

TRAINING PROGRAMME

Emerging Technologies for IT Professionals in a Day

A friendly, jargon-free introduction to the technologies changing IT today, and how to decide which ones are right for your organisation.

About This Training

New technologies arrive quickly, and it can be hard to know where to start. This training explains the most important ones in simple language: cloud, artificial intelligence, generative AI, connected devices, blockchain and security. You will see real examples, try short hands-on activities, and learn a simple way to judge whether a new technology is worth adopting.

No technical background in these areas is needed. If you can use a computer and a web browser, you are ready.

Who Should Attend

IT professionals, IT managers, solution architects, technology strategists and digital transformation leads who are new to these topics.

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Learning Objectives

By the end of the training, you will be able to:

- Explain what makes a technology “emerging” and how new technologies spread
- Describe why organisations go through digital transformation
- Tell the difference between the main cloud service and deployment options
- Explain in simple words what AI and machine learning are and where they are used
- Write clear prompts for generative AI tools and workplace assistants
- Describe what AI agents and automation can do, and use AI responsibly
- Explain how IoT, edge computing, 5G and blockchain are used in business
- Describe the basics of modern cybersecurity, including Zero Trust
- Judge a new technology, outline a simple business case and plan your next learning steps

Training at a Glance

#	Module	Hands-on / Interactive Element
1	The Technology Landscape and Digital Transformation	Discussion: technologies in your own organisation
2	Cloud Computing Essentials	Quick exercise: match scenarios to cloud models
3	Artificial Intelligence and Machine Learning Basics	Hands-on: exploring a no-code ML tool
4	Generative AI, AI Agents and Responsible AI	Hands-on: writing and improving prompts
5	Connected Technologies and Modern Security	Activity: spot the use case
6	Adopting Technology and Building a Future-Ready Career	Group activity: technology adoption roadmap

What Participants Receive

- Course material covering every module
- Hands-on exercises and group activities
- Delivery by an experienced instructor
- Certificate of completion

Module 1: The Technology Landscape and Digital Transformation

Start by understanding what “emerging” means, why some technologies catch on while others fade, and how technology is changing businesses and IT jobs.

In Plain Words

An emerging technology is like a new shop that has just opened in town. It looks exciting, but you wait to see whether it is reliable before you rely on it every day.

What We Will Cover

- **What makes a technology “emerging”** – it is new, still developing, and could have a big impact, but nobody is sure yet how well it will work
- **How technologies spread** – a few people try something first, then more join, until it becomes normal; this is called the adoption lifecycle
- **Impact on IT roles and skills** – some routine tasks are becoming automated, while skills like working with data and cloud are in higher demand
- **Why organisations go digital** – customers expect easy online services, competitors are moving fast, and data can help with better decisions
- **New business models** – subscriptions, pay-as-you-use services, online marketplaces and products built around data
- **Case studies from real enterprises** – short examples of organisations that modernised how they serve customers

Key Takeaways

- Emerging technologies offer big potential but also uncertainty, so they need careful evaluation
- Digital transformation is about changing how a business works, not just buying new tools
- IT roles are changing, so steady learning is now part of the job

Discussion Activity

In small groups, list three technologies your organisation uses today that were “new” a few years ago. Talk about why each one was adopted.

Module 2: Cloud Computing Essentials

Cloud is the base that most other new technologies run on. This module explains the main options in everyday language.

In Plain Words

Think of housing. Renting an empty plot (IaaS), renting a ready-built shell you decorate yourself (PaaS) and staying in a fully furnished hotel room (SaaS) differ in how much you manage yourself.

What We Will Cover

- **IaaS, PaaS and SaaS** – the three service models, and what you manage compared with what the provider manages
- **Public, private, hybrid and multi-cloud** – where your systems run and why organisations choose one option or a mix
- **Serverless and cloud-native** – a simple first look at running applications without looking after servers

Key Takeaways

- IaaS gives you the building blocks, PaaS gives you a place to build, and SaaS gives you a finished product
- Many organisations mix cloud types to balance cost, control and rules they must follow
- Serverless helps teams release features faster and scale automatically

Quick Exercise

Read four short business scenarios, such as a start-up launching an app and a bank with strict data rules. Choose the best cloud model for each and explain why.

Module 3: Artificial Intelligence and Machine Learning Basics

Build a clear picture of what AI and machine learning are, how they learn and where businesses already use them.

In Plain Words

Machine learning is like teaching a child to recognise fruit by showing many examples. After enough examples, the child can name a fruit they have never seen before.

What We Will Cover

- **What AI and machine learning are** – how they differ, and how a model learns from examples to make predictions
- **Types of learning, simply explained** – learning from labelled examples, and finding hidden groups in data
- **Everyday business uses** – customer support, spotting fraud, forecasting demand, recommendations and reading documents
- **Why data quality matters** – poor or unfair data leads to poor or unfair results

Key Takeaways

- Machine learning finds patterns in data, so better data gives better results
- Most business AI today solves one specific problem well
- You do not need to code to start exploring machine learning

Hands-on: Exploring a No-Code ML Tool

Load a small sample dataset into a no-code machine learning tool, train a simple model and look at its predictions. Discuss where it was right, where it was wrong and why.

Module 4: Generative AI, AI Agents and Responsible AI

Generative AI is one of the fastest-moving areas in technology. Learn how it works, how to get good results and how to use it safely.

In Plain Words

A large language model is like a very well-read assistant who has read a huge library but sometimes remembers things wrongly. Clear instructions help, and you should always double-check important facts.

What We Will Cover

- **How generative AI works** – it learns patterns from large amounts of text, images or code and uses them to create new content
- **Prompting basics** – a good prompt says who the AI should act as, what to do, the background, and how the answer should look
- **AI assistants and copilots at work** – drafting, summarising and analysing, with a person always reviewing the result
- **AI agents** – AI that can plan several steps and use tools to finish a goal, not just answer one question
- **Process automation** – letting software handle repetitive, rule-based tasks, with AI added for harder ones
- **Responsible AI** – fairness, privacy, honesty about AI use, checking accuracy and keeping a human in charge

Key Takeaways

- Specific prompts give better answers than vague ones
- AI can sound confident and still be wrong, so verify anything important
- Agents and automation save time but need clear limits and human oversight
- Never put confidential or personal data into tools your organisation has not approved

Hands-on: Prompt Practice

Write a simple prompt for a work task, such as summarising a meeting. Improve it step by step by adding a role, background, limits and format, then compare the results. Finish by choosing one task in your own job that an AI assistant could help with.

Module 5: Connected Technologies and Modern Security

See how connected devices, fast networks and shared records work in practice, and why security matters for all of them.

In Plain Words

IoT devices are the “senses” that collect information, edge computing is the quick reflex close by, and the cloud is the brain that stores and thinks things through. Security is the lock on every door.

What We Will Cover

- **Internet of Things (IoT)** – everyday devices with sensors that send data; examples from factories, shops and smart cities; common challenges
- **Edge computing and 5G** – processing data near where it is created for speed, and how 5G helps with fast, reliable connections
- **Blockchain basics** – a shared record that is very hard to alter, where it helps in business, and common myths
- **Today’s security threats** – phishing, ransomware and attacks through suppliers
- **Zero Trust** – the idea of “never trust, always verify” for every user and device
- **AI in security** – how AI helps defenders spot threats, and how attackers use it too

Key Takeaways

- IoT collects data, edge acts on it quickly and the cloud analyses it at scale
- Blockchain suits situations where several parties need one trusted record, but it is not the answer to every problem
- Zero Trust means no user or device is trusted automatically

Activity: Spot the Use Case

Read short scenarios, such as a factory monitoring machines, a shop tracking stock and a supplier proving where a product came from. Decide which technology fits and what security points to consider.

Other Technologies at a Glance

Technology	What it is and why it matters
Big data and analytics	Tools that handle large amounts of data so organisations can make faster, evidence-based decisions.
DevOps and containers	Teams build and release software together and more often; containers package an app so it runs the same everywhere.
Quantum computing	A new kind of computer that may solve some very hard problems quickly; still early, but worth watching.
Extended reality and digital twins	AR and VR for training and design; a digital twin is a virtual copy of a real asset used for testing.
Sustainable IT	Energy-efficient data centres and green practices lower both cost and environmental impact.

Module 6: Adopting Technology and Building a Future-Ready Career

Knowing about technology is only the first step. Learn how to decide what is worth adopting, manage the risks and plan your own growth.

In Plain Words

Adopting technology is like buying a vehicle. First decide where you need to go, then choose what fits your journey, and try it on a short trip before committing.

What We Will Cover

- **Business value and readiness** – what problem it solves, who benefits, and whether your people, data and systems are ready
- **Building a business case** – costs, benefits and risks, ideally starting with a small pilot
- **Managing risk and change** – start small, involve people early and help them adjust
- **Data privacy** – handling personal and sensitive information properly
- **Technology and AI governance** – simple rules, roles and reviews that keep adoption safe and accountable
- **Skills and continuous learning** – which skills are in demand and easy habits for learning regularly

Key Takeaways

- Start with the business problem, not the technology
- Pilot small, measure results and grow what works
- Privacy and governance belong at the start, not at the end
- A personal learning plan keeps your skills current

Group Activity: Technology Adoption Roadmap

In groups, pick a technology from the training and a realistic organisation. Create a simple roadmap covering the problem, expected value, readiness, risks, a pilot plan and governance points.

Each group presents its roadmap and receives feedback. Finish with key takeaways and your own next steps.

Key Terms in Plain Words

Term	Simple meaning
Cloud	Using computing power and storage over the internet instead of owning the equipment yourself.
AI (artificial intelligence)	Computer systems that do tasks that normally need human thinking.
Machine learning	A way for computers to learn patterns from examples instead of being given every rule.
Generative AI	AI that creates new content such as text, images or code.
LLM (large language model)	The type of AI behind many chat assistants; it works with language.
Prompt	The instruction or question you give to an AI tool.
AI agent	AI that can plan steps and use tools to complete a goal.
IoT	Everyday devices with sensors that connect to the internet and share data.
Edge computing	Processing data close to where it is created, rather than far away.
5G	The latest mobile network generation, with faster speeds and quicker response.
Blockchain	A shared digital record that is very hard to change once written.
Zero Trust	A security approach that checks every user and device every time.
DevOps	Development and operations teams working together to release software faster.
Digital twin	A virtual copy of a real object or process used for testing and monitoring.