safety to System Safety



OLD PLATFORM

FOCUS

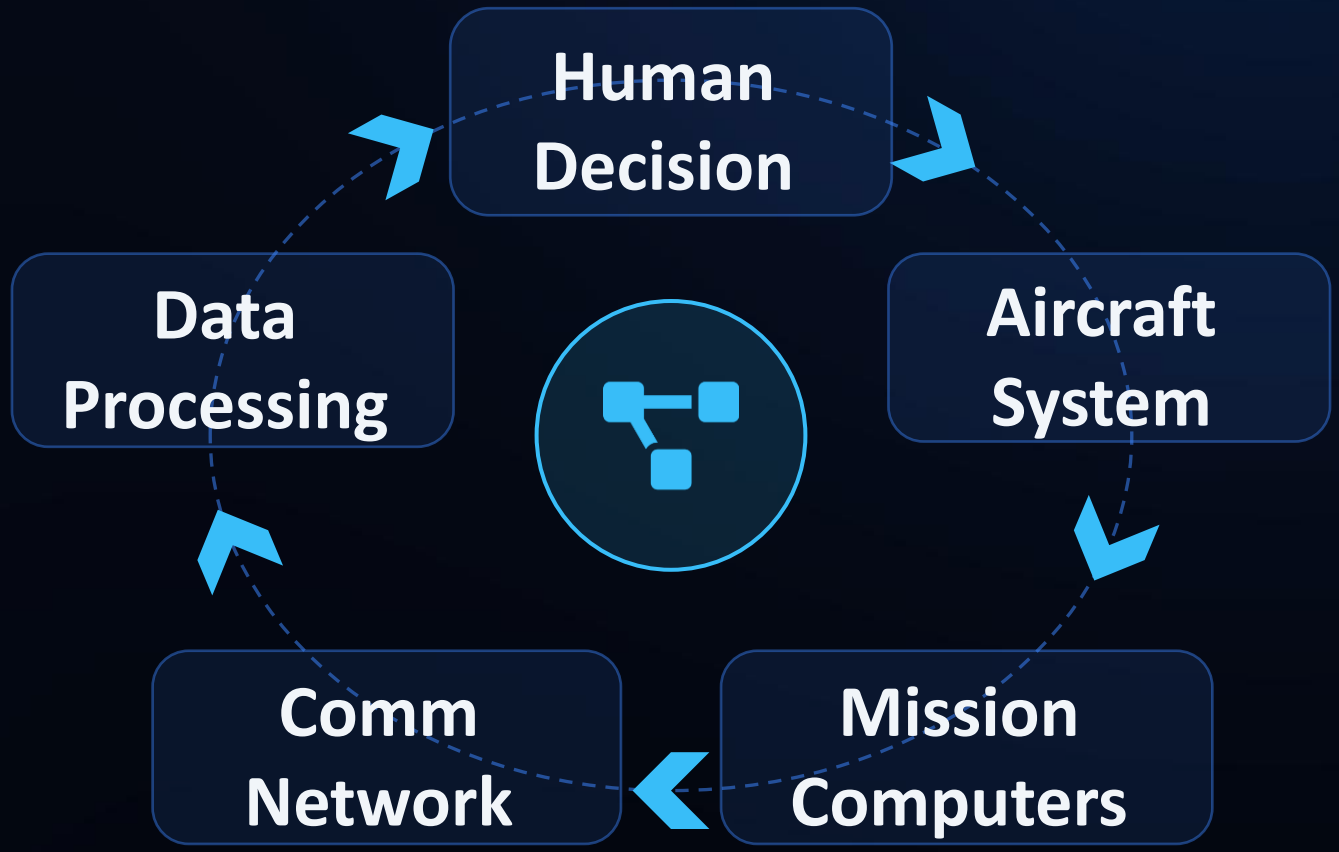




From Platform Safety to System Safety

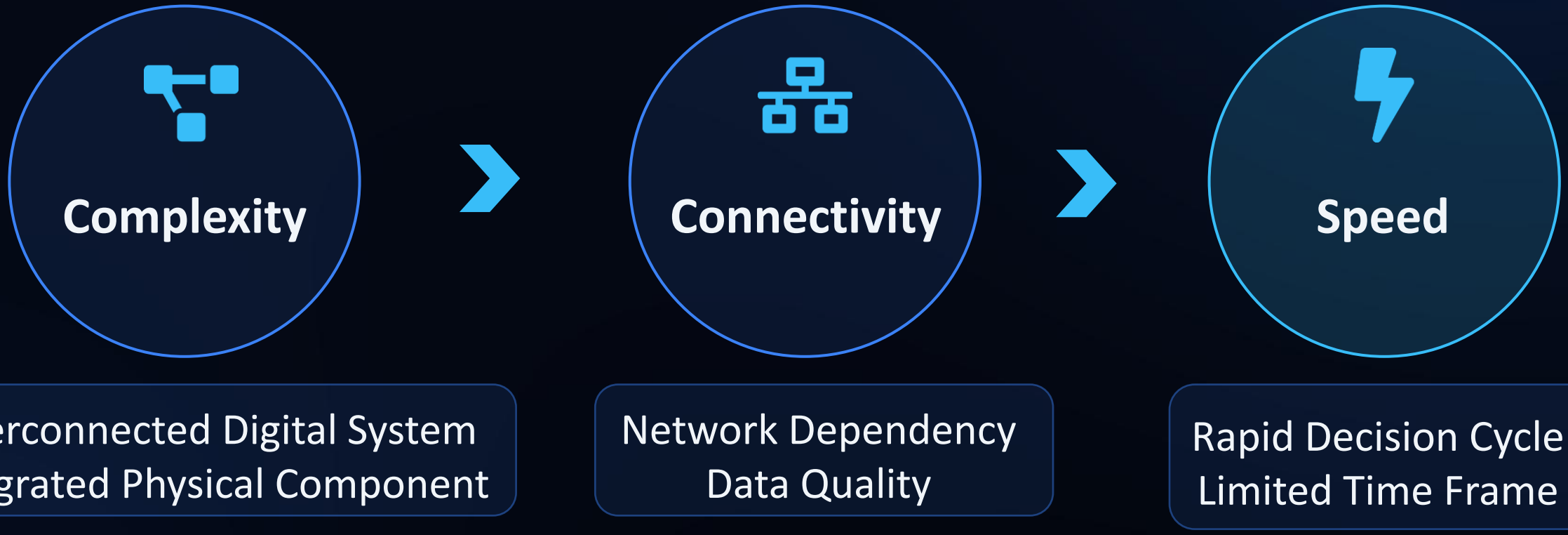


NEW PLATFORM



Why Modern Risk Is Different

Key characteristics



Human-Machine Interaction Risk

Cognitive overload	• Degraded Performance • Complex FMS • Passive Monitoring
Automation dependency	• Loss of SA • Skill Fade • Reduced Vigilance
Information management	• Data Saturation • Missing Critical Data • Delayed Processing

Maintenance Risk

Modern technician requires



Mechanical knowledge

+



Software understanding

+



Data interpretation

Organizational Risk

1. Training
2. Doctrine
3. Procedures



CAPABILITIES CHANGING FASTER

Difficulties in safe employment

Safety System in Complex Environments

BUILDING A SAFETY SYSTEM

- Proactive & Resilient Risk Management
- Safety Culture & Leadership
- Simulation & Synthetic Training
- Safety In Acquisition & Technological Insertion
- Data Driven Safety



BUILDING A SAFETY SYSTEM

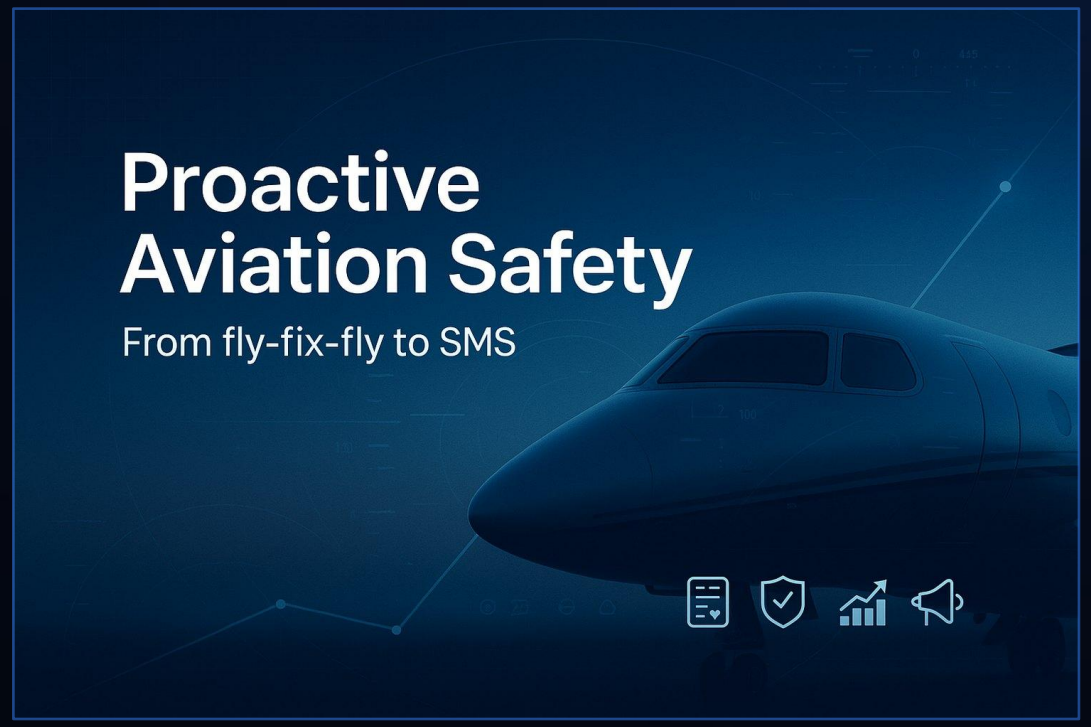
- Proactive & Resilient Risk Management
- Safety In Acquisition & Technological Insertion
- Safety Culture & Leadership
- Data Driven Safety
- Simulation & Synthetic Training



Proactive and Resilient Risk Management

REACTIVE

TO



Proactive and Resilient Risk Management

PROACTIVE

Identify hazards and address the risks before they lead to accident

ANTICIPATE RISKS

RESILIENT

Continuously learn, adapt and respond as the condition changes

DEAL WITH UNEXPECTED

Reactive

Proactive & Resilient Approach

Safety Culture and Leadership Commitment

Should be treated as an Operational Responsibility

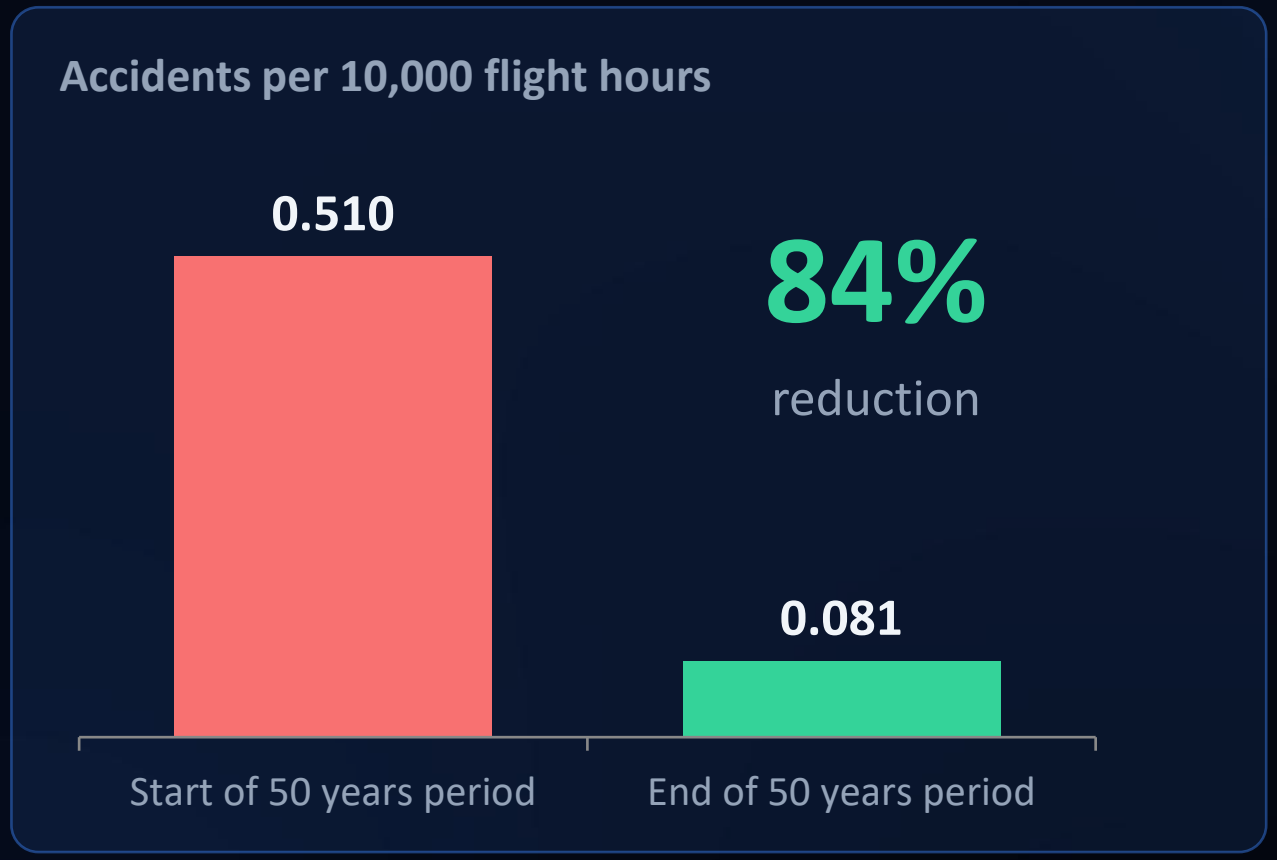


JUST CULTURE

Reports own errors, near misses

Without fear of unfair punishment

Safety Culture and Leadership Commitment



Open reporting culture & Risk Assessment

Preserving the Assets for future combat

Source: “The Royal Canadian Air Force Highlights Historical Lows of Flight Safety Incidents,” news release, 2 July 2019

Simulation and Synthetic Training

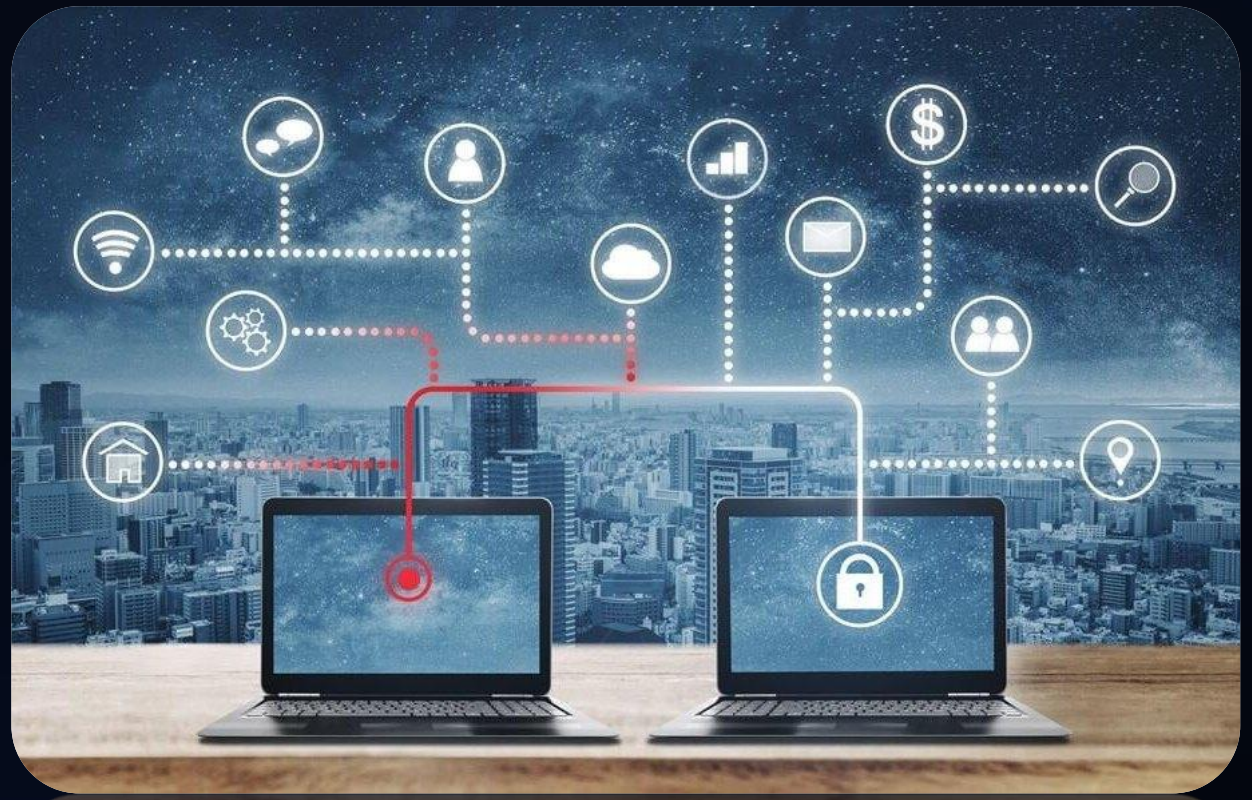
Train for highest profiles **without the cost or risk of doing it live**

Absorb the training burden of **expensive flight hours and risk**





Data Driven Safety



Generates large amounts of information

Identify recurring hazards and developing trends before it produces loss

Safety in Acquisition and Technology Insertion

Has to be designed at the acquisition stage

Insertion needs a human factor and safety review



High Fidelity Synthetic Training as the Backbone of High-Risk Readiness

Train in high risk and high-tech environment



COMBAT MULTIPLIER

Data Driven Safety Architecture Together with Just Culture Reporting System

Detecting the precursor pattern

Preserving the Air Force for high risk and high-tech operations



Accident Investigation Feeds into Review of Training

A continuous learning loop

Not a one-time corrective action



ACCIDENT REDUCES

- Operational Readiness
- Operational tempo
- Ability to fight

Safety retain more fighting Capability

Act as Combat Multiplier

Building a safety system for High risk and High tech operations

Safety is part of combat power

Understand, manage and control risk to remain capable of fighting

We can not fight with an aircraft that is grounded or a pilot who is no longer there

Interactive Session