

Shape the Future: Digital Transformation in Public and Private Sectors

with  pennademy

2022

AI-Centric Transformation and
Cybersecurity Risk Management
Training Modules

Courses



The training programme provides two important digital competencies required in the age of digitisation: **Artificial Intelligence** and **Cybersecurity**. The latter promotes competitiveness and ensures global technological edge, while the former covers vulnerabilities and ensures the smooth operation of organisations.

The training programme consists of two modules:

1. **AI-Centric Transformation**
2. **Cybersecurity Risk Management**

Each module will consist of 16 hours of training time, so a total of 32 hours for the entire training programme.

These modules are integral parts of a whole, **digital transformation**, though organisations can pick a stand-alone module according to their needs.

This training provides a holistic didactic programme through an innovative training platform, Pennademy, with a user-friendly and enhanced Learning Management System (LMS).





01 The training programme is intended for non-technical personnel:

- ✓ Directors & Senior Managers
- ✓ Managers
- ✓ Project/Program Managers
- ✓ Project Officers
- ✓ Functional and Business Analysts
- ✓ Solution Designers
- ✓ Enterprise and Domain Architects

02 The participants are not expected to have prior knowledge of neither AI nor Cybersecurity. This will not be technical training for IT experts, but for the non-technical personnel to:

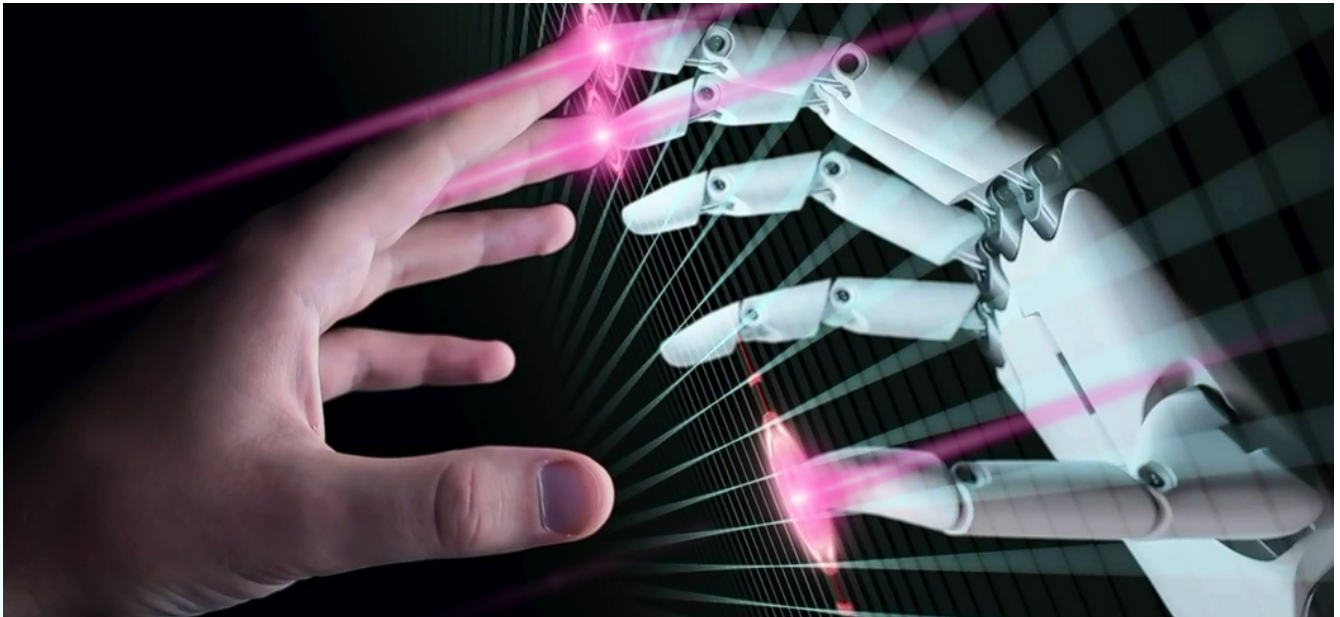
- ✓ Raise awareness about the opportunities and challenges of Cybersecurity and AI
- ✓ Acquire sufficient information and practical skills at the management level
- ✓ Watch out for ethical and legal considerations
- ✓ Lead the organisation in digital transformation
- ✓ Facilitate cooperation with IT experts

Pennademy Learning Management System (LMS)

Courses are hosted and managed by Pennademy, a mobile friendly and sophisticated Learning Management System. Following Pennademy features facilitates the learning process and empowers both the learners and instructors. LMS can provide learners with on-demand, additional hands-on practice opportunities. The LMS is GDPR compliant and provides the right to be forgotten.

- Descriptive welcome instructions facilitates orientation to the LMS.
- Advanced learning analytics and reporting features allow course admins follow every performance indicator, and detect any malfunctionality beforehand. Learners can also follow and evaluate their progress and achievements.
- Custom rating and learning path design for each participant based on individual learning progress.
- One-single platform supporting all kinds of learning activities, e.g., live sessions, online/self-pace modules and on-site learning activities.
- Course contents are enhanced with embedded AR/VR applications. During on-site sessions, these applications can also be used with VR headsets.
- Participants can easily follow course schedule and upcoming events through course web pages and add the events to their own calendar using one-click calendar integration function.
- Pennademy is designed in accordance with accessibility rules to enable all participants easily access all information. Examples include, subtitles, simple and consistent language, basic colours, etc.
- Through Pennademy discussion forums learners can build communities, interact with other and instructors; ask or answer questions, share knowledge or socialise.
- Gamification is an integral part of Pennademy LMS and designed to boost participation and engagement, attract attention and foster training. Many features are gamified. Examples include badges, course progress, learning path, custom rating, etc.
- Participants can extend their access the training materials on Pennademy even after the course ends.
- Learners can share their verified certifications on LinkedIn and social platforms.

AI-Centric Transformation (Module 1)



01 Introduction to Artificial Intelligence

a. Artificial Intelligence Basics

What is AI?	Live Online
History of AI	Live Online
3 Types of AI	Live Online
How does AI work?	Live Online
Do we really need artificial intelligence?	Live Online
Check Yourself	Quiz

b. The building block: Data

What is data?	Text + Infographics
Big Data	Pre-recorded video
Does AI need data?	Reading
Check Yourself	Quiz

c. AI Terminology

30 AI terms	Flashcards
Data Science	Pre-recorded video
Machine Learning	Pre-recorded video
Deep Learning	Pre-recorded video
Summary	Text
Check Yourself	Quiz
Hands-on	Practice

02 Applications of Artificial Intelligence

a. Leading AI Technologies

Speech Recognition	Reading
Virtual Agents	Reading
Machine Learning Platforms	Reading
Robotic Process Automation	Animated Video
Text Analytics and Natural Language Processing (NLP)	Pre-recorded video
Computer Vision	Animated Video
Check Yourself	Quiz

b. Real World Applications

Healthcare	Pre-recorded video
Automobile	Pre-recorded video
Banking and Finance	Reading
Social Media	Reading
Education	Reading
Robotics	Pre-recorded Video
E-Commerce	Reading
Check Yourself	Quiz

c. Quo Vadis: A Future Perspective

How will AI change the future?	Pre-recorded Video
Future trends of AI	Text + Infographics
Why is GPT-3 so powerful?	Text + Infographics
Summary	Reading
Check Yourself	Quiz
Hands-on	Practice
Assignment	Writing

03 Advantages, Challenges and Ethics

a. Advantages of AI Transformation

Effects on humans	Text + Infographics
Economic aspects	Pre-recorded video
Management	Animated Video
Check Yourself	Quiz

b. Challenges of AI Transformation

Negative Effects on Humans and Organizations	Text + Infographics
Economic Challenges	Text
Summary	Text
Check Yourself	Quiz

c. Ethical AI

What is ethical AI?	Pre-recorded video
Why is ethical AI important?	Text + Infographics
Do robots have rights too?	Pre-recorded video
Sample case studies of ethical AI	Text
Check Yourself	Quiz

d. Responsible (& Trustworthy) AI

What is Responsible AI?	Pre-recorded video
Key principles of Responsible AI	Text + Infographics
Summary	Text
Check Yourself	Quiz
Hands-on	Practice

04 Leading the Organisation into the AI Era

a. Paradigm Shift: AI-Centric Transformation

What is AI-Centric Transformation?	Pre-recorded video
Digital Transformation vs. AI-Centric Transformation	Pre-recorded video
Why is AI transformation now?	Text + Infographics
Check Yourself	Quiz

b. AI Strategy

What is AI strategy?	Pre-recorded video
AI strategy and change management	Text + Infographics
AI strategy and data strategy	Text + Infographics
How can you assess the competitive environment when it comes to AI?	Text
7 steps for designing an AI roadmap	Text + Infographics
Why do AI initiatives fail?	Pre-recorded video
Summary	Text
Check Yourself	Quiz

c. Organization and People

How do you drive an AI culture?	Pre-recorded video
Evolving the organization towards implementing AI	Text
The role of executive sponsorship	Pre-recorded video
The role of business stakeholders	Pre-recorded video
Who is data leader?	Text
AI team skills	Text
How do you hire and retain AI talent?	Text + Infographics
What are the key considerations for C-suite executives?	Pre-recorded video
Summary	Text
Check Yourself	Quiz
Assignment	Writing Assignment

05 Implementation of AI (DDDM)

a. Design and Development

Set up an AI implementation	Pre-recorded video
Data source	Pre-recorded video
Data quality	Pre-recorded video
Data governance	Text
Data storage	Text
Choose from AI model types	Text + Infographics
Train and test the AI model	Text
Choose the right vendors and partners	Text
Summary	Text
Check Yourself	Quiz

b. Deployment and Monitoring

Deployment	Text + Infographics
Why do you need ongoing monitoring?	Text + Infographics
Measure the value of AI model	Text
When should you retire a model?	Pre-recorded video
AI success stories	Text
Summary	Text
Check Yourself	Quiz

06 AI-Centric Transformation Playbook (Workshop)

Take the first step	Onsite
Build an in-house AI team	Onsite
Spread AI training throughout the company	Onsite
Develop an AI strategy	Onsite
Develop internal and external communications	Onsite

Cybersecurity Risk Management (Module 2)



01 Introduction: Cybersecurity as a Major Risk

a. Introduction to Cybersecurity

Why is cybersecurity important?	Text
Cybersecurity Statistics	Text + Infographics
Major Cybersecurity Incidents	Animated Video
Impacts of Cyber Incidents	Pre-recorded video
Check yourself	Quiz

b. CIA Triad

Confidentiality, Integrity and Availability	Animated Video
Check Yourself	Quiz

c. Cybersecurity Terminology

Risk, Vulnerability, Threat	Pre-recorded video
Cyber-related terms	Flash cards
Authentication, Authorization, Accounting (AAA)	Text
Attack Vector & Attack Surface	Pre-recorded video
Data Breach	Infographics
Layered Defence and Defence in Depth Approach	Infographics
Zero Trust Policy	Animated Video
Threat Hunting	Text
Check Yourself	Quiz

02 Cyber Threats, Actors, Methodologies and Vulnerabilities

a. Cyber Threat Actors

Attacker Types and motivations	Text
Check Yourself	Quiz

b. Attack Methodologies

Cyber Kill Chain	Animated Video
Advance Persistent Threat (APT)	Infographics
MITRE ATT&CK Framework	Pre-recorded Video
Check Yourself	Quiz

c. Vulnerabilities & Common Attacks

Cyber Threat Landscape	Text
Ransomware	Pre-recorded Video
Social Engineering attacks	Animated Video
Zero-day attacks	Infographics
DDoS attacks	Text
Supply Chain Attacks	Pre-recorded Video
Check Yourself	Quiz

d. Vulnerability Management

Importance of Vulnerability Management	Infographics
PDCA (Plan-Do-Check-Act)	Pre-recorded Video
Check Yourself	Quiz

03 Asset Management

a. Asset Management: Information Resources

IT asset management (ITAM)	Text
Hardware Asset Management (HAM)	Text
Software Asset Management (SAM)	Pre-recorded Video
Cloud Asset Management (CAM)	Text
Check Yourself	Quiz

b. Security Devices & Tools

Identity and Systems Management (IAM)	Animated Video
Endpoint Security Management (EDR)	Pre-recorded Video
Data Loss Prevention (DLP)	Text
Firewall	Infographics
IDS & IPS	Infographics
Security Information and Event Management (SIEM)	Pre-recorded Video
Importance of SIEM for Security Operations Centre (SOC)	Text
Check Yourself	Quiz

c. Business Continuity and Disaster Recovery Strategy

Business Continuity Plan	Pre-recorded Video
Disaster Recovery Plan	Pre-recorded Video
BCDR Strategy	Text
Business Impact Analysis (BIA) and BCDR	Text
Check Yourself	Quiz

04 Managing Cyber Risks and Leadership

a. Cyber Leadership

Cyber Leadership Skills	Pre-recorded Video
Cybersecurity Leadership Principles in Post-COVID	Text
Check Yourself	Quiz

b. Risk Management Process

Identify	Live Online
Evaluate	Live Online
Treat	Live Online
Monitor and Report	Live Online
Check Yourself	Quiz

c. Cybersecurity Risk Assessment

Calculating Risk (Qualitative & Quantitative)	Live Online
Third-party security risk assessment	Live Online
Check Yourself	Quiz

d. Mitigation Strategy

Continuous Security Monitoring (CSM)	Text
Employee Security awareness Management	Pre-recorded Video
Key Points in Awareness Training	Text
Multi-factor authentication	Animated Video
Data backup	Infographics
Internal security auditing	Pre-recorded Video
Cybersecurity policies	Pre-recorded Video
Check Yourself	Quiz

05 Cyber (Incident) Response Readiness & Resilience

a. Incident Response Phases

Preparation	Pre-recorded Video
Detection & Analysis	Pre-recorded Video
Containment, Eradication & Recovery	Pre-recorded Video
Post-Incident Activity	Pre-recorded Video
How to prepare an Incident Response Plan	Pre-recorded Video
Incident Response	AR/VR
Exam	Quiz

b. Security Information and Event Management (SIEM)

Role of SIEM In Incident Response	Text
Check Yourself	Quiz

c. Organizational Preparedness Self-Assessment

Explanation of Assessment	Text
Performing Assessment	Assignment

06 Cybersecurity Standards, Frameworks & Compliance

a. Cybersecurity Standards & Frameworks

NIST Cybersecurity Framework (CSF)	Infographics
PCI DSS	Text
ISO 27001	Pre-recorded Video
Check Yourself	Quiz

b. Cybersecurity Standards & Frameworks

EU Cybersecurity Act & ENISA	Text
Check Yourself	Quiz

b. Cybersecurity Standards & Frameworks

What is GDPR?	Text
Personal and Sensitive Data	Infographics
Principals of Data processing	Pre-recorded Video
Controller, Processor, Supervisory Authorities, DPO	Animated Video
Responsibility & Accountability	Pre-recorded Video
Sanctions	Text
Check Yourself	Quiz

07 Developing a Cybersecurity Mitigation Strategy (Workshop)

Assume and accept risk	Onsite
Avoidance of risk	Onsite
Controlling risk	Onsite
Transference of risk	Onsite
Watch and monitor risk	Onsite

Training Programme Partners



HORIZON GLOBAL ACADEMY

Horizon Global Academy (HGA), as a sound voice on issues related to the private, public, and social sectors, offers world-class training and consultancy on a variety of subjects through a unique combination of high-end services including lectures, training of trainers, workshops, case studies, and table-top exercises.

HGA helps clients transform their organisations, core processes and mind-sets; build capabilities in an ever-changing context; and develop excellence in execution to ensure that actions translate into results, quickly and sustainably.



PENNASOFT

Pennasoft is experienced in providing turnkey, easy to set up, use and maintain IT services to solve different types of business problems and discover new avenues to success. Its quality-driven work and exceptional customer experience results are key indicators of success. Pennasoft's specialties include providing technology-enabled automation of complex business processes by leveraging BPMN 2.0 standards, enabling organizations from non-tech industries - including training delivery - to streamline their business for simplicity, achieve digital transformation, and increase service quality.

In addition, Pennasoft has expertise in developing complex AI-driven projects, geospatial analytics applications, and designing, developing and deploying fully customizable, scalable and mobile-friendly web portal solutions all of which will add value to the integration and implementation of advanced training content that includes AI, VR/AR applications.

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