

# ISO/IEC 27001 LEAD IMPLEMENTER

**Candidate Handbook** 

www.pecb.com

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## **SECTION I: INTRODUCTION**

### **About PECB**

PECB is a certification body that provides education<sup>1</sup>, certification, and certificate programs for individuals on a wide range of disciplines.

Through our presence in more than 150 countries, we help professionals demonstrate their competence in various areas of expertise by providing valuable evaluation, certification, and certificate programs against internationally recognized standards.

#### Our key objectives are:

- 1. Establishing the minimum requirements necessary to certify professionals and to grant designations
- 2. Reviewing and verifying the qualifications of individuals to ensure they are eligible for certification
- 3. Maintaining and continually improving the evaluation process for certifying individuals
- 4. Certifying qualified individuals, granting designations and maintaining respective directories
- 5. Establishing requirements for the periodic renewal of certifications and ensuring that the certified individuals are complying with those requirements
- 6. Ascertaining that PECB professionals meet ethical standards in their professional practice
- 7. Representing our stakeholders in matters of common interest
- 8. Promoting the benefits of certification and certificate programs to professionals, businesses, governments, and the public

#### **Our mission**

Provide our clients with comprehensive examination, certification, and certificate program services that inspire trust and benefit the society as a whole.

#### Our vision

Become the global benchmark for the provision of professional certification services and certificate programs.

#### **Our values**

Integrity, Professionalism, Fairness

<sup>&</sup>lt;sup>1</sup> Education refers to training courses developed by PECB and offered globally through our partners.

## The Value of PECB Certification

#### **Global recognition**

PECB credentials are internationally recognized and endorsed by many accreditation bodies, so professionals who pursue them will benefit from our recognition in domestic and international markets.

The value of PECB certifications is validated by the accreditation from the International Accreditation Service (IAS-PCB-111), the United Kingdom Accreditation Service (UKAS-No. 21923) and the Korean Accreditation Board (KAB-PC-08) under ISO/IEC 17024 – General requirements for bodies operating certification of persons. The value of PECB certificate programs is validated by the accreditation from the ANSI National Accreditation Board (ANAB-Accreditation ID 1003) under ANSI/ASTM E2659-18, Standard Practice for Certificate Programs.

PECB is an associate member of The Independent Association of Accredited Registrars (IAAR), a full member of the International Personnel Certification Association (IPC), a signatory member of IPC MLA, and a member of Club EBIOS, CPD Certification Service, CLUSIF, Credential Engine, and ITCC. In addition, PECB is an approved Licensed Partner Publisher (LPP) from the Cybersecurity Maturity Model Certification Accreditation Body (CMMC-AB) for the Cybersecurity Maturity Model Certification standard (CMMC), is approved by Club EBIOS to offer the EBIOS Risk Manager Skills certification, and is approved by CNIL (Commission Nationale de l'Informatique et des Libertés) to offer DPO certification. For more detailed information, click here.

#### High-quality products and services

We are proud to provide our clients with high-quality products and services that match their needs and demands. All of our products are carefully prepared by a team of experts and professionals based on the best practices and methodologies.

#### **Compliance** with standards

Our certifications and certificate programs are a demonstration of compliance with ISO/IEC 17024 and ASTM E2659. They ensure that the standard requirements have been fulfilled and validated with adequate consistency, professionalism, and impartiality.

#### **Customer-oriented service**

We are a customer-oriented company and treat all our clients with value, importance, professionalism, and honesty. PECB has a team of experts who are responsible for addressing requests, questions, and needs. We do our best to maintain a 24-hour maximum response time without compromising the quality of the services.

#### Flexibility and convenience

Online learning opportunities make your professional journey more convenient as you can schedule your learning sessions according to your lifestyle. Such flexibility gives you more free time, offers more career advancement opportunities, and reduces costs.

### **PECB** Code of Ethics

The Code of Ethics represents the highest values and ethics that PECB is fully committed to follow, as it recognizes the importance of them when providing services and attracting clients.

The Compliance Division makes sure that PECB employees, trainers, examiners, invigilators, partners, distributors, members of different advisory boards and committees, certified individuals, and certificate holders (hereinafter "PECB professionals") adhere to this Code of Ethics. In addition, the Compliance Division consistently emphasizes the need to behave professionally and with full responsibility, competence, and fairness in service provision with internal and external stakeholders, such as applicants, candidates, certified individuals, certificate holders, accreditation authorities, and government authorities.

It is PECB's belief that to achieve organizational success, it has to fully understand the clients and stakeholders' needs and expectations. To do this, PECB fosters a culture based on the highest levels of integrity, professionalism, and fairness, which are also its values. These values are integral to the organization, and have characterized the global presence and growth over the years and established the reputation that PECB enjoys today.

PECB believes that strong ethical values are essential in having healthy and strong relationships. Therefore, it is PECB's primary responsibility to ensure that PECB professionals are displaying behavior that is in full compliance with PECB principles and values.

PECB professionals are responsible for:

- 1. Displaying professional behavior in service provision with honesty, accuracy, fairness, and independence
- 2. Acting at all times in their service provision solely in the best interest of their employer, clients, the public, and the profession in accordance with this Code of Ethics and other professional standards
- 3. Demonstrating and developing competence in their respective fields and striving to continually improve their skills and knowledge
- 4. Providing services only for those that they are qualified and competent and adequately informing clients and customers about the nature of proposed services, including any relevant concerns or risks
- 5. Informing their employer or client of any business interests or affiliations which might influence or impair their judgment
- 6. Preserving the confidentiality of information of any present or former employer or client during service provision
- 7. Complying with all the applicable laws and regulations of the jurisdictions in the country where the service provisions were conducted
- 8. Respecting the intellectual property and contributions of others
- 9. Not communicating intentionally false or falsified information that may compromise the integrity of the evaluation process of a candidate for a PECB certification or a PECB certificate program
- 10. Not falsely or wrongly presenting themselves as PECB representatives without a proper license or misusing PECB logo, certifications or certificates
- 11. Not acting in ways that could damage PECB's reputation, certifications or certificate programs
- 12. Cooperating in a full manner on the inquiry following a claimed infringement of this Code of Ethics

To read the complete version of PECB's Code of Ethics, go to Code of Ethics | PECB.



#### Introduction to ISO/IEC 27001 Lead Implementer

ISO/IEC 27001 specifies the requirements for establishing, implementing, maintaining, and continually improving an information security management system (ISMS). The most important skills required in the market are the ability to effectively plan, implement, and manage the ISMS, assess and treat the information security risks, select and implement the information security controls, and manage (or be part of) ISMS implementation teams.

The "ISO/IEC 27001 Lead Implementer" credential is a professional certification for individuals aiming to demonstrate the competence to implement the information security management system and lead an implementation team.

Considering that implementing is one of the most in-demand professions, an internationally recognized certification can help you achieve your career potential and reach your professional objectives.

PECB certifications are not a license or simply a membership. They attest the candidates' knowledge and skills gained through our training courses and are issued to candidates that have the required experience and have passed the exam.

This document specifies the PECB ISO/IEC 27001 Lead Implementer certification scheme in compliance with ISO/IEC 17024:2012. It also outlines the steps that candidates should take to obtain and maintain their credentials. As such, it is very important to carefully read all the information included in this document before completing and submitting your application. If you have questions or need further information after reading it, please contact the PECB international office at certification.team@pecb.com.

## SECTION II: EXAMINATION PREPARATION, RULES, AND POLICIES

#### Preparing for and scheduling the exam

All candidates are responsible for their own study and preparation for certification exams. Although candidates are not required to attend the training course to be eligible for taking the exam, attending it can significantly increase their chances of successfully passing the exam.

To schedule the exam, candidates have two options:

- 1. Contact one of our authorized partners. To find an authorized partner in your region, please go to <u>Active Partners</u>. The training course schedule is also available online and can be accessed on <u>Training Events</u>.
- 2. Take a PECB exam remotely through the <u>PECB Exams application</u>. To schedule a remote exam, please go to the following link: <u>Exam Events</u>.

To learn more about exams, competency domains, and knowledge statements, please refer to *Section III* of this document.

#### **Rescheduling the exam**

For any changes with regard to the exam date, time, location, or other details, please contact online.exams@pecb.com.

#### Application fees for examination and certification

Candidates may take the exam without attending the training course. The applicable prices are as follows:

- Lead Exam: \$1000<sup>2</sup>
- Manager Exam: \$700
- Foundation Exam: \$500
- Transition Exam: \$500

The application fee for certification is \$500.

For the candidates that have attended the training course via one of PECB's partners, the application fee covers the costs of the exam (first attempt and first retake), the application for certification, and the first year of Annual Maintenance Fee (AMF).

<sup>&</sup>lt;sup>2</sup> All prices listed in this document are in US dollars.

### **Competency domains**

The objective of the "PECB ISO/IEC 27001 Lead Implementer" exam is to ensure that the candidate has acquired the necessary competence to support an organization in establishing, implementing, managing and maintaining an ISMS.

The ISO/IEC 27001 Lead Implementer certification is intended for:

- Managers or consultants involved in and concerned with the implementation of an information security management system in an organization
- Project managers, consultants, or expert advisers seeking to master the implementation of an information security management system
- Individuals responsible for maintaining conformity with the ISO/IEC 27001 requirements in an organization
- Members of an ISMS implementation team

The content of the exam is divided as follows:

- Domain 1: Fundamental principles and concepts of an information security management system
- **Domain 2:** Information security management system requirements
- Domain 3: Planning of an ISMS implementation based on ISO/IEC 27001
- Domain 4: Implementation of an ISMS based on ISO/IEC 27001
- Domain 5: Monitoring and measurement of an ISMS based on ISO/IEC 27001
- Domain 6: Continual improvement of an ISMS based on ISO/IEC 27001
- Domain 7: Preparation for an ISMS certification audit

## Domain 1: Fundamental principles and concepts of an information security management system

Main objective: Ensure that the candidate is able to interpret ISO/IEC 27001 principles and concepts.

	Competencies		Knowledge statements
1.	Ability to explain the main concepts of information	1.	Knowledge of the information security laws,
	security		regulations, international and industry standards,
2.	Ability to explain the difference and relationship		contracts, market practices, internal policies, best
	between information and asset		practices, etc., an organization must comply with
3.	Ability to interpret the difference between	2.	Knowledge of the main concepts and terminology
	documents, specifications, and records		of ISO/IEC 27001
4.	Ability to explain the relationship between the	3.	Knowledge of information security risk and its
	concepts of vulnerability, threat, risk, and their		importance in an ISMS
	impact	4.	Knowledge of confidentiality, integrity, and
5.	Ability to explain the concepts of confidentiality,		availability of information
	integrity, and availability of information	5.	Knowledge of information security vulnerabilities,
6.	Ability to interpret the classification of security		threats, and risks
	controls and their objectives	6.	Knowledge of the potential impacts that can affect
7.	Ability to interpret the relationship between		confidentiality, integrity, or availability of
	information security elements		information
8.	Ability to explain the information security risk	7.	Knowledge of the difference between security
	management process (assessment and treatment)		control types such as technical, legal,
			administrative, and managerial controls
		8.	Knowledge of the difference between security
			controls classified by their function such as
			preventive, corrective, and detective controls
			preventive, concentre, and detective controls

### **Domain 2: Information security management system requirements**

**Main objective:** Ensure that the candidate is able to identify and explain the requirements for an information security management system based on ISO/IEC 27001.

	Competencies		Knowledge statements
1.	Ability to select, design, and describe information	1.	Knowledge of common security services such as
	security controls		access control services, boundary control services,
2.	Ability to define the organization's security		integrity services, cryptographic services, and audit
	architecture		and monitoring services
3.	Ability to identify and illustrate the activities	2.	Knowledge of the most common architecture
	involved in developing and deploying information		frameworks
	systems	3.	Knowledge of the 93 Annex A controls of ISO/IEC
4.	Ability to document the implementation of selected		27001 and their guidance specified in ISO/IEC
	information security controls		27002
5.	Ability to interpret and analyze Annex A controls	4.	Knowledge of the four groups of Annex A controls
	of ISO/IEC 27001		such as organizational controls, people controls,
6.	Ability to implement Annex A controls based on		physical controls, technological controls
	ISO/IEC 27001 and best practices	5.	Knowledge of the selection and implementation of
			ISO/IEC 27001 Annex A controls
		6.	Knowledge of the documentation of the selected
			information security

## Domain 3: Planning of an ISMS implementation based on ISO/IEC 27001

Main objective: Ensure that the candidate is able to plan the implementation of the ISMS based on ISO/IEC 27001.

	Competencies		Knowledge statements
1.	Ability to collect, analyze, and interpret the	1.	Knowledge of the main project management
	information required to plan an ISMS		concepts, terminology, process and best practices
	implementation	2.	Knowledge of the principal approaches and
2.	Ability to interpret and set information security and		methodology frameworks to implement an ISMS
	ISMS objectives	3.	Knowledge of typical information security and
3.	Ability to identify and interpret ISMS risks and		ISMS objectives and how to achieve specific results
	their impacts	4.	Knowledge of what typically constitutes an
4.	Ability to analyze and consider the internal and		organization's internal and external context
	external context of an organization	5.	Knowledge of the approaches used to understand
5.	Ability to identify the resources required for the		the context of an organization
	ISMS implementation	6.	Knowledge of the techniques used to gather
6.	Ability to manage, estimate, and monitor the		information on an organization and to perform a
	required resources for the ISMS implementation		gap analysis of a management system
7.	Ability to identify the roles and responsibilities of	7.	Knowledge of an ISMS project plan and an ISMS
	key interested parties during and after the		project team
	implementation and operation of an ISMS	8.	Knowledge of the resources required for an ISMS
8.	Ability to draft, file, and review an ISMS project		implementation
	plan	9.	Knowledge of the main organizational structures
9.	Ability to perform a gap analysis and clarify the		applicable for an organization to manage an ISMS
	information security management objectives	10.	Knowledge of the characteristics of an ISMS scope
10.	Ability to define and justify an ISMS scope adapted		in terms of organizational, technological, and
	to the organization's specific information security		physical boundaries
	objectives	11.	Knowledge of the best practices and techniques
11.	Ability to develop and establish an ISMS policy		used to draft and establish information security
12.	Ability to perform the steps of the risk assessment		policies and procedures
	process such as risk identification, risk analysis,	12.	Knowledge of the different approaches and
	and risk evaluation		methodologies used to perform the risk assessment
13.	Ability to perform risk treatment, risk		process
	communication and consultation, recording and	13.	Knowledge of the selection and implementation of
	reporting, and monitoring and review		risk treatment options
14.	Ability to understand and draft the Statement of	14.	8
	Applicability document		of Applicability document

## Domain 4: Implementation of an ISMS based on ISO/IEC 27001

**Main objective:** Ensure that the candidate is able to implement the processes of an ISMS required for an ISO/IEC 27001 certification.

Competencies			Knowledge statements
	*	4	8
1.	Ability to manage capacity building processes for	1.	Knowledge of the best practices on documented
2	the successful implementation of an ISMS	2	information life cycle management
2.	Ability to define the documentation and record	2.	Knowledge of the characteristics and the
	management processes needed to support the		differences between the different documented
	implementation and operations of an ISMS and create documents that are understandable and		information related to an ISMS policy, procedure,
	available to all stakeholders	3.	guideline, standard, baseline, worksheet, etc.
3.	Ability to develop a documented information	5.	Knowledge of the documents that ensure compliance with ISO/IEC 27001 requirements
5.	management process to properly manage the	4.	Knowledge of the three V's of big data: volume,
	document lifecycle	4.	variety, and velocity
4.	Ability to identify the documented information	5.	Knowledge of weak and strong artificial
	required to demonstrate conformity of the ISMS to		intelligence, machine learning
	the ISO/IEC 27001 requirements	6.	Knowledge of cloud computing services:
5.	Ability to define, design and implement processes		infrastructure as a service (IaaS), platform as a
	necessary for the operation of an ISMS and		service (PaaS), and software as a service (SaaS)
	properly document them	7.	Knowledge of the impact of new technologies in
6.	Ability to understand, manage, and evaluate		information security
	organizational knowledge	8.	Knowledge of the characteristics and the best
7.	Ability to understand today's world trends and		practices of implementing information security
	technologies such as big data, artificial intelligence,		training and awareness programs and
	machine learning, cloud computing, and outsourced		communication plans
	operations	9.	Knowledge of the communication objectives,
8.	Ability to define and implement appropriate		activities, and interested parties to enhance their
	information security training and awareness	10	support and confidence
9.	programs, and communication plans Ability to establish an ISMS communication plan to	10.	Knowledge of the incident management process based on information security best practices
9.	assist in the understanding of an organization's	11.	Knowledge of business continuity and disaster
	information security issues, policies, performance,	11.	recovery
	and providing inputs or suggestions for improving		lecovery
	the performance of the ISMS		
10.	Ability to establish an incident management policy		
	and incident response team		
11.	Ability to explain the difference between business		
	continuity and disaster recovery		
12.	Ability to define and implement an incident		
	management process based on information security		
	best practices		

### Domain 5: Monitoring and measurement an ISMS based on ISO/IEC 27001

Main objective: Ensure that the candidate is able to evaluate, monitor, and measure the performance of an ISMS.

	Competencies		Knowledge statements
1.	Ability to monitor and evaluate the effectiveness of an ISMS	1.	Knowledge of the best practices and techniques used to monitor and evaluate the effectiveness of an
2.	Ability to verify to what extent the identified ISMS objectives have been met	2.	ISMS Knowledge of the concepts related to measurement
3.	Ability to define and implement an ISMS internal audit program	3.	and evaluation Knowledge of the main concepts and components
4.	Ability to perform regular and methodical reviews to ensure the suitability, adequacy, effectiveness,		related to the implementation and operation of an ISMS internal audit program
	and efficiency of an ISMS based on the policies and objectives of the organization	4.	Knowledge of the difference between a major and a minor nonconformity
5.	Ability to define and perform a management review process	5.	Knowledge of the guidelines and best practices to draft a nonconformity report
		6.	Knowledge of the best practices used to perform management reviews

### Domain 6: Continual improvement of an ISMS based on ISO/IEC 27001

Main objective: Ensure that the candidate is able to provide guidance on the continual improvement of an ISMS.

	Competencies		Knowledge statements
1.	Ability to track and take action on nonconformities	1.	Knowledge of the main processes, tools, and
2.	Ability to identify and analyze the root causes of		techniques used to identify the root causes of
	nonconformities, and propose action plans to treat		nonconformities
	them	2.	Knowledge of the treatment of nonconformities
3.	Ability to counsel an organization on how to		process
	continually improve the effectiveness and	3.	Knowledge of the main processes, tools, and
	efficiency of an ISMS		techniques used to develop corrective action plans
4.	Ability to implement continual improvement	4.	Knowledge of the main concepts related to
	processes in an organization		continual improvement
5.	Ability to determine the appropriate tools to support	5.	Knowledge of the processes related to the continual
	the continual improvement processes of an		monitoring of change factors
	organization	6.	Knowledge of the maintenance and improvement of
			an ISMS

## **Domain 7: Preparation for an ISMS certification audit**

**Main objective:** Ensure that the candidate is able to prepare an organization for the certification against ISO/IEC 27001.

	Competencies		Knowledge statements
1.	Ability to interpret the main steps, processes, and activities related to the ISO/IEC 27001 certification	1.	Knowledge of the evidence-based approach to an audit
	audit	2.	Knowledge of the types of audit and their
2.	Ability to explain and illustrate the audit evidence		differences
	approach in an of an ISMS audit	3.	Knowledge of the differences between Stage 1 and
3.	Ability to counsel an organization to identify and		Stage 2 audits
	select a certification body that meets their expectations	4.	Knowledge of the Stage 1 audit requirements, steps, and activities
4.	Ability to determine whether an organization is ready and prepared for the ISO/IEC 27001	5.	Knowledge of the documented information review criteria
5.	certification audit Ability to train and prepare an organization's	6.	Knowledge of the Stage 2 audit requirements, steps, and activities
6.	personnel for an ISO/IEC 27001 certification audit Ability to argue and challenge the audit findings	7.	Knowledge of the audit follow-up requirements, steps, and activities
	and conclusions with external auditors	8.	Knowledge of the surveillance audits and recertification audit requirements, steps, and activities
		9.	Knowledge of the requirements, guidelines, and best practices for developing action plans following an ISO/IEC 27001 certification audit

Based on the above-mentioned domains and their relevance, the exam contains 80 multiple-choice questions, as summarized in the table below:

				Level of understanding requ	(Cognitive/Taxonomy) iired
		Number of questions/points per competency domain	% of the exam devoted/points to/for each competency domain	Questions that measure comprehension, application, and analysis	Questions that measure evaluation
	Fundamental principles and concepts of an information security management system	15	18.75	Х	
	Information security management system requirements	12	15	Х	
mains	Planning of an ISMS implementation based on ISO/IEC 27001	18	22.5		Х
Competency domains	Implementation of an ISMS based on ISO/IEC 27001	14	17.5		Х
Con	Monitoring and measurement of an ISMS based on ISO/IEC 27001	10	12.5	Х	
	Continual improvement of an ISMS based on ISO/IEC 27001	6	7.5	Х	
	Preparation for an ISMS certification audit	5	6.25		Х
	Total	80	100%		
		Number of questions pe	43	37	
	% of the exam devoted to	each level of understandir	53.75%	46.25%	

The passing score of the exam is **70%**.

After successfully passing the exam, candidates will be able to apply for obtaining the "PECB Certified ISO/IEC 27001 Lead Implementer" credential.

### Taking the exam

#### General information about the exam

Candidates are required to arrive/be present at least 30 minutes before the exam starts.

Candidates who arrive late will not be given additional time to compensate for the late arrival and may not be allowed to sit for the exam.

Candidates are required to bring a valid identity card (a national ID card, driver's license, or passport) and show it to the invigilator.

If requested on the day of the exam (paper-based exams), additional time can be provided to candidates taking the exam in a non-native language, as follows:

- 10 additional minutes for Foundation exams
- 20 additional minutes for Manager exams
- 30 additional minutes for Lead exams

#### PECB exam format and type

- 1. **Paper-based:** Exams are provided on paper, where candidates are not allowed to use anything but the exam paper and a pen. The use of electronic devices, such as laptops, tablets, or phones, is not allowed. The exam session is supervised by a PECB approved Invigilator at the location where the Partner has organized the training course.
- 2. Online: Exams are provided electronically via the PECB Exams application. The use of electronic devices, such as tablets and cell phones, is not allowed. The exam session is supervised remotely by a PECB Invigilator via the PECB Exams application and an external/integrated camera.

For more information about online exams, go to the PECB Online Exam Guide.

PECB exams are available in two types:

- 1. Essay-type question exam
- 2. Multiple-choice question exam

This exam comprises multiple-choice questions: The multiple-choice exam can be used to evaluate candidates' understanding on both simple and complex concepts. It comprises both stand-alone and scenario-based questions. Stand-alone questions stand independently within the exam and are not context-depended, whereas scenario-based questions are context-dependent, i.e., they are developed based on a scenario which a candidate is asked to read and is expected to provide answers to five questions related to that scenario. When answering stand-alone and scenario-based questions, candidates will have to apply various concepts and principles explained during the training course, analyze problems, identify and evaluate alternatives, combine several concepts or ideas, etc.

Each multiple-choice question has three options, of which one is the correct response option (keyed response) and two incorrect response options (distractors).

This is an open-book exam. The candidate is allowed to use the following reference materials:

- A hard copy of the ISO/IEC 27001 standard
- Training course materials (accessed through the PECB Exams app and/or printed)
- Any personal notes taken during the training course (accessed through the PECB Exams app and/or printed)



• A hard copy dictionary

A sample of exam questions will be provided below.

**Note:** PECB will progressively transition to multiple-choice exams. They will also be open book and comprise scenario-based questions that will allow PECB to evaluate candidates' knowledge, abilities, and skills to use information in new situations (apply), draw connections among ideas (analyze), and justify a stand or decision (evaluate).

For specific information about exam types, languages available, and other details, please contact <u>examination.team@pecb.com</u> or go to the <u>List of PECB Exams</u>.

#### Sample exam questions

Company A is an insurance company headquartered in Chicago. It offers various range of services and products involving medical and car insurance. The company has recently become one of the most successful and largest insurance companies with more than 70 offices nationwide.

The company's objectives are to properly maintain their assets and protect the confidentiality of information of their clients. The company decided to get certified against ISO/IEC 27001 since it would help them not only achieve their organizational objectives and comply with international laws and regulations but also increase their reputation. The company initiated the implementation of the ISMS by defining an implementation strategy based on a detailed analysis of their existing processes and the ISMS requirements.

The company paid special attention to the information security risk assessment, which was crucial in understanding the threats and vulnerabilities that they faced. They also defined the risk criteria with the aim of evaluating the identified risks.

Company A experienced rapid growth which resulted in complex and intensive data processing, and based on the risk assessment results they decided to initially update their existing information classification scheme and then implement the necessary security controls based on the level of protection required by each classification of information.

The medical claims of their clients, classified as sensitive information, were encrypted using the AES encryption and then moved to the private cloud. Company A used cloud storage for its ease of access. Due to the frequent access of its employees to this service, the company also decided to utilize the logging process. The service was configured to automatically grant access to cloud storage for all employees responsible for handling medical claims.

Because the cloud storage services experienced security breaches either from human error or deliberate attacks, the company's IT department decided to restrict the access to sensitive information stored in the cloud if professional business emails were not used. In addition, they used a password manager software to manage the passwords of these email addresses and generate stronger passwords.

Based on this scenario, answer the following questions:

- **1.** The IT Department did not restrict access to cloud storage. Which of the threats below can exploit such vulnerability?
  - A. Tampering with hardware
  - B. Unauthorized use of sensitive information
  - C. Insufficient cloud storage training

- 2. Company A encrypts sensitive information prior to moving them to the cloud. Which information security principle is followed in this case?
  - A. Confidentiality, because encryption ensures that only authorized users can access the encrypted information



- B. Availability, because encryption ensures that information is secured either at rest or in transit, therefore accessible when needed
- C. Integrity, because encryption ensures that only authorized modifications are made to the encrypted information
- **3.** Company A decided to restrict the access to sensitive information stored in the cloud if professional business emails were not used. Which security control was implemented in this case?
  - A. Detective control
  - **B.** Preventive control
  - C. Corrective control
- 4. Company A defined the risk criteria when assessing its risks. Is this necessary?
  - A. Yes, because the company should establish and maintain the risk criteria when assessing the information security risks
  - B. No, because the risk criteria should be established only when risk treatment options are defined
  - C. No, because the risk criteria is established when the information security residual risks are accepted

### **Exam Security Policy**

PECB is committed to protect the integrity of its exams and the overall examination process, and relies upon the ethical behavior of applicants, potential applicants, candidates and partners to maintain the confidentiality of PECB exams. This Policy aims to address unacceptable behavior and ensure fair treatment of all candidates.

Any disclosure of information about the content of PECB exams is a direct violation of this Policy and PECB's Code of Ethics. Consequently, candidates taking a PECB exam are required to sign an Exam Confidentiality and Non-Disclosure Agreement and must comply with the following:

- 1. The questions and answers of the exam materials are the exclusive and confidential property of PECB. Once candidates complete the submission of the exam to PECB, they will no longer have any access to the original exam or a copy of it.
- 2. Candidates are prohibited from revealing any information regarding the questions and answers of the exam or discuss such details with any other candidate or person.
- 3. Candidates are not allowed to take with themselves any materials related to the exam, out of the exam room.
- 4. Candidates are not allowed to copy or attempt to make copies (whether written, photocopied, or otherwise) of any exam materials, including, without limitation, any questions, answers, or screen images.
- 5. Candidates must not participate nor promote fraudulent exam-taking activities, such as:
  - Looking at another candidate's exam material or answer sheet
  - Giving or receiving any assistance from the invigilator, candidate, or anyone else
  - Using unauthorized reference guides, manuals, tools, etc., including using "brain dump" sites as they are not authorized by PECB

Once a candidate becomes aware or is already aware of the irregularities or violations of the points mentioned above, they are responsible for complying with those, otherwise if such irregularities were to happen, candidates will be reported directly to PECB or if they see such irregularities, they should immediately report to PECB.

Candidates are solely responsible for understanding and complying with PECB Exam Rules and Policies, Confidentiality and Non-Disclosure Agreement and Code of Ethics. Therefore, should a breach of one or more rules be identified, candidates will not receive any refunds. In addition, PECB has the right to deny the right to enter a PECB exam or to invite candidates for an exam retake if irregularities are identified during and after the grading process, depending on the severity of the case.

Any violation of the points mentioned above will cause PECB irreparable damage for which no monetary remedy can make up. Therefore, PECB can take the appropriate actions to remedy or prevent any unauthorized disclosure or misuse of exam materials, including obtaining an immediate injunction.

PECB will take action against individuals that violate the rules and policies, including permanently banning them from pursuing PECB credentials and revoking any previous ones. PECB will also pursue legal action against individuals or organizations who infringe upon its copyrights, proprietary rights, and intellectual property.

### **Exam results**

Exam results will be communicated via email.

- The time span for the communication starts from the exam date and lasts three to eight weeks for essay type exams and two to four weeks for multiple-choice paper-based exams.
- For online multiple-choice exams, candidates receive their results instantly.

Candidates who successfully complete the exam will be able to apply for one of the credentials of the respective certification scheme.

For candidates who fail the exam, a list of the domains where they have performed poorly will be added to the email to help them prepare better for a retake.

Candidates that disagree with the results may request a re-evaluation by writing to <u>examination.team@pecb.com</u> within 30 days of receiving the results. Re-evaluation requests received after 30 days will not be processed. If candidates do not agree with the results of the reevaluation, they have 30 days from the date they received the reevaluated exam results to file a complaint through the <u>PECB Ticketing System</u>. Any complaint received after 30 days will not be processed.

#### **Exam Retake Policy**

There is no limit to the number of times a candidate can retake an exam. However, there are certain limitations in terms of the time span between exam retakes.

If a candidate does not pass the exam on the 1st attempt, they must wait 15 days after the initial date of the exam for the next attempt (1st retake).

**Note:** Candidates who have completed the training course with one of our partners, and failed the first exam attempt, are eligible to retake for free the exam within a 12-month period from the date the coupon code is received (the fee paid for the training course, includes a first exam attempt and one retake). Otherwise, retake fees apply.

For candidates that fail the exam retake, PECB recommends they attend a training course in order to be better prepared for the exam.

To arrange exam retakes, based on exam format, candidates that have completed a training course, must follow the steps below:

- 1. Online Exam: when scheduling the exam retake, use initial coupon code to waive the fee
- 2. Paper-Based Exam: candidates need to contact the PECB Partner/Distributor who has initially organized the session for exam retake arrangement (date, time, place, costs).

Candidates that have not completed a training course with a partner, but sat for the online exam directly with PECB, do not fall under this Policy. The process to schedule the exam retake is the same as for the initial exam.

## SECTION III: CERTIFICATION PROCESS AND REQUIREMENTS

### PECB ISO/IEC 27001 credentials

All PECB certifications have specific requirements regarding education and professional experience. To determine which credential is right for you, take into account your professional needs and analyze the criteria for the certifications.

The credentials in the PECB ISO/IEC 27001 scheme have the following requirements:

Credential	Education	Exam	Professional experience	MS project experience	Other requirements	
PECB Certified ISO/IEC 27001 Provisional Implementer			None None		None	
PECB Certified ISO/IEC 27001 Implementer	ECB Certified   SO/IEC 27001   Implementer   At least   secondary   education   ECB Certified   SO/IEC 27001   ad Implementer   ECB Certified   SO/IEC 27001   ad Implementer   ECB Certified   SO/IEC 27001   ad Implementer   ECB Certified   SO/IEC 27001   Senior Lead		Two years: One year of work experience in information security management	Project activities: a total of 200 hours	Signing the	
PECB Certified ISO/IEC 27001 Lead Implementer			Five years: Two years of work experience in information security management	Project activities: a total of 300 hours	<u>PECB Code of</u> <u>Ethics</u>	
PECB Certified ISO/IEC 27001 Senior Lead Implementer			Ten years: Seven years of work experience in information security management	Project activities: a total of 1,000 hours		

To be considered valid, the implementation activities should follow best implementation and management practices and include the following:

- 1. Drafting ISMS implementation plans
- 2. Initiating ISMS implementation projects
- 3. Establishing policies, processes, and procedures
- 4. Setting objectives at relevant levels
- 5. Implementing the ISMS
- 6. Managing, monitoring, and maintaining the ISMS
- 7. Identifying and acting upon continual improvement opportunities

#### **Applying for certification**

All candidates who successfully pass the exam (or an equivalent accepted by PECB) are entitled to apply for the PECB credential they were assessed for. Specific educational and professional requirements need to be fulfilled in order to obtain a PECB certification. Candidates are required to fill out the online certification application form (that can be accessed via their PECB account), including contact details of individuals who will be contacted to validate the candidates' professional experience. Candidates can submit their application in English, French, German, Spanish or Korean languages. They can choose to either pay online or be billed. For additional information, please contact certification.team@pecb.com.

The online certification application process is very simple and takes only a few minutes:

- <u>Register</u> your account
- Check your email for the confirmation link
- <u>Log in</u> to apply for certification

For more information on how to apply for certification, click here.

The Certification Department validates that the candidate fulfills all the certification requirements regarding the respective credential. The candidate will receive an email about the application status, including the certification decision.

Following the approval of the application by the Certification Department, the candidate will be able to download the certificate and claim the corresponding Digital Badge. For more information about downloading the certificate, click <u>here</u>, and for more information about claiming the Digital Badge, click <u>here</u>.

PECB provides support both in English and French.

#### **Professional experience**

Candidates must provide complete and correct information regarding their professional experience, including job title(s), start and end date(s), job description(s), and more. Candidates are advised to summarize their previous or current assignments, providing sufficient details to describe the nature of the responsibilities for each job. More detailed information can be included in the résumé.

#### **Professional references**

For each application, two professional references are required. They must be from individuals who have worked with the candidate in a professional environment and can validate their information security management experience, as well as their current and previous work history. Professional references of persons who fall under the candidate's supervision or are their relatives are not valid.

#### **ISMS project experience**

The candidate's ISMS project log will be checked to ensure that the candidate has the required number of implementation hours.

#### **Evaluation of certification applications**

The Certification Department will evaluate each application to validate the candidates' eligibility for certification or certificate program. A candidate whose application is being reviewed will be notified in writing and, if necessary, given a reasonable time frame to provide any additional documentation. If a candidate does not respond by the deadline or does not provide the required documentation within the given time frame, the Certification Department will validate the application based on the initial information provided, which may lead to the candidates' credential downgrade.

## SECTION IV: CERTIFICATION POLICIES

#### **Denial of certification**

PECB can deny certification/certificate program if candidates:

- Falsify the application
- Violate the exam procedures
- Violate the PECB Code of Ethics

Candidates whose certification/certificate program has been denied can file a complaint through the complaints and appeals procedure. For more detailed information, refer to <u>Complaint and Appeal Policy</u> section.

The application payment for the certification/certificate program is nonrefundable.

#### **Certification status options**

#### Active

Means that your certification is in good standing and valid, and it is being maintained by fulfilling the PECB requirements regarding the CPD and AMF.

#### Suspended

PECB can temporarily suspend candidates' certification if they fail to meet the requirements. Other reasons for suspending certification include:

- PECB receives excessive or serious complaints by interested parties (suspension will be applied until the investigation has been completed.)
- The logos of PECB or accreditation bodies are willfully misused.
- The candidate fails to correct the misuse of a certification mark within the determined time by PECB.
- The certified individual has voluntarily requested a suspension.
- PECB deems appropriate other conditions for suspension of certification.

#### Revoked

PECB can revoke (that is, to withdraw) the certification if the candidate fails to satisfy its requirements. In such cases, candidates are no longer allowed to represent themselves as PECB Certified Professionals. Additional reasons for revoking certification can be if the candidates:

- Violate the PECB Code of Ethics
- Misrepresent and provide false information of the scope of certification
- Break any other PECB rules
- Any other reasons that PECB deems appropriate

Candidates whose certification has been revoked can file a complaint through the complaints and appeals procedure. For more detailed information, refer to <u>Complaint and Appeal Policy</u> section.

#### Other statuses

Besides being active, suspended, or revoked, a certification can be voluntarily withdrawn or designated as Emeritus. To learn more about these statuses and the permanent cessation status, go to <u>Certification Status Options</u>.

### Upgrade and downgrade of credentials

#### Upgrade of credentials

Professionals can upgrade their credentials as soon as they can demonstrate that they fulfill the requirements.

To apply for an upgrade, candidates need to log into their PECB account, visit the "My Certifications" tab, and click on "Upgrade." The upgrade application fee is \$100.

#### **Downgrade of credentials**

A PECB Certification can be downgraded to a lower credential due to the following reasons:

- The AMF has not been paid.
- The CPD hours have not been submitted.
- Insufficient CPD hours have been submitted.
- Evidence on CPD hours has not been submitted upon request.

*Note:* PECB certified professionals who hold Lead certifications and fail to provide evidence of certification maintenance requirements will have their credentials downgraded. The holders of Master Certifications who fail to submit CPDs and pay AMFs will have their certifications revoked.

#### **Renewing the certification**

PECB certifications are valid for three years. To maintain them, PECB certified professionals must meet the requirements related to the designated credential, e.g., they must fulfill the required number of continual professional development (CPD) hours. In addition, they need to pay the annual maintenance fee (\$120). For more information, go to the <u>Certification Maintenance</u> page on the PECB website.

#### **Closing a case**

If candidates do not apply for certification within one year, their case will be closed. Even though the certification period expires, candidates have the right to reopen their case. However, PECB will no longer be responsible for any changes regarding the conditions, standards, policies, and candidate handbook that were applicable before the case was closed. A candidate requesting their case to reopen must do so in writing to <u>certification.team@pecb.com</u> and pay the required fee.

#### **Complaint and Appeal Policy**

Any complaints must be made no later than 30 days after receiving the certification decision. PECB will provide a written response to the candidate within 30 working days after receiving the complaint. If candidates do not find the response satisfactory, they have the right to file an appeal.

For more information about the Complaint and Appeal Policy, click here.

## **SECTION V: GENERAL POLICIES**

### Exams and certifications from other accredited certification bodies

PECB accepts certifications and exams from other recognized accredited certification bodies. PECB will evaluate the requests through its equivalence process to decide whether the respective certification(s) or exam(s) can be accepted as equivalent to the respective PECB certification (e.g., ISO/IEC 27001 Lead Implementer certification).

#### Non-discrimination and special accommodations

All candidate applications will be evaluated objectively, regardless of the candidates' age, gender, race, religion, nationality, or marital status.

To ensure equal opportunities for all qualified persons, PECB will make reasonable accommodations<sup>3</sup> for candidates, when appropriate. If candidates need special accommodations because of a disability or a specific physical condition, they should inform the partner/distributor in order for them to make proper arrangements<sup>4</sup>. Any information that candidates provide regarding their disability/special needs will be treated with confidentiality. To download the Candidates with Disabilities Form, click <u>here</u>.

### **Behavior Policy**

PECB aims to provide top-quality, consistent, and accessible services for the benefit of its external stakeholders: distributors, partners, trainers, invigilators, examiners, members of different committees and advisory boards, and clients (trainees, examinees, certified individuals, and certificate holders), as well as creating and maintaining a positive work environment which ensures safety and well-being of its staff, and holds the dignity, respect and human rights of its staff in high regard.

The purpose of this Policy is to ensure that PECB is managing unacceptable behavior of external stakeholders towards PECB staff in an impartial, confidential, fair, and timely manner. To read the Behavior Policy, click <u>here</u>.

### **Refund Policy**

PECB will refund your payment, if the requirements of the Refund Policy are met. To read the Refund Policy, click <u>here</u>.

<sup>&</sup>lt;sup>3</sup> According to ADA, the term "reasonable accommodation" may include: (A) making existing facilities used by employees readily accessible to and usable by individuals with disabilities; and (B) job restructuring, part-time or modified work schedules, reassignment to a vacant position, acquisition or modification of equipment or devices, appropriate adjustment or modifications of examinations, training materials or policies, the provision of qualified readers or interpreters, and other similar accommodations for individuals with disabilities.

<sup>&</sup>lt;sup>4</sup> ADA Amendments Act of 2008 (P.L. 110–325) Sec. 12189. Examinations and courses. [Section 309]: Any person that offers examinations or courses related to applications, licensing, certification, or credentialing for secondary or post-secondary education, professional, or trade purposes shall offer such examinations or courses in a place and manner accessible to persons with disabilities or offer alternative accessible arrangements for such individuals.



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### **PECB Help Center**

Visit our Help Center to browse Frequently Asked Questions (FAQ), view manuals for using PECB website and applications, read documents related to PECB processes, or to contact us via Support Center's online tracking system.

www.pecb.com

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