

# CYBERSECURITY AND RESILIENCE SYMPOSIUM

PROTECTING AVIATION  
FROM CYBER ATTACKS

DOHA, QATAR | 6 - 8 NOVEMBER 2023



ICAO MID



## Aviation Cybersecurity: Emerging Challenges and Solutions

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WHY

BEFORE & AFTER

REALITY CHECK

RISKS

WHAT NEXT

CHALLENGES & OPPORTUNITIES

# Why is civil aviation an attractive target?

a key component of critical national infrastructure and the broader global economy

- Many victims at once
- The perception of being a high-profile prestigious industry
- Adversaries may have economical, political and religious motives
- Can and has been used as WMD and forces governments to react
- Victims in most cases helpless – many nationalities
- Attracts immediate media and global attention



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Traditional threats to civil aviation

IED



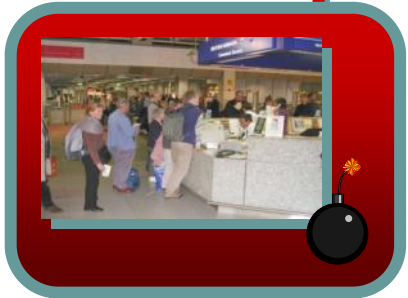
9/11 Style



Suicide Bomber



MANPADS Attack



Airport Attack



Conventional Hijack



Rocket Attack



Commercial, Cargo & Private Aircraft

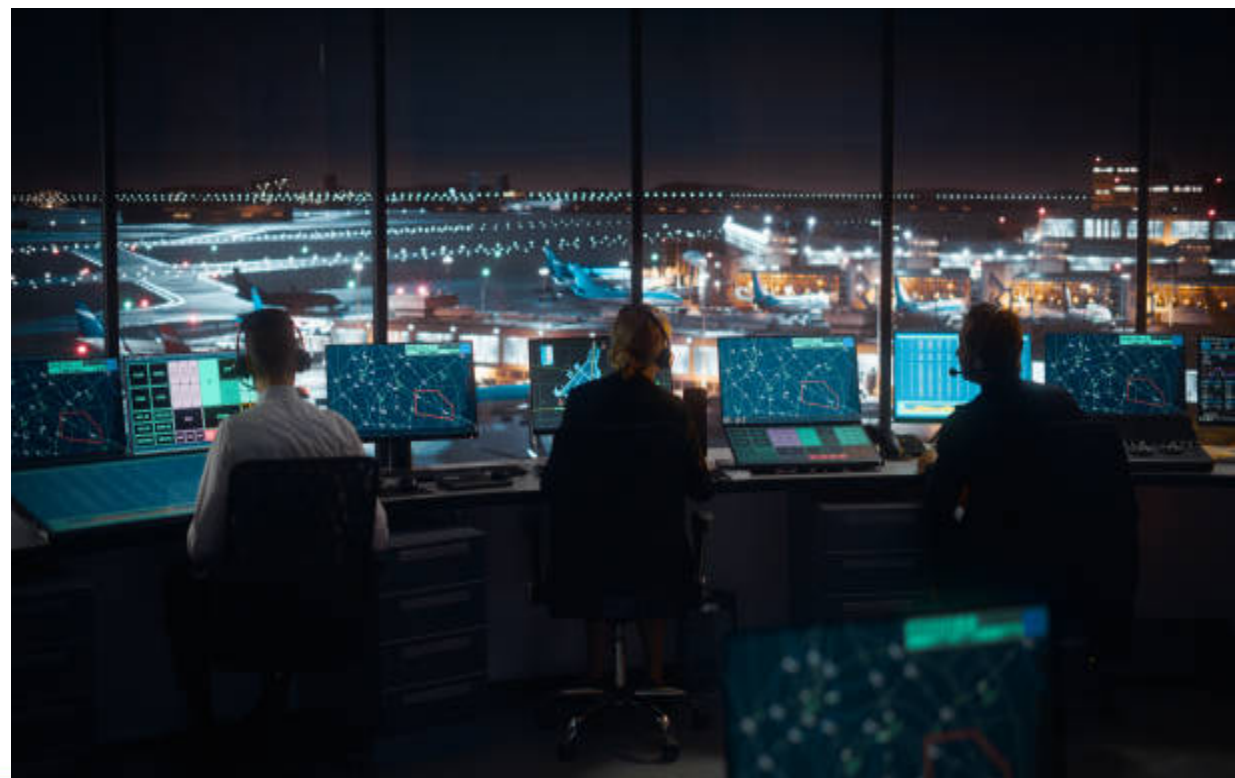


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## BEFORE - AFTER



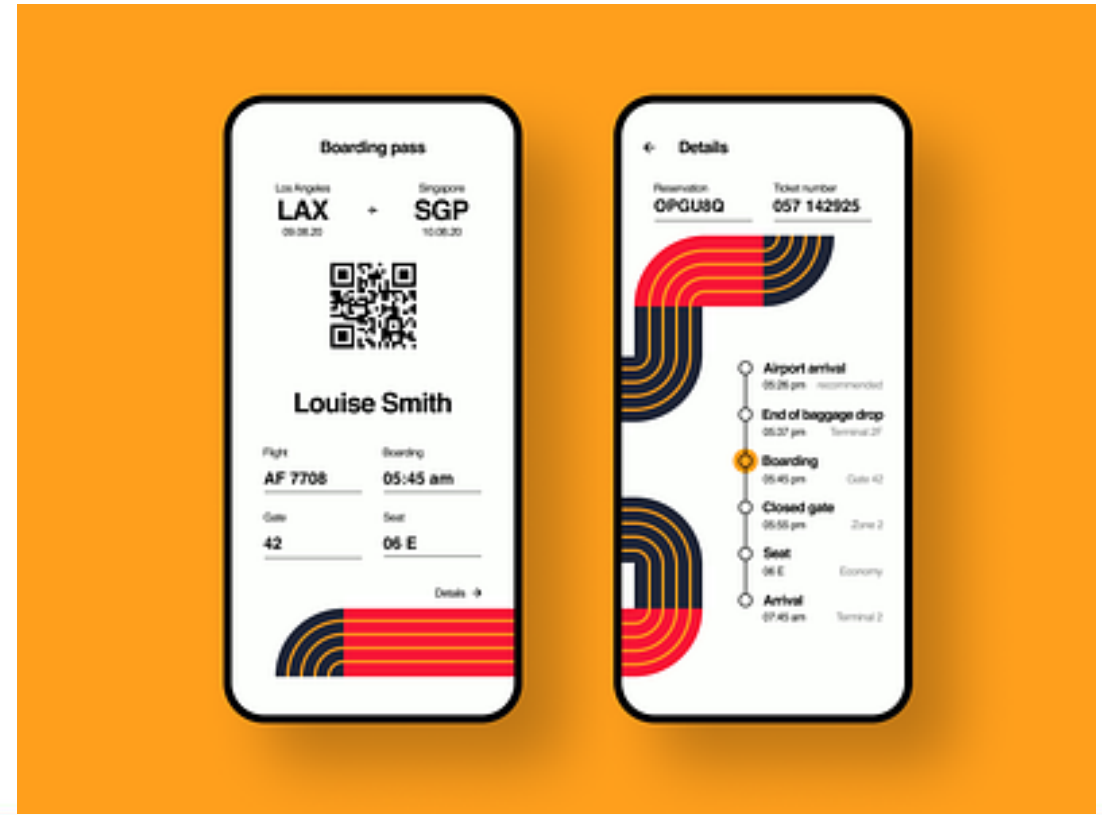




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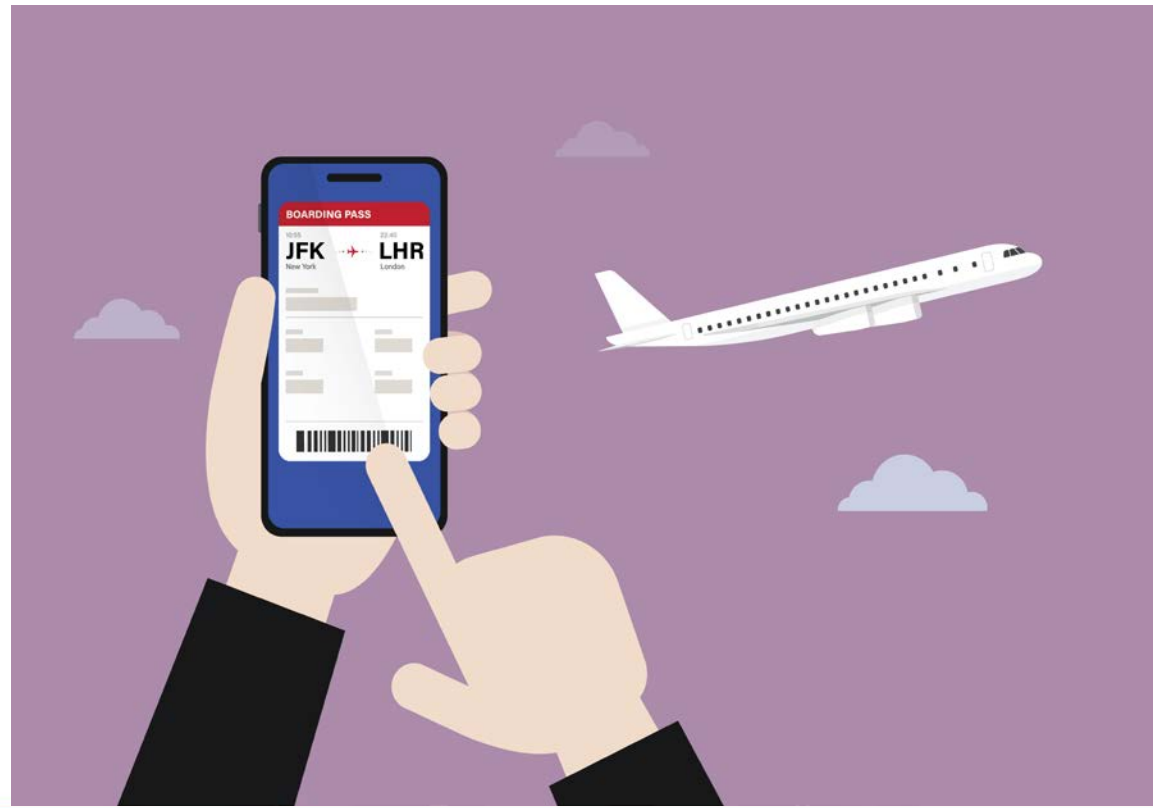




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## BEFORE - AFTER





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## BEFORE





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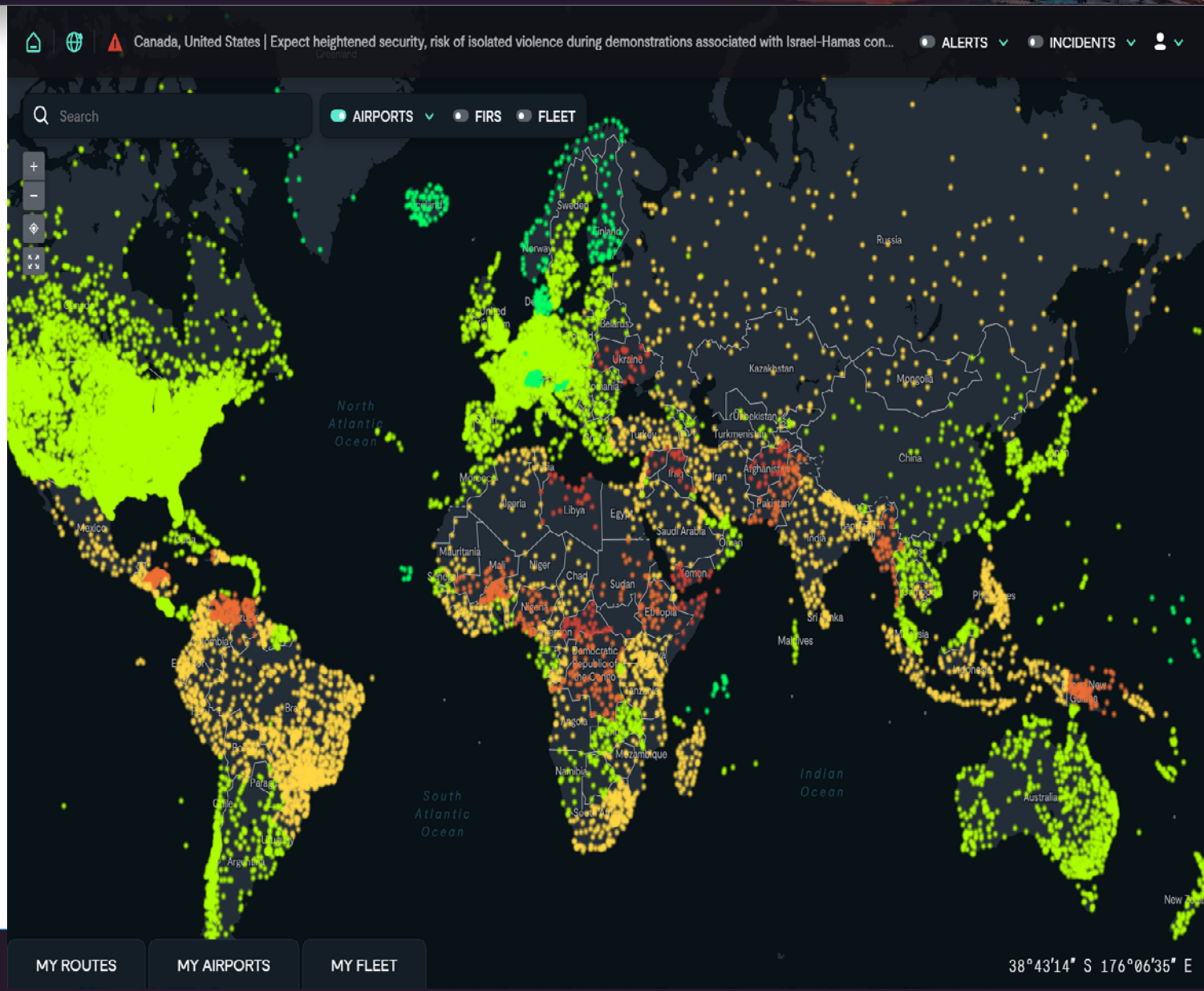
## AFTER



# 2023 REALITY CHECK

Geopolitical risk is manifesting itself in cyberthreats.

What's happening in the battle space is affecting the aviation sector.



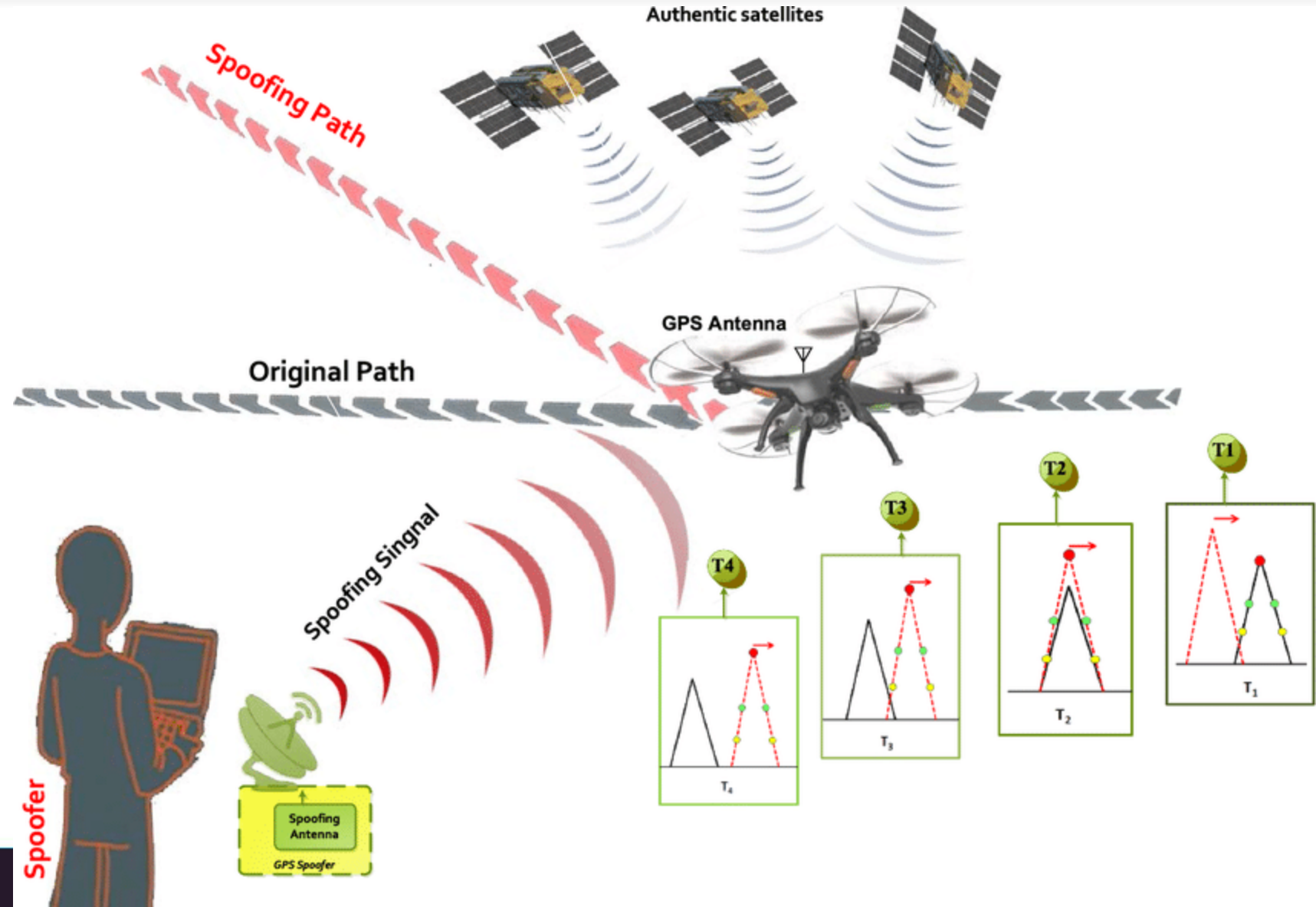


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## GPS SPOOFING?



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## CONTEXT - The industry:

- ▲ is heavily reliant on digital technology indicating expanded attack surface.
- ▲ is full of valuable information
- ▲ is symbolic to a nation's identity







## CHALLENGES

- No investment unless an incident occur
- Bandwidth limitations
- AVSEC always considered physical
- Lack of Enterprise Risk Register
- Lack of Cybersecurity SMEs
- Lack of cybersecurity culture
- Do orgs. work with ethical hackers?



## OPPORTUNITIUES

- Influence aviation cybersecurity education at primary and higher education levels – curriculums
- Invest today in tomorrow's future leaders
- Regular cybersecurity awareness training for all aviation employees.
- Integrate the regulations with the industry in practice – work collaboratively
- Imbed cybersecurity into air carriers and airports SMS and SeMS programs
- Develop Cyber Threat Intelligence Capabilities (CTI)



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# THANK YOU

