XECURITYPULSE

X-SCAS

ALL YOUR SECURITY TESTING
COMPLIANCE SOLUTION IN ONE PLACE

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DASHBOARD

Hey, Admin

Projects	Solution Stacks	Test Cases	Topologies	Servers	Health	UPFSCAS
13	10	724	16	16	Last 5 Runs	

Last Run — UPFSCAS

	Days	Hours	Minutes
Total Duration	0 0 : 0 2 : 1 1		

Run ID : 5 — Total Testcases : 13

PASSED 00 — FAILED 00
SKIPPED 01 — DISABLED 00
LIVE 00

● PASSED ● FAILED ● SKIPPED ● DISABLED ● QUEUED ● LIVE

Last 5 Runs — UPFSCAS

RUN 17 RUN 18 RUN 19 RUN 20 RUN 21

● PASSED ● FAILED ● SKIPPED ● DISABLED

Execution Frequency — 7 Days

Project Name	Run Count
1. UPFSCAS	238
2. 5G	0
3. 5GCoreBlackbox	0
4. AMF	0
5. AMFBlackbox	0
6. PCFBlackbox	0

Testcase Results

All Projects

Duration	Project	Test plan	Test Suite	TestCase	Run ID	Tag	Node Count	Run Status
3 mins 21 secs 08/04/2025 11:47	UPFSCAS	Master Test Plan	CONF_INT_REPLAY_PROTE...	UP_DATA_CONF_INT_N3	1305	v1_0_0	2	● LIVE
51 secs 08/04/2025 11:03	UPFSCAS	Master Test Plan	CONF_INT_REPLAY_PROTE...	CP_AND_UP_DATA_CONF_INT_N3...	1304	v1_0_0	2	Passed
1 mins 23 secs 08/04/2025 11:02	UPFSCAS	Master Test Plan	CONF_INT_REPLAY_PROTE...	UP_DATA_REPLAY_PROTECTION_D...	1303	v1_0_0	2	Passed
4 mins 16 secs 08/04/2025 10:23	UPFSCAS	Master Test Plan	FIREWALL_AND_FILTERING...	UL_ALLOWED_FILTERING_FIREWALL...	1302	v1_0_0	2	Passed
2 mins 54 secs 08/04/2025 10:16	UPFSCAS	Master Test Plan	FIREWALL_AND_FILTERING...	UL_BLOCKED_FILTERING_FIREWALL...	1301	v1_0_0	2	Passed
6 mins 32 secs 08/04/2025 10:06	UPFSCAS	Master Test Plan	FIREWALL_AND_FILTERING...	UL_DL_BLOCKED_FILTERING_FIREW...	1300	v1_0_0	2	Passed
1 mins 21 secs 08/04/2025 10:01	UPFSCAS	Master Test Plan	MALFORMED_AND_UNAUT...	N3_TRAFFIC_INVALID_TEID	1299	v1_0_0	2	Passed
42 secs 08/04/2025 09:45	UPFSCAS	Master Test Plan	MALFORMED_AND_UNAUT...	N3_TRAFFIC_UNKNOWN_GNB	1298	v1_0_0	2	Passed

Dashboard
Servers
Solution Stacks
Projects
Infrastructures
Alerts
Settings

X-SCAS
v4.0.0.0
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MEET X-SCAS | SECURITY TEST AUTOMATION ORCHESTRATION PLATFORM

ALL YOUR SECURITY TESTING COMPLIANCE SOLUTION IN ONE PLACE.

HOW DOES IT WORK?

- Integrate proprietary, open-source, homegrown testing tools and test cases
- Integrate Software (network function, code repository) or network architecture (on prem, cloud, BareMetal)
- Setup Infrastructure dependencies/ compute resources
- Automate creation of simple to sophisticated test cases

WHY X-SCAS?

- Regulatory and Market Mandates
- Operators Demand Assured Security Across the Supply Chain
- Proactive Security Assurance Reduces Breach Risk and Builds Trust

OUTPUT

- Analysis driven detailed Risk Report
- Customization deployment, CI/CD Support
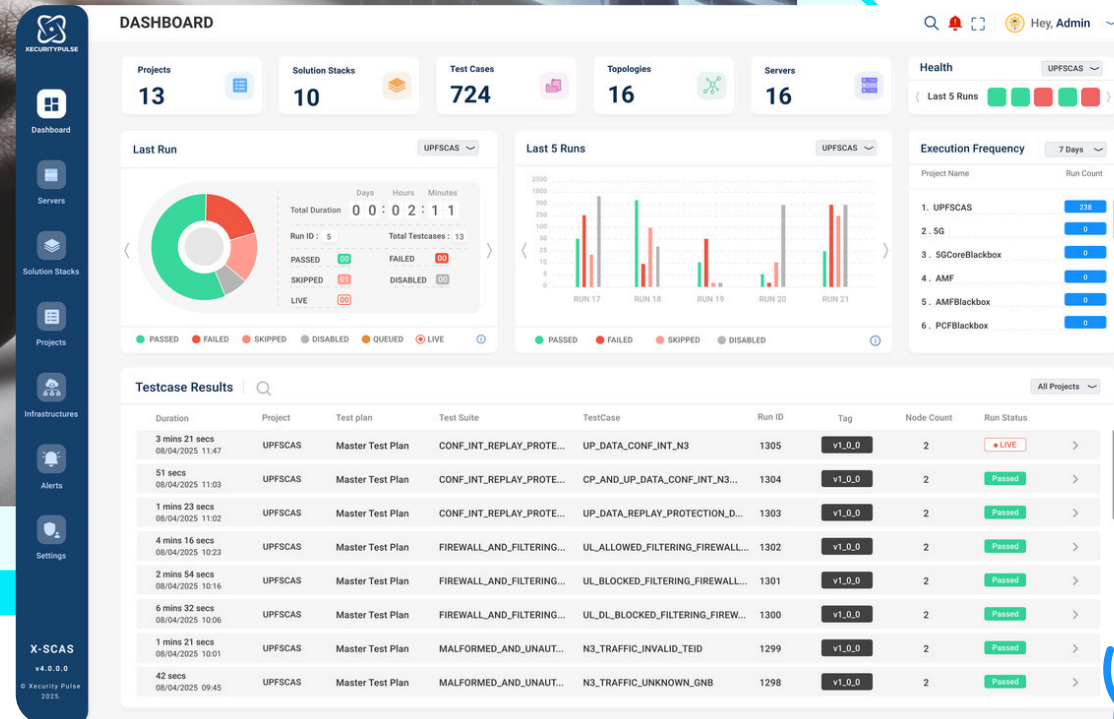
FEATURES OF X-SCAS

Fuzz Testing

Penetration Testing

3GPP Protocol Security Validation

Interface-Specific Security Testing

Vulnerability & Configuration Scanning

SAST, DAST, SCA

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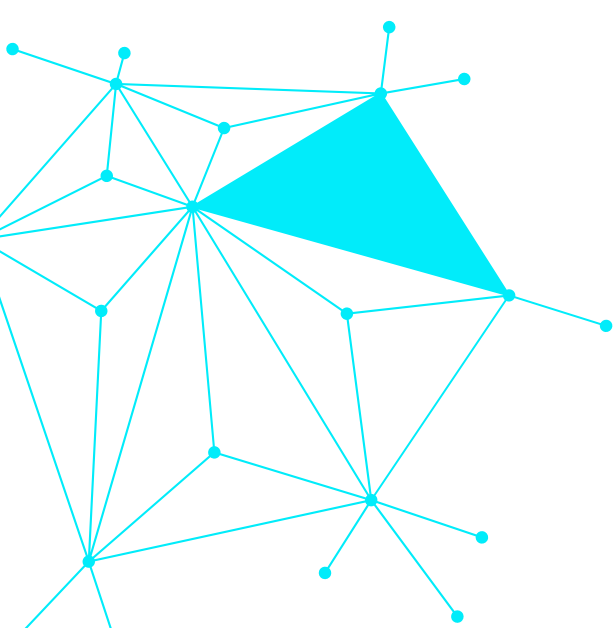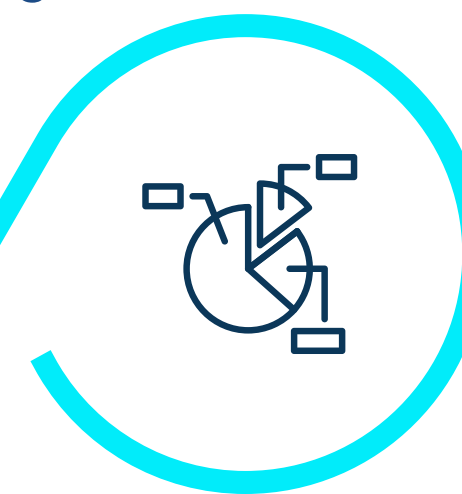
FEATURES WITH USE CASES

- **Fuzz Testing** | Identify zero-day vulnerabilities in 5G protocol stacks through malformed input injection.

- **Penetration Testing** | Simulate attacker behavior to uncover logic flaws or misconfigurations in network functions like UPF or AMF.

- **3GPP Protocol Security Validation** | Ensure SBA interfaces correctly implement authentication, encryption, and token handling.

- **Interface-Specific Security Testing** | Validate mutual TLS and API authorization controls on exposed HTTP/2 interfaces used in cloud-native 5G cores.

- **Vulnerability & Configuration Scanning** | Detect CVEs and insecure deployments across vendor-supplied VNFs or CNFs before production rollout.

- **SAST, DAST, SCA** | Identify vulnerable open-source components (e.g., log4j), Scan running 5G apps for runtime issues like broken access controls, injection flaws, and misconfigurations. E.g. SonarQube, OWASP Compliance
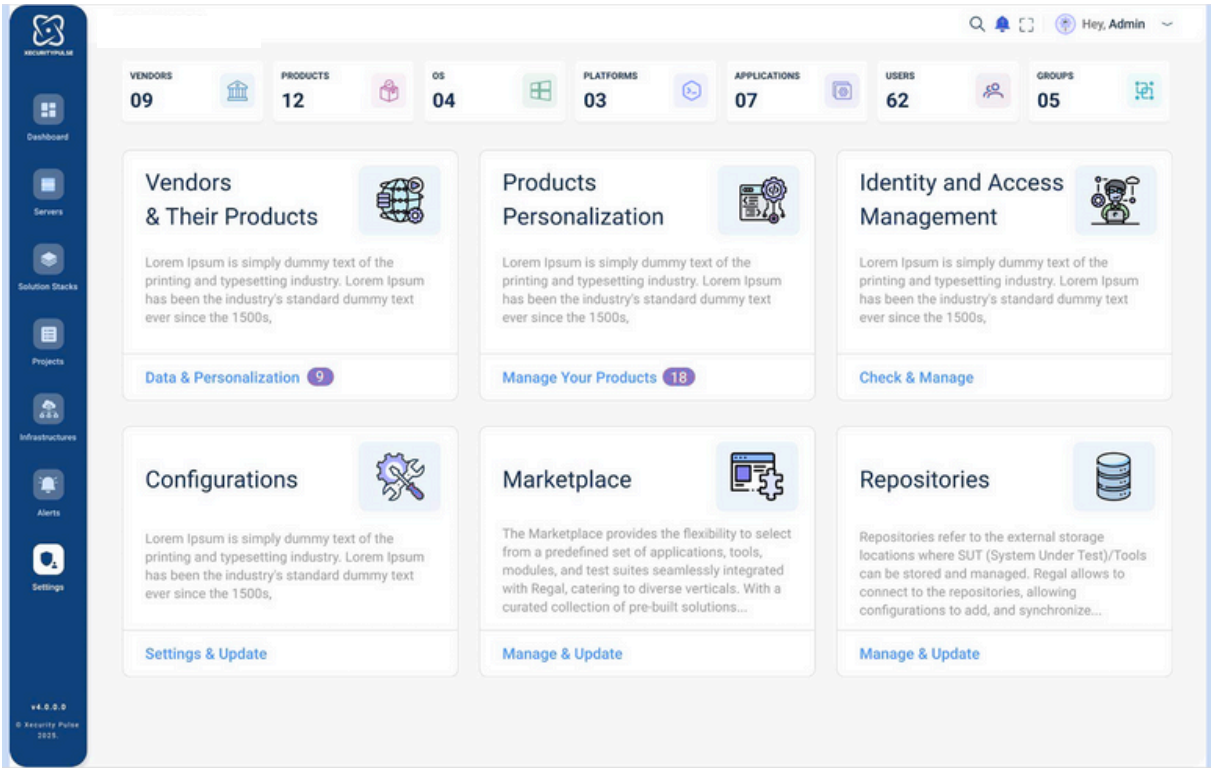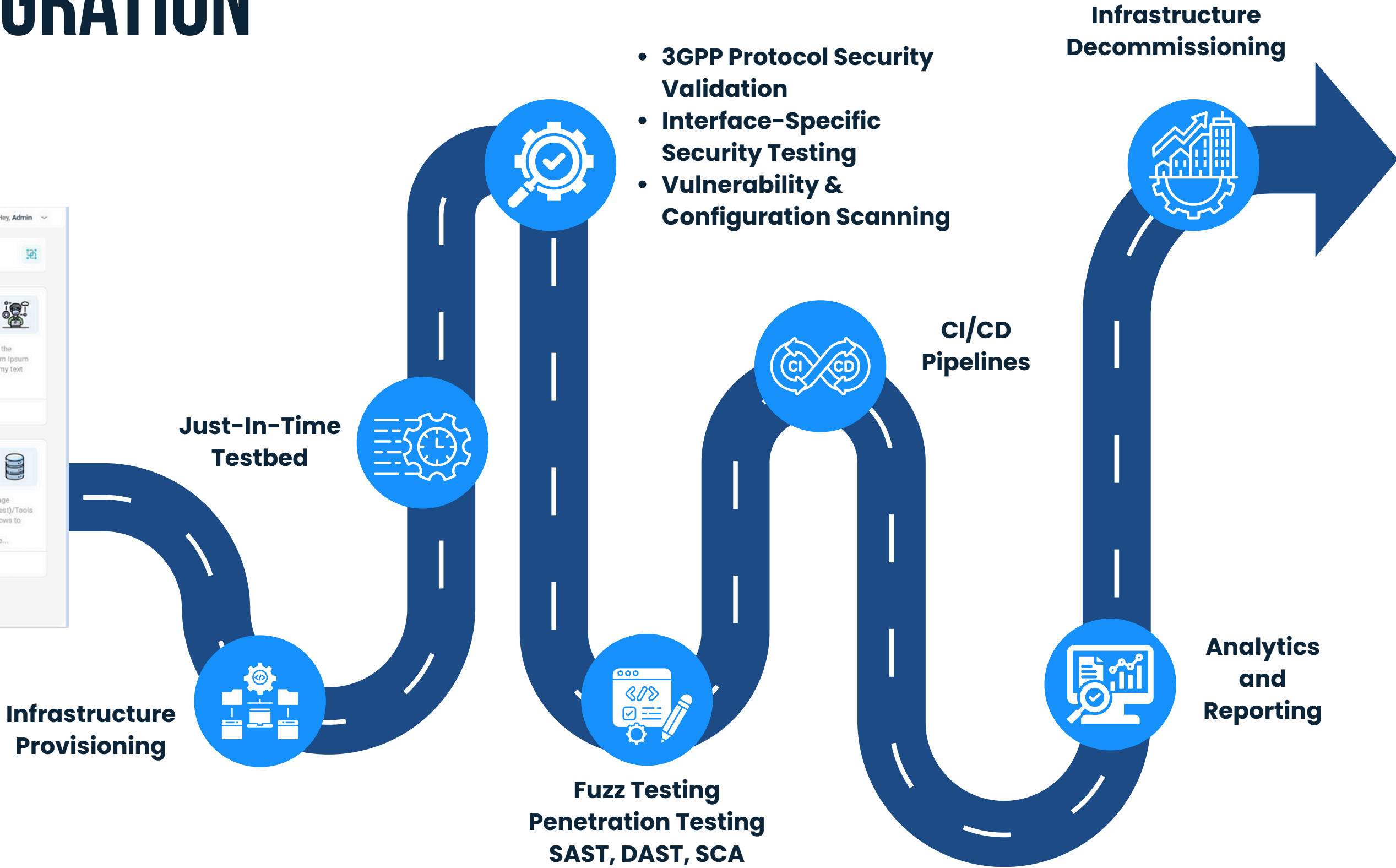
SINGLE CLICK DEPLOYMENT OF SCAS FOR TESTING

Security validation of Control and Data Paths.

Simplified integration and validation of multi-vendor 5G components.

Pre-integrated applications, emulators, NFs.
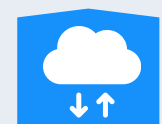
Support for BMs/VMs/ Containers (K8s) and any cloud (private/public).

Simplified Setup and Maintenance of Test Environments.

BENEFITS

🔒 **80% reduction in security risk exposure**
✅ **Achieves 95% alignment with enterprise compliance frameworks**
📡 **Ensures 100% adherence to telecom security standards**
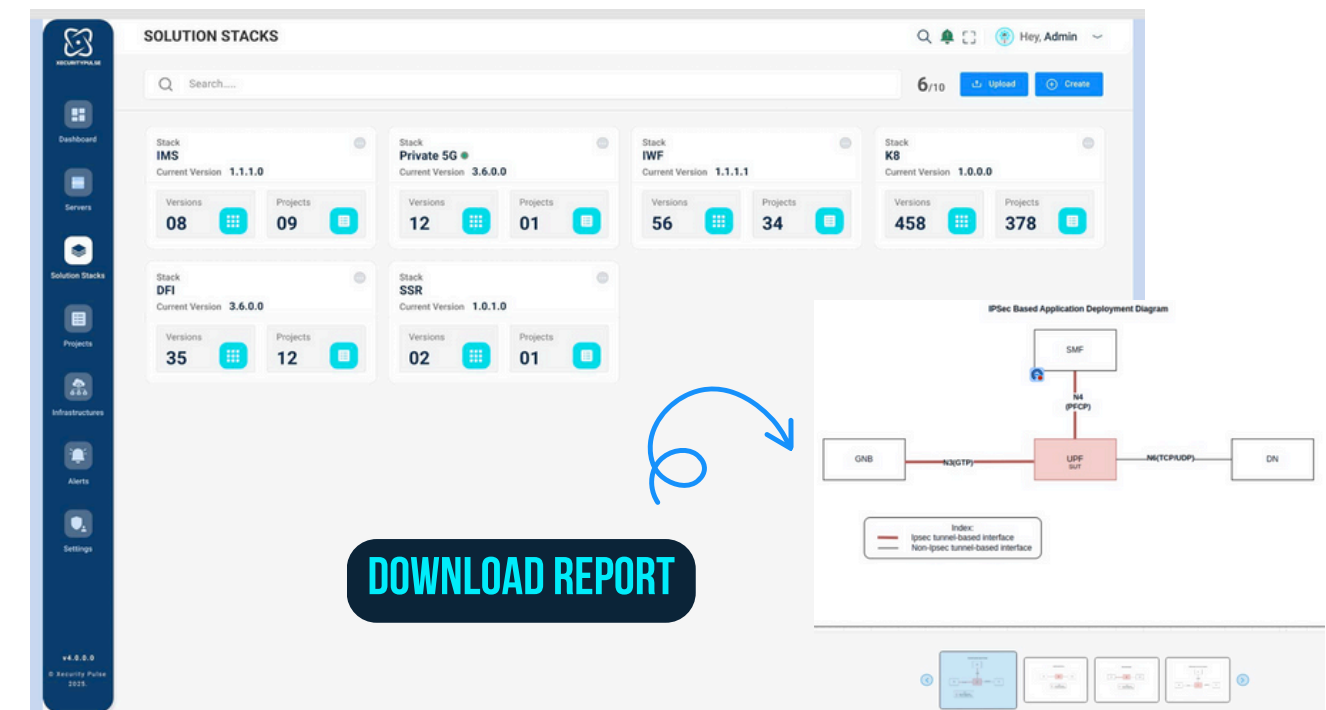📊 **Streamlines regulatory reporting and audit readiness**

SOLUTION ARCHITECTURE – OPTION 1

- **Use case:** Vendor or Operator wants to test their product for Security Hardening or compliance

DOWNLOAD REPORT

ERICSSON, HUAWEI, NOKIA, SAMSUNG, T-MOBILE, AT&T → SOFTWARE UNDER AUDIT

TEST CASES (SCAS, FUZZ, PENTEST) → X-SCAS

SOFTWARE UNDER AUDIT → X-SCAS

X-SCAS → 4G LTE

X-SCAS → 5G SA / NSA

X-SCAS → ORAN

INFRASTRUCTURE ON DEMAND
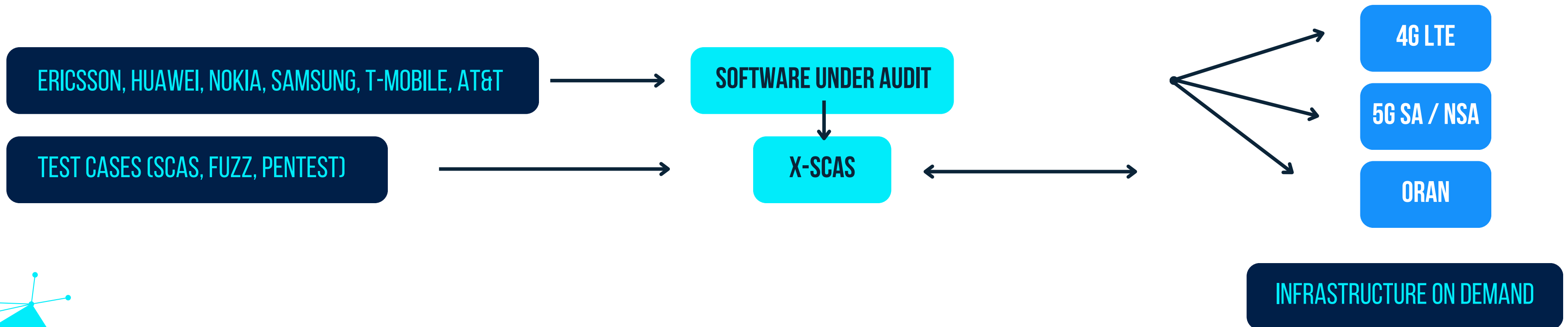
SOLUTION ARCHITECTURE — OPTION 2

- **Use case:** Vendor or Operator wants to test their entire network deployed on Public or Private cloud

DOWNLOAD REPORT

```
UPF          →    X-SCAS    ↔    TEST CASES (SCAS, FUZZ, PENTEST)
T-MOBILE              ↓
              INFRASTRUCTURE ON DEMAND
```
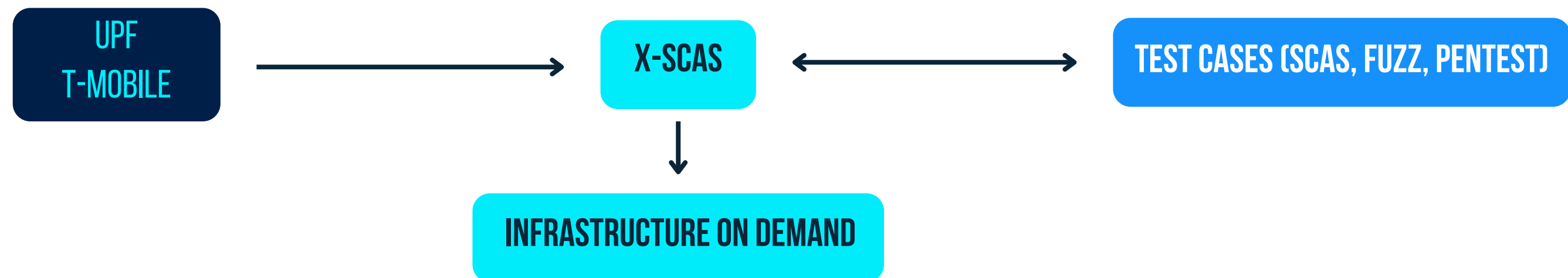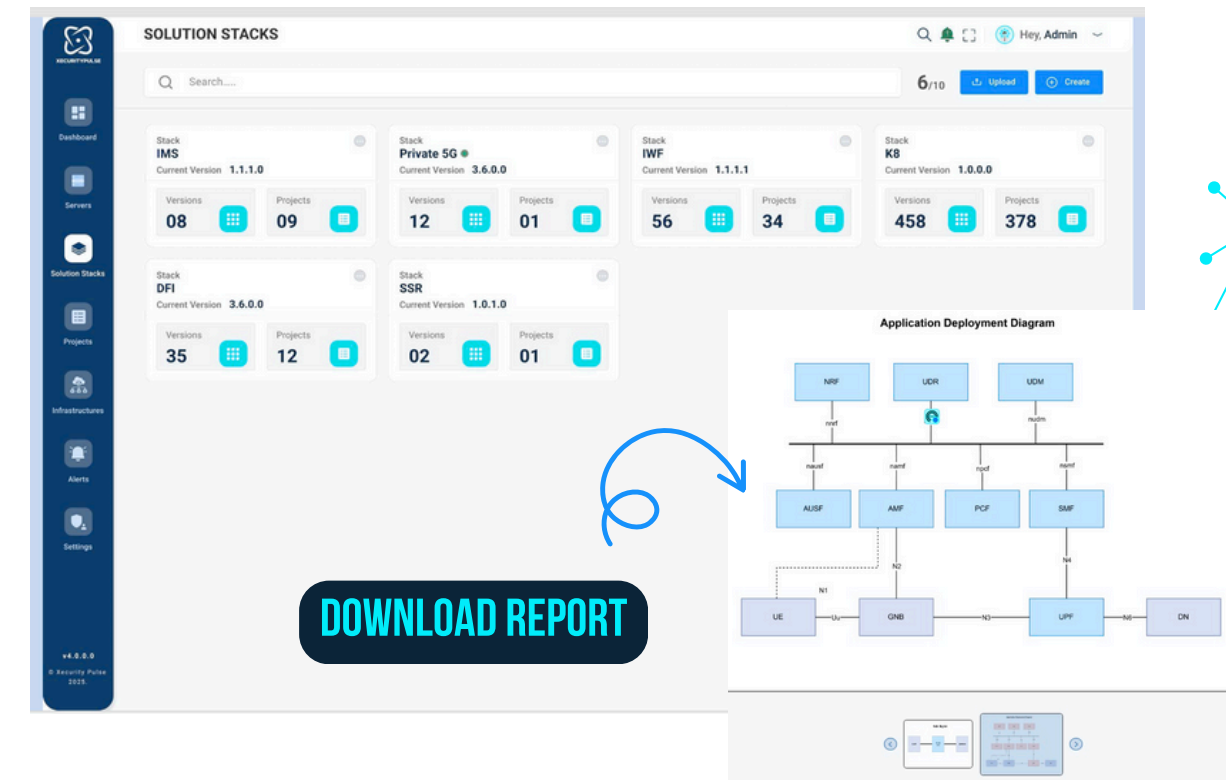
TEST SCENARIOS AND RESULTS

Test Case	Test Description	Business Objective
Confidentiality, Integrity and Replay Protected	Verify that the transported user data between gNB and UPF are confidentiality, integrity and replay protected over N3 interface.	Ensure secure and trusted user plane communication in 5G networks.
	Verify that the PFCP data between over N4 interface are confidentiality and integrity protected.	Preserve control plane integrity and prevent unauthorized configuration of user traffic paths
Filtering and Firewall Policies	Verify that the UPF enforces firewall rules and packet filtering	Enforce network segmentation and protect against unauthorized or malicious traffic
Malformed and Un-authorized Packets	Verify that the UPF can detect and reject malformed GTP-U packets with invalid TEID	Protect the core network from protocol-based attacks and service disruption

TESTS
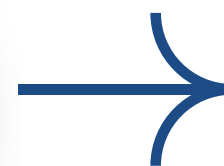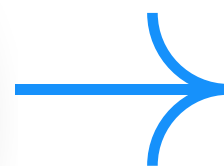
RESULTS
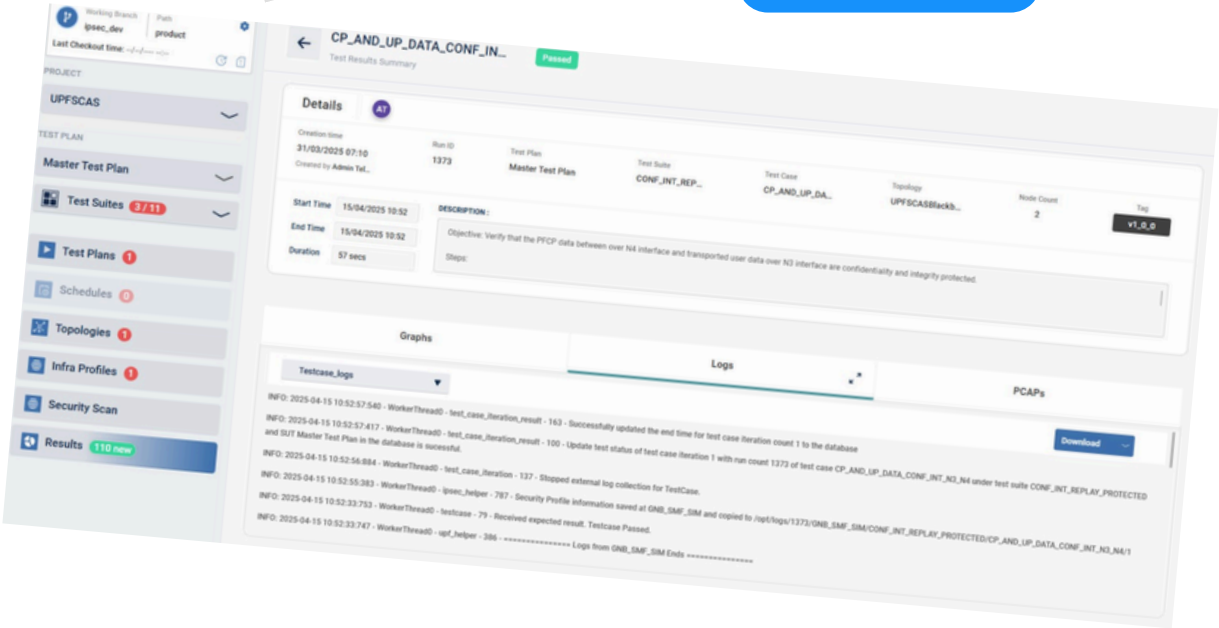
SUCCESS STORIES

**Deutsche Telekom –
5G Security Testing with NESAS**

DT highlighted in GSMA
NESAS press release:
Security certification
helped streamline
vendor evaluations and
accelerate deployment.

**Huawei & Ericsson
SCAS Audit Reports**

Publicly available vendor
reports showing SCAS audit
completion—used to support
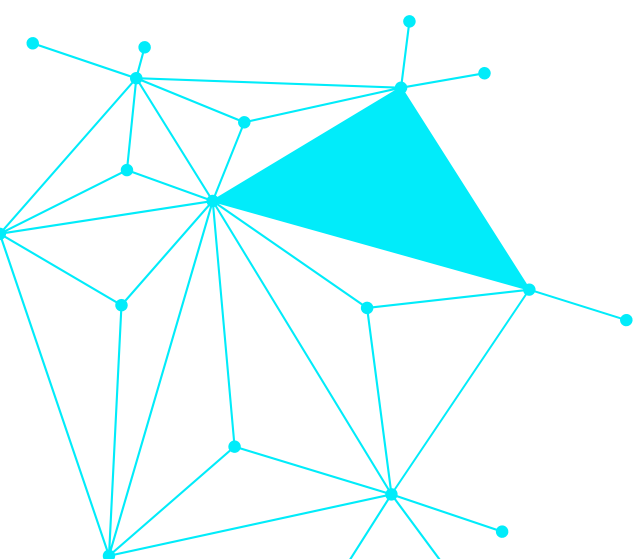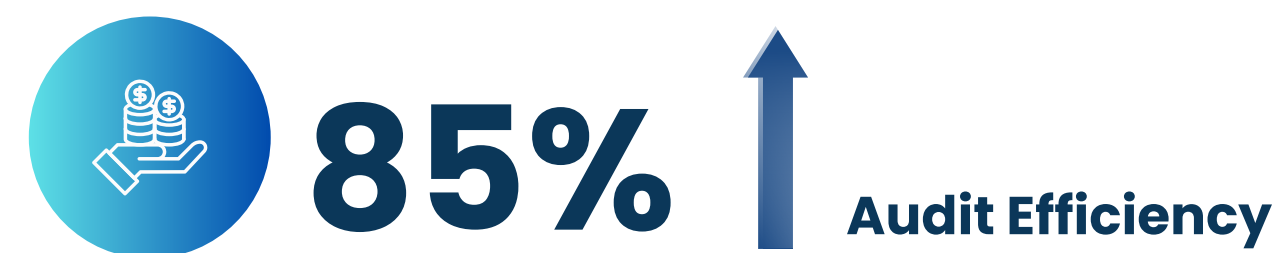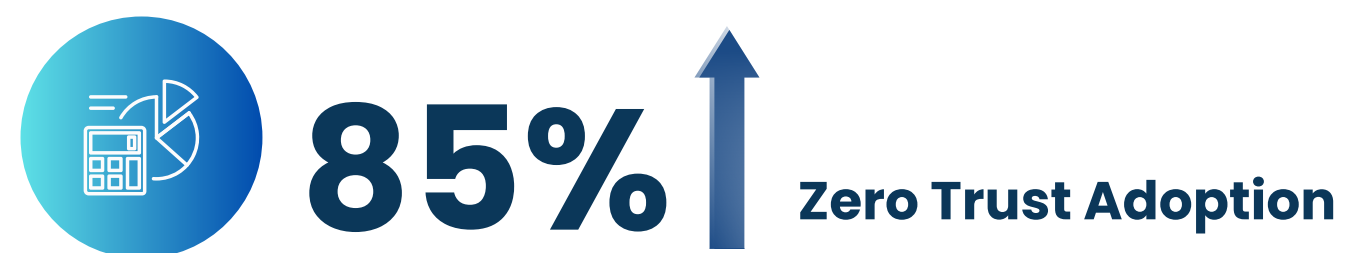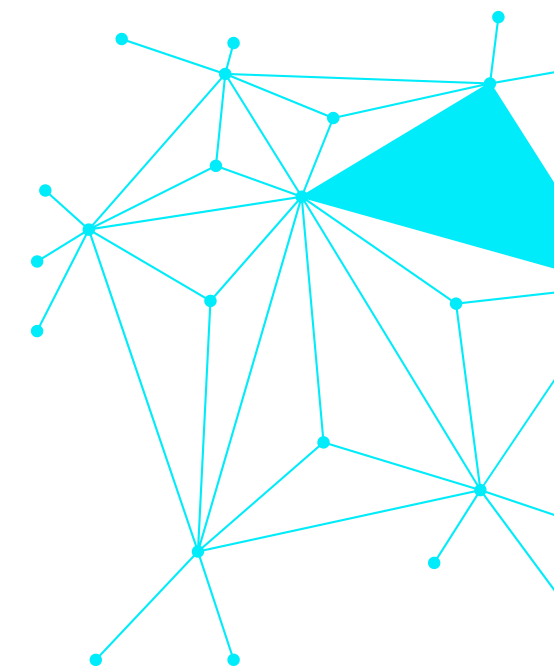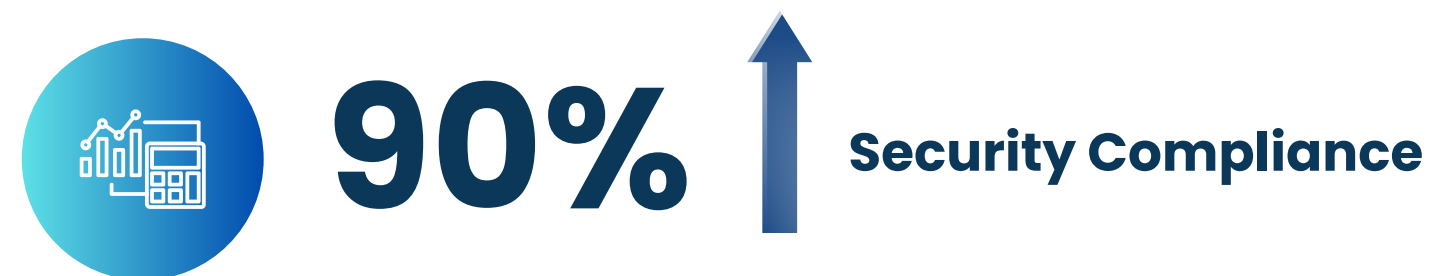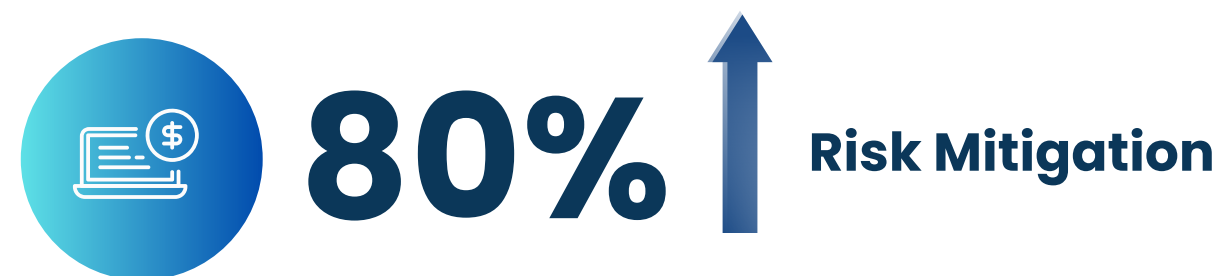RFP submissions in Europe &
Asia.
Example: Ericsson NESAS
conformance helped win
large-scale deployments in
Scandinavia.

**Vodafone Germany –
Regulatory Pressure &
NESAS Compliance**

Vodafone required SCAS-
tested components from
vendors due to German
national security
regulation (BNetzA).
Reference – BNetzA
requirements (Germany)

BENEFITS OF X-SCAS

80% ↑ Risk Mitigation

90% ↑ Security Compliance

85% ↑ Zero Trust Adoption

85% ↑ Audit Efficiency

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STANDARDS & FRAMEWORKS

3GPP TS 33.117 & TS 33.116 – Security Assurance Specifications (SCAS)
- [Security Assurance (SCAS) specifications](#)

GSMA NESAS & SCAS Compliance Overview
- [Network Equipment Security Assurance Scheme (NESAS) - Industry Services](#)

ENISA – 5G Threat Landscape 2021–2023
- [ENISA 5G Threat Landscape Report (PDF)](#)

REGULATORY OVERSIGHT

Germany – BNetzA and the IT Security Catalogue

- Telco operators must use vendors with specific security certifications, including NESAS/SCAS testing
- BNetzA explicitly recognizes NESAS/SCAS in their evaluation framework

European Union – 5G Toolbox by NIS Cooperation Group

- Provides coordinated risk mitigation across member states
- Strongly recommends NESAS/SCAS for vendor assessment

France – ANSSI's "Security Visa"France's national cybersecurity agency (ANSSI)

- Critical network components require security evaluations aligned with NESAS/SCAS
- ANSSI contributes to EU NIS Cooperation Group recommendations

INDUSTRY CASE STUDIES

- **Germany (BNetzA): Security Catalogue for Telecom Networks**
Germany's Federal Network Agency mandates SCAS/NESAS for 5G vendors under the "IT Security Catalogue.

Operators Embedding SCAS into RFP Security Scoring

- **GSMA NESAS Overview: Operator & Vendor Collaboration**
Lists Deutsche Telekom, Vodafone, and others as active NESAS participants, showing how SCAS results support procurement.

- **Deutsche Telekom Official Announcement on NESAS Testing**
Confirmed adoption of NESAS/SCAS for secure network deployment.

case study