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How Organizations Should Prepare for the Cyber Resilience Act

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Digital Innovation Hub
Trakia

Introduction

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How Organizations Should Prepare for the Cyber Resilience Act

Gap Analysis & Internal Policies

CRA: What It Really Requires

Cyber Risk Assessment as Part of Technical Documentation

- Strong cybersecurity requirements for the product (Annex I Part I)
- Strong cybersecurity processes inside the organization (Annex I Part II)
- Risk assessment & vulnerability handling (Article 13)
- Reporting obligations for exploited vulnerabilities & incidents (Article 14)
- Evidence, documentation & CE marking readiness (Articles 31–44)

Why You Need a CRA Gap Analysis

A CRA gap analysis helps you understand:

- What CRA actually requires
- Where your current controls fall short
- What processes are missing
- What documentation is not yet available
- What must be fixed before CE marking is possible

What Your CRA Gap Analysis Must Cover?

1. Product cybersecurity requirements

— Secure-by-default, no known exploitable vulnerabilities, data protection (Annex I Part I)

2. Organizational process requirements

— Secure development, updates, testing, logging, vulnerability handling (Annex I Part II)

3. Article 13 readiness

— Cybersecurity risk assessment
— Support period
— Vulnerability handling capabilities

4. Article 14 readiness

— Ability to report exploited vulnerabilities and incidents within deadlines

5. Documentation & CE marking readiness

— Technical file (Annex VII)
— Evidence of security controls

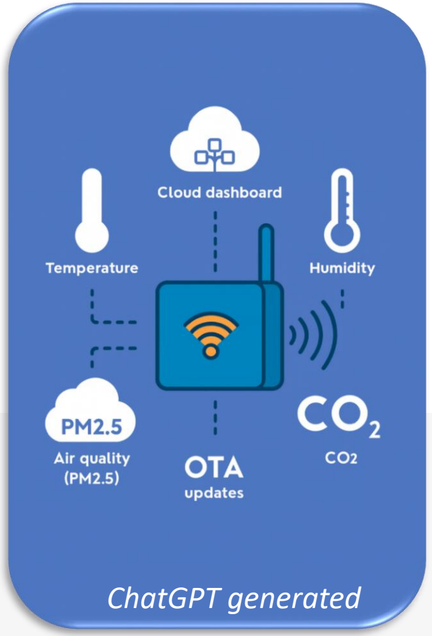
Product Context: IoT Environmental Sensor

Example Product:

An IoT environmental sensor measuring temperature, humidity, air quality (PM2.5), and CO_2 levels. Data is sent to a cloud dashboard. Device supports OTA updates.

Includes:

- Embedded firmware
- Wireless connectivity
- Mobile or web app
- Backend API
- OTA update mechanism
- Cloud platform for monitoring



CRA relevance:

IoT devices fall directly under the CRA because they contain:

- *digital elements*
- *connectivity*
- *software components (firmware + cloud)*
- *security-sensitive data*

CRA GAP Analysis — IoT Environmental Sensor

PRODUCT REQUIREMENTS (Annex I Part I)

CRA Reference	Requirement	Current State	GAP	Impact	Priority
Annex I Part I(2)(a)	No known exploitable vulnerabilities	No automated vulnerability scanning	Missing automated firmware scanning & CVE tracking	High likelihood of unnoticed vulnerabilities	**High**
Annex I Part I(2)(b)	Secure-by-default	Device ships with default admin password	Not secure-by-default; no forced password change	Device takeover possible	**Critical**
Annex I Part I(2)(c)	Minimize attack surface	Open debug port (UART) left active	Insecure design	Physical & remote attacks easier	**High**
Annex I Part I(3)	Protect data	Weak encryption (AES-128 without key rotation)	No key lifecycle	Data confidentiality risk	**Medium–High**

CRA GAP Analysis — IoT Environmental Sensor

PROCESS REQUIREMENTS (Annex I Part II)

CRA Reference	Requirement	Current State	GAP	Impact	Priority
Annex I Part II(1)	Secure Development Lifecycle (SDL)	Developers follow informal coding practices	No SDL policy, no threat modeling	Quality & security inconsistent	**High**
Annex I Part II(1)(b)	SBOM	Dependencies known internally but not exported	No automated SBOM for firmware or cloud	Cannot track component vulnerabilities	**High**
Annex I Part II(5)	Coordinated Vulnerability Disclosure (CVD)	No security.txt file; no reporting mechanism	No CVD policy	Cannot intake external reports	**Critical**
Annex I Part II(7)	Logging & monitoring	Minimal device logs; no tamper detection	Insufficient monitoring capability	Hard to detect exploitation	**Medium**
Annex I Part II(8)	Secure updates	OTA updates not signed	Insecure update channel	Firmware injection possible	**Critical**

CRA GAP Analysis — IoT Environmental Sensor

ARTICLE 13 — RISK ASSESSMENT & VULNERABILITY HANDLING

Requirement	Current State	GAP	Priority
Cybersecurity risk assessment	Not performed	No documented method	**High**
Support period (≥5 years recommended)	Unspecified	Missing a formal decision	**Medium**
Vulnerability handling process	Handled informally via email	Missing triage, SLA, documentation	**Critical**

CRA GAP Analysis — IoT Environmental Sensor

ARTICLE 14 — REPORTING OBLIGATIONS

Requirement	Current State	GAP	Priority
24-hour Early Warning to ENISA	No defined workflow	Cannot comply with CRA deadlines	**Critical**
72-hour Vulnerability Report	No template / SLA	Missing entire reporting structure	**High**
Final remediation report	Not implemented	No tracking of vulnerability lifecycle	**Medium–High**

CRA GAP Analysis — IoT Environmental Sensor

ANNEX VII — TECHNICAL DOCUMENTATION

Requirement	Current State	GAP	Priority
Risk assessment documentation	Missing	Cannot produce technical file	**High**
Architecture diagrams	Fragmented	Needs formal structure	**Medium**
SBOM	Missing machine-readable SBOM	Required for CE	**High**
Evidence (tests, updates, logs)	Minimal	Must be collected systematically	**High**

CRA-Required Internal Policies

To comply with CRA, organizations need internal policies for:

- Cybersecurity Risk Assessment (Art. 13)
- Vulnerability Handling Process (Art. 13 + Annex I Part II)
- Coordinated Vulnerability Disclosure (CVD) (Annex I Part II(5))
- Secure Development & Secure Lifecycle Management (Annex I Part II(1))
- Security Update Management (Annex I Part II(8))
- Monitoring & Logging Requirements (Annex I Part II)
- Incident Notification Procedure (Art. 14)
- Technical Documentation Management (Annex VII)

What These Policies Should Actually Contain

- **Risk Assessment Policy** – Method, scope, responsibilities, support period determination
- **Vulnerability Handling Procedure** – Identification > triage > remediation > communication > evidence
- **CVD Policy** – Public contact point, intake procedures, response timelines
- **Secure Development Policy** – Coding standards, reviews, testing, supply-chain controls
- **Update Management Policy** – Secure delivery, signing, rollback, update logs
- **Incident Notification Procedure** – Internal escalation + CRA 24/72h requirements

Typical Gaps We See in Organizations

- No secure development lifecycle (SDL)
- No formal vulnerability handling workflow
- No SBOM creation or maintenance
- No documented risk assessment per Article 13
- No public CVD channel
- No internal capability to report exploited vulnerabilities within 24 hours
- Missing technical documentation required for CE marking

Next: How to Create a CRA Compliance Roadmap — A Practical Walkthrough

THANK YOU

FOR YOUR ATTENTION

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