Taiwan Section

CRA Countdown:

Bridging the gap between ISA/IEC 62443 and CRA

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Disclaimer

This gap analysis and recommended enhancement reflect my own personal view, and do not represent any official position of ISA or the ISA Taiwan Section.

Agenda

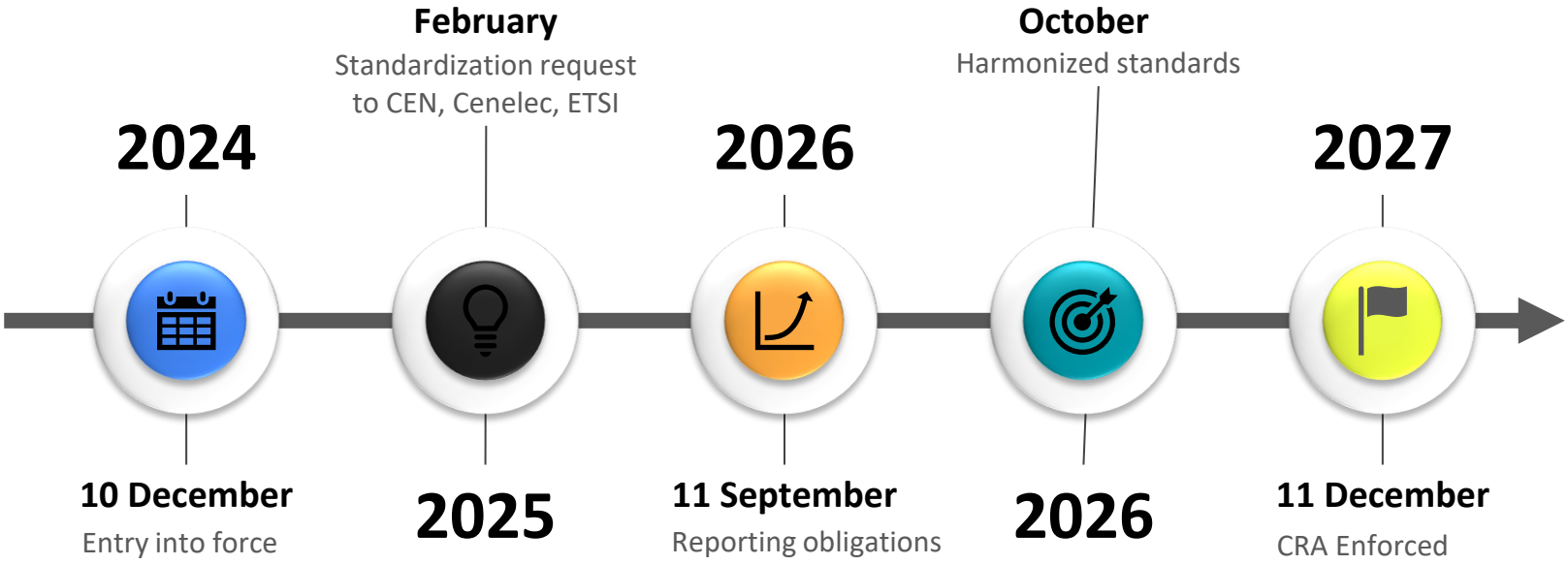
- **CRA Overview**
  - Main elements
  - Timeline
- **ISA/IEC 62443-4-1 & 62443-4-2 Recap**
- **Gap Analysis**
- **Key Takeaways**

CRA Main Elements

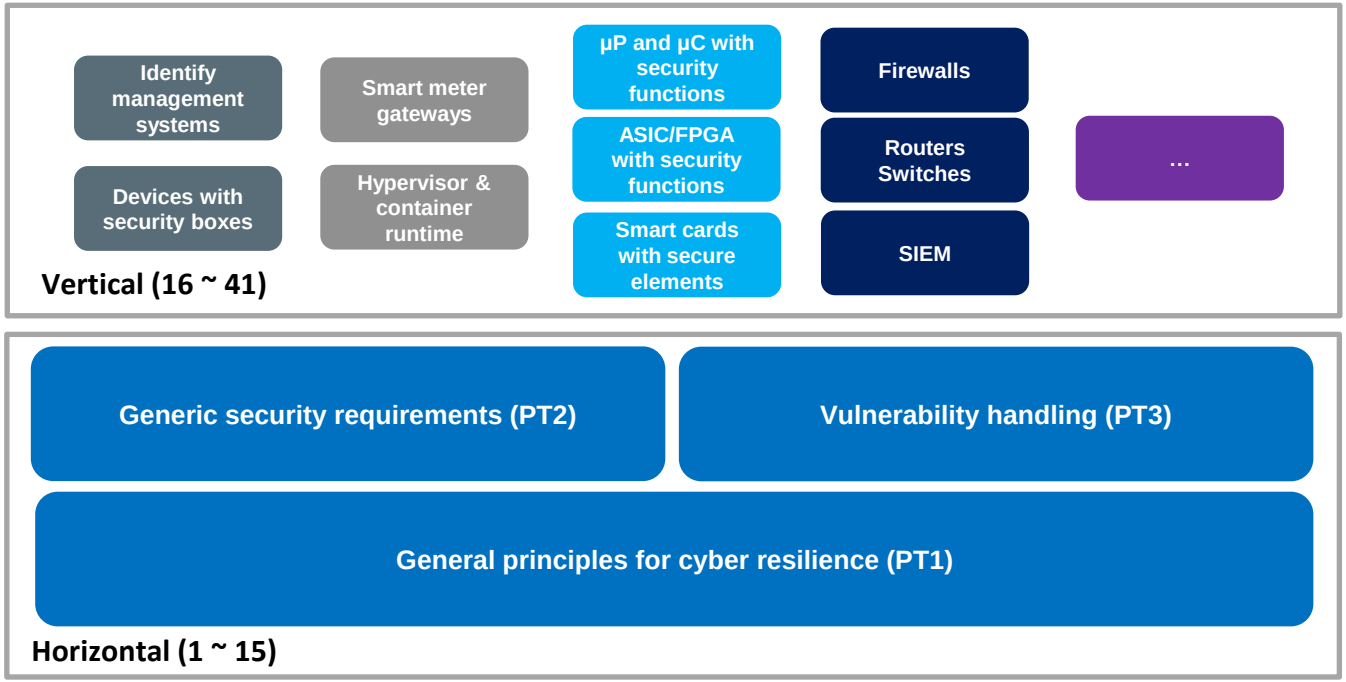
- **Cybersecurity rules** of placing products with digital elements on European markets
  - HW or SW products and their remote data processing solutions, including SW or HW components being placed on the market separately
- **Obligations** of manufacturers, importers and distributors
- Cybersecurity **essential requirements** across the product lifecycle on product itself and manufacturers' processes and policies respectively
  - Annex I Part 1: Requirements related to properties of products with digital elements
  - Annex I Part 2: Vulnerability handling requirements for manufacturers
- **Conformity assessment** for different product categories
  - **Harmonized standards** jointly developed by ESOs (CEN, CENELEC and ETSI)
- **Market surveillance and enforcement**

Ref: CEN/Cenelec webinar, "Standards supporting the Cyber Resilience Act", 2025-03-10

Timeline

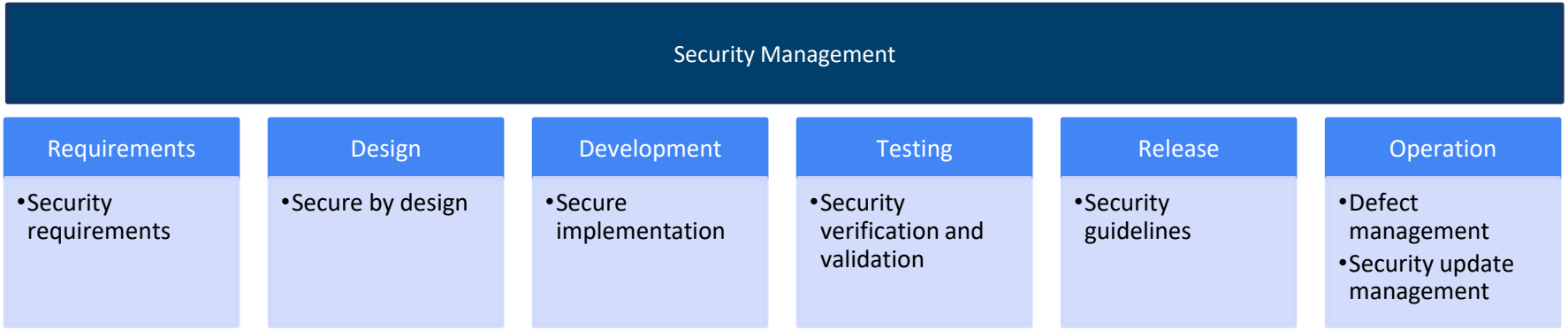


Harmonized Standards



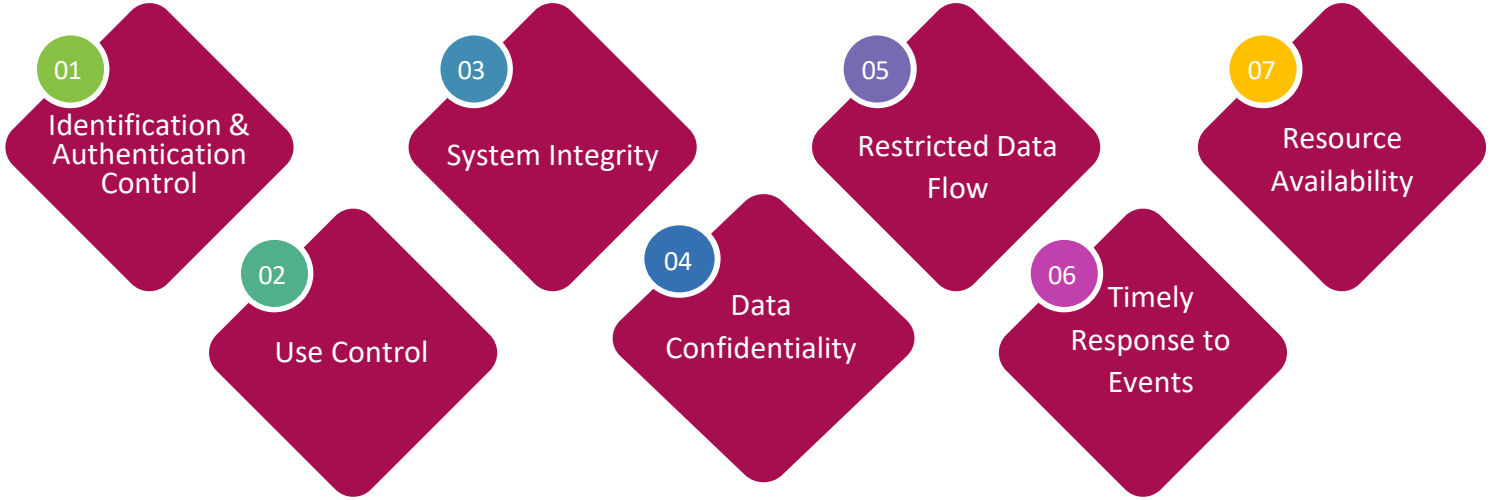
ISA/IEC 62443-4-1:

Secure Product Development Lifecycle



ISA/IEC 62443-4-2:

Technical Security Requirements for IACS Components



Essential Requirements vs ISA/IEC 62443

CRA Annex I Part 1	Description	Applicable ISA/IEC 62443 Requirements
1	Cybersecurity risk-based product development principles	**62443-4-2 SL1** CCSC 4: Software development process (62443-4-1)
2(a)	Without known exploitable vulnerabilities	**62443-4-2 SL1** CCSC 4: Software development process (62443-4-1)
2(b)	Delivered with secure by default configuration	**Refer to secure-by-default tactics in a joint initiative by CISA*** - Eliminate default password - Mandate MFA for privileged users - Secure logging (62443-4-2 CR 2.8) - Software authorization profile (62443-4-2 CR2.1) - Track and reduce “hardening guide” size - Consider user experience consequences of security settings

*Source: https://www.cisa.gov/sites/default/files/2023-10/SecureByDesign_1025_508c.pdf, “Shifting the balance of cybersecurity risk: Principles and approaches for secure by design software”, October 25, 2023

Essential Requirements vs ISA/IEC 62443

CRA Annex I Part I	Description	Applicable ISA/IEC 62443 Requirements
2(c)	Vulnerabilities can be addressed through security update, and where applicable, through automatic security update	**1. 62443-4-2 SL1** System integrity (EDR 3.10, HDR 3.10, NDR 3.10) **2. Design notification mechanisms for users to decide whether and when to perform automatic update**
2(d)	Protect from unauthorized access and report unauthorized access	**62443-4-2 SL2** Identification and authentication (CR 1.1, CR 1.2) Use control (CR 2.8, CR 2.10)
2(e)	Protect the confidentiality of data	**62443-4-2 SL1** Data confidentiality (CR 4.1, CR 4.3)
2(f)	Protect the integrity of data against unauthorized manipulation and report on corruption	**1. 62443-4-2 SL2** System integrity (CR 3.1, CR 3.4, CR 3.5, EDR 3.10 RE1, HDR 3.10 RE1, NDR 3.10 RE1, EDR 3.11, HDR 3.11, NDR 3.11) **2. Enhance logs to record data corruption details**

Essential Requirements vs ISA/IEC 62443

CRA Annex I Part I	Description	Applicable ISA/IEC 62443 Requirements
2(g)	Process only data that are adequate, relevant and limited to what is necessary (data minimization)	**1. 62443-4-2 SL1** Use Control (CR 2.8) **2. Inform users what MINIMAL security related information will be logged**
2(h)	Protect the availability of essential and basic functions of the product	**62443-4-2 SL1** Resource availability (CR 7.1)
2(i)	Minimize the negative impact on the underlying services	**62443-4-2 SL2** Resource availability (CR 7.1 RE1)
2(j)	Limit attack surfaces	**1. 62443-4-2 SL1** CCSC 4: Software development process (62443-4-1) **2. Comply with 2(b) “Secure by default” requirement**

Essential Requirements vs ISA/IEC 62443

CRA Annex I Part I	Description	Applicable ISA/IEC 62443 Requirements
2(k)	Reduce the impact of an incident	**62443-4-2 SL1** CCSC 4: Software development process (62443-4-1)
2(l)	Record and monitor relevant internal activity with an opt-out mechanism	**1. 62443-4-2 SL1** Use Control (CR 2.8) **2. Allow users to control whether and when to enable or disable the recording and monitoring**
2(m)	Allow the permanent removal of data securely	**62443-4-2 SL2** Data confidentiality (CR 4.2)

Essential Requirements vs ISA/IEC 62443

CRA Annex I Part 2	Description	Applicable ISA/IEC 62443 Requirements
1	Identify and document vulnerabilities and components contained including to draw up a software bill of materials	**1. 62443-4-1** Security verification and validation (SVV-3, SVV-4) Defect management (DM-1 ~ DM-4) **2. Provide the SBOM in a well-accepted format, e.g. SPDX**
2	Address and remediate vulnerabilities with security updates promptly	**62443-4-1** Defect management (DM-2, DM-3, DM-4) Security update management (SUM-2 ~ SUM-6)
3	Regularly test and review the security of the product with digital elements	**62443-4-1** Security verification and validation (SVV-2 ~ SVV-4) Defect management (DM-4)
4	Disclose information about fixed vulnerabilities once a security update is available	**62443-4-1** Defect management (DM-5)

Essential Requirements vs ISA/IEC 62443

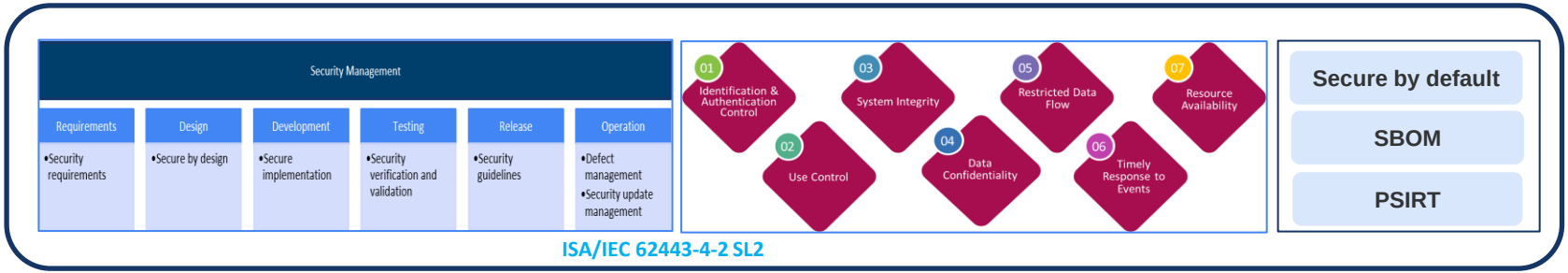
CRA Annex I Part 2	Description	Applicable ISA/IEC 62443 Requirements
5	Enforce a coordinated vulnerability disclosure policy	**1. 62443-4-1** Defect management (DM-1) **2. Refer to ETSI TR103 838** v1.1.1: "Cyber Security; Guide to Coordinated Vulnerability Disclosure“, 2022 -01
6	Facilitate the sharing of information about potential vulnerabilities and provide a contact address for reporting	**1. 62443-4-1** Defect management (DM-5) **2. Set up Product Security Incident Response Team (PSIRT) following industry best practices such as “PSIRT Services Framework**”**

**Ref: https://www.first.org, “Product Security Incident Response Team (PSIRT) Services Framework”, Version 1.1, Spring 2020

Essential Requirements vs ISA/IEC 62443

CRA Annex I Part 2	Description	Applicable ISA/IEC 62443 Requirements
7	Distribute updates securely	**62443-4-1** Security update management (SUM-4)
8	Distribute security patches free of charge along with the security advisories	**62443-4-1** Defect management (DM-5) Security update management (SUM-5)

Key Takeaways



Thank you

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