

AVIATION

Defending the skies

Expert Cybersecurity solutions,
trusted by the world's leading
airports and aviation organisations

LRQA



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Today's aviation industry faces unprecedented Cybersecurity risks



With growing reliance on digital systems, interconnected infrastructure and third-party suppliers, the scale and sophistication of cyber threats facing the aviation industry continues to escalate. In the past 12 months, 55% of aviation organisations reported experiencing a ransomware attack, leading to operational disruptions and data loss (Bridewell), while a substantial total of 604 cyberattacks were documented in the aviation sector in 2024 alone (SysDream), mostly consisting of DDoS (Distributed Denial of Service) attacks.

Airports, airlines and aviation manufacturers are now prime targets for ransomware groups, nation-state actors and criminal networks, with real consequences for safety, service continuity and regulatory compliance.

They need trusted, accredited partners who deliver infrastructure-level protection, sector-specific insights and global assurance experience.

84+

LRQA is a trusted partner to over 84 airports worldwide, delivering more than 17,000 days of world-class penetration testing in 2024 alone

Strengthening Cybersecurity maturity within critical aviation operations



LRQA's dedicated team of Cybersecurity specialists understand the realities of cyber risk within the aviation ecosystem because we consistently work with those operating at the heart of it. We are:

Accredited to deliver Cybersecurity testing and intelligence

under frameworks such as CBEST, TIBER-EU and GBEST

Experienced in delivering Cybersecurity assurance

across IT and OT systems in complex, regulated environments

Staffed by CTC, SC and DV-eligible consultants

experienced in OT, airside systems, ticketing platforms, SCADA and more

Approved auditors and advisors to world class aviation companies

including Boeing Aerostructures, GE aviation, GKN aerospace, THALES avionics, Swissport ATM, Kongsberg Aviation Maintenance and other OEMs within the aviation supply chain

The only provider globally with full CREST accreditations

across penetration testing, threat intelligence, incident response, red teaming and SOC services



LRQA at a glance



Trusted by over

84

airports worldwide

250+

global Cybersecurity experts, working with major aviation clients



Only provider globally with the full suite of



CREST
accreditations



#1

to achieve CREST accreditation for Security Operations Centre services



Awarded

Security Vendor of the Year, Best Penetration Testing Service and more

1000+

aviation and aerospace design, production and MRO organisations certified to AS 91XX standards

84+

airports supported globally, from CAA ASSURE to ISO standards, including ISO 27001 Information Management System Security

[Find out more about LRQA's Cybersecurity Services](#)



Governance, risk and compliance

Achieve compliance with aviation Cybersecurity regulations and build long-term resilience.

In today's global aviation environment, organisations must navigate a fast-moving regulatory landscape, from data privacy laws to aviation-specific Cybersecurity regulations and frameworks. Airports, airlines, operators, manufacturers, ANSPs and the wider supply chain face intense scrutiny over how they manage, store and protect sensitive operational and passenger data and the stakes are high.

Fines for violations of GDPR, NIS2, DORA and PCI DSS can cost hundreds of millions. Reputational damage from non-compliance can be even more lasting, especially in a safety-critical, high-trust industry like aviation.

Our specialists can help you:

- Proactively align Cybersecurity governance with national and international legislation
- Build policies and procedures that meet and exceed regulatory requirements
- Ensure compliance across complex, global operations and third-party networks
- Mitigate risk through readiness assessments, gap analysis and advisory support

ISO 27001

Information security management

NIS2 Directive

Network and Information Security requirements

NIST Cybersecurity Framework (CSF)

CAF

NCSC Cyber Assessment Framework

CAA ASSURE

UK Civil Aviation Authority's Cybersecurity audit framework

GDPR

General Data Protection Regulation

DORA

Digital Operational Resilience Act (for aviation finance/IT services)

PCI DSS

Payment Card Industry Data Security Standard

Find out more about LRQA's governance, risk and compliance services



Security testing

Identify vulnerabilities, reduce cyber risk and validate your defences with real-world testing.

To understand the risks facing aviation operations today, organisations must think like attackers. Our Security Testing services are designed to simulate real-world threats across both IT and operational technology, identifying vulnerabilities before they can be exploited and helping you build resilience where it matters most.

Our team of CREST-certified testers use deep technical knowledge and human-led assessments to evaluate your defences across organisational infrastructure, applications and airside systems. Testing is tailored to your technologies, processes and threat profile, ensuring meaningful, sector-relevant outcomes.

Our specialists can help you:

- Identify hidden weaknesses across your digital, operational and cloud infrastructure
- Understand how attackers could exploit vulnerabilities in aviation-specific domains and systems
- Evaluate detection, reporting and response capabilities under realistic threat scenarios and in line with regulatory reporting mechanisms
- Prioritise remediation with clear, risk-based assessments and treatments

Solutions

Penetration Testing

Real-world testing of networks, devices, processes and people across all aviation functional domains

Web Application Testing

Identify and address application-level risks, especially from OSS packages

Cloud Penetration Testing

Simulating attacks on cloud environments (AWS, Azure, GCP) hosting IT and OT packages

Mobile Application Testing

iOS and Android assessments to protect user and operational data across mobile OT and assets

Red Teaming

Covert simulation of persistent, sophisticated attack pathways

Social Engineering

Identify risks from human and procedural vulnerabilities

Bug Bounty Platform

Access a curated community of vetted researchers for continuous threat hunting

Continuous Assurance

Ongoing risk visibility through attack surface management and scenario testing

Purple Teaming

Collaborative testing to enhance detection and response capabilities

Find out more about LRQA's security testing services



Cybersecurity advisory

Strategic guidance to understand your threats, strengthen resilience and improve cyber security maturity.

In aviation, where systems are highly interconnected and critical to safety, reacting to cyber threats isn't enough. Organisations need to take a strategic, intelligence-led approach to identifying and mitigating risk – one that evolves with their operations and threat landscape.

Our Cybersecurity advisory services help you assess your current maturity, understand where your biggest risks lie and implement the right controls for your organisation's risk tolerance and regulatory requirements.

Our specialists can help you:

- Gain visibility into your digital risk profile and threat landscape
- Build tailored cyber strategies to protect operations, infrastructure and customer trust
- Understand where to prioritise investment based on maturity and risk
- Strengthen resilience and preparedness with strategic roadmaps, controls and training

Solutions

Cyber Security Maturity Assessment

Identify gaps and prioritise improvements across people, processes and technology

Threat Intelligence Services

Receive actionable insights to stay ahead of evolving aviation ecosystem cyber-threats

Virtual CISO (vCISO)

Access senior-level cyber leadership without the cost of a full-time hire

Threat Modelling

Map potential attack paths to better protect critical aviation systems and assets

ThreatWatcher

Managed cyber threat intelligence with continuous attack surface monitoring

Merger and Acquisition Due Diligence

Assess cyber risk in target entities pre-transaction

Regulatory Compliance Advisory

for organisations seeking to implement IT security frameworks such as GBEST (UK Cabinet Office), CBEST (UK Bank of England), TIBER-EU (EU testing framework), U.S. National Institute of Standards and Technology (NIST), the Payment Card Industry Data Security Standard (PCI DSS) and CMMC (handling sensitive data for the US Department of Defense)

Offensive Security Training

Equip your internal teams with hands-on skills to improve defence

Find out more about LRQA's Cybersecurity advisory services



Managed Cybersecurity services

Empower your aviation operations with tailored, 24/7 cyber defence, designed to anticipate, prevent and respond to evolving threats.

In an industry where uptime, safety and regulatory confidence are non-negotiable, aviation organisations need more than off-the-shelf cyber tools. They need a trusted partner who can continuously monitor threats, respond to incidents in real time and align security operations with strategic business goals.

LRQA's managed cyber security services provide around-the-clock threat detection, incident response and security assurance. Delivered through our global Security Operations Centre (SOC) and Cyber Incident Response Team (CIRT), our services help you simplify cyber risk management and strengthen your maturity, without adding internal overhead.

Our specialists can help you:

- Detect, investigate and respond to cyber threats in real time
- Strengthen cyber resilience with proactive, scalable defence
- Monitor and manage vulnerabilities across IT and OT environments
- Align managed services with aviation-specific risk and regulatory compliance needs

Solutions

Managed Risk and Compliance

- Consultancy and compliance assessments
- Virtual CISO (vCISO) services
- Cyber risk assessments
- Risk workshops and threat modelling

Managed Defence Services

- Managed Detection and Response (MDR)
- Extended Detection and Response (XDR)
- Incident response and digital forensics
- Vulnerability management

Managed Security Assurance

- Penetration testing
- Continuous threat exposure management
- Red teaming
- Cloud security assessment

Find out more about LRQA's managed Cybersecurity services



Incident response

Minimise the impact of cyber incidents and recover faster with expert-led investigation, containment and remediation.

In the aviation sector, cyber incidents can rapidly escalate, causing operational disruption, service outages and regulatory breaches. Whether it's a ransomware attack, data breach or compromise of a critical system, responding quickly and effectively is vital to protect people, assets and reputation.

LRQA's Incident Response services are designed to help you prepare, respond and recover with confidence. Our global Cyber Incident Response Team (CIRT) works alongside your teams to contain threats, investigate root causes and guide remediation, while maintaining stakeholder trust and compliance with aviation sector requirements.

Our specialists can help you:

- Respond quickly and effectively to live cyber incidents
- Contain threats to minimise operational and reputational impact
- Identify root causes and support forensic investigation
- Build internal readiness through playbooks, tabletop exercises and proactive planning

Solutions

Emergency Incident Response

24/7 support to contain and mitigate active threats

Digital Forensics and Investigation

Determine the how, when and where of an incident

Incident Readiness Assessments

Evaluate preparedness and response capability

Incident Response Playbooks

Customised, role-specific guidance aligned to your operations

Tabletop Exercises

Simulate real-world scenarios to test internal response

Post-Incident Reviews

Learn from attacks and strengthen defences

Find out more about LRQA's incident response services

Why LRQA?

We understand that aviation organisations face unique Cybersecurity challenges, from protecting operational technologies and airside infrastructure to securing passenger data and complying with global regulations.

Our experience shows that these challenges often require large-scale, technically complex programmes involving multiple sites, legacy systems and critical uptime requirements. Managing these environments securely and efficiently requires a partner with both technical depth and sector-specific understanding.

Our expertise enables you to have:

- ✓ A single view of vulnerabilities across an organisation's estate
- ✓ Holistic analysis to make decisions
- ✓ Data visualisation
- ✓ Real-time collaboration with consultants and program team
- ✓ Access to findings and remediation advice
- ✓ Reduced scheduling time
- ✓ Continuous penetration testing

Find out more about LRQA's Cybersecurity services

What makes LRQA unique?

- **Dedicated research and innovation team** developing proprietary tools and techniques, from honey traps to SOC maturity models
- **Strong portfolio** of professional and managed services, adaptable to complex aviation operations
- **Proprietary tooling** allows automation of certain tests, so consultants focus on sophisticated threats
- **Discoverers of zero-day vulnerabilities** in real-world systems, contributing to global threat intelligence
- **Full suite of CREST accreditations**, the only provider globally to hold them all



84+

airports supported globally, from CAA ASSURE to ISO standards, including ISO 27001 Information Management System Security

1000+

aviation and aerospace design, production and MRO organisations certified to AS 91XX standards

17,000+

days of penetration testing delivered in 2024

250+

dedicated Cybersecurity specialists

“We really felt that LRQA took the time to understand us, our operations and what we were working to achieve. We wanted to work with a partner who could bring a fresh perspective and challenge us”

– Birmingham Airport Ltd



About LRQA

LRQA is the leading global assurance partner, bringing together decades of unrivalled expertise in assessment, advisory, inspection and cybersecurity services.

Our solutions-based partnerships are supported by data-driven insights that help our clients solve their biggest business challenges. Operating in more than 150 countries with a team of more than 5,000 people, LRQA's award-winning compliance, supply chain, cybersecurity and ESG specialists help more than 61,000 clients across almost every sector to anticipate, mitigate and manage risk wherever they operate.

In everything we do, we are committed to shaping a better future for our people, our clients, our communities and our planet.

Get in touch

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