Unit 5 · Data and cybersecurity

In a city-builder game you never steer the city by looking at the buildings. You switch on the **info views**: the traffic overlay, the pollution map, the happiness bars. Those overlays are **data**, and without them you are flying blind. But a city with great overlays and no police, no walls and no locks on the doors will not last long either. This unit is about both halves: what data are worth to a company, how they live and die, how to get answers out of them, where to keep them safe, and which laws say how they must be protected.

Every session is hands-on. You will download a real open dataset and take it from a question to a chart, design a backup plan, run a **passive** security check of a real public website, and decide which data-protection and cybersecurity laws apply to your project company. Everything feeds **Deliverable 5**.

What you will learn

- Tell **data** from **information**, and follow one dataset of your company through its **lifecycle**, from capture to deletion
- Explain what makes something **big data** (the V's) and how big data, data analysis, machine learning, deep learning and AI fit together
- Follow the stages of **data science** on a real open dataset, from a question to a chart and a conclusion
- Choose where a company keeps its data in the **cloud** and design a **3-2-1** backup plan
- Run a **passive** security check of a public website: security headers, cookies before consent, privacy policy
- Decide whether the **RGPD**, the **LOPDGDD** and **NIS2** apply to a company, and why

Lessons

#	Lesson	What it covers
1	Data, information and lifecycle	Data vs information, the six stages of the data lifecycle, reading a real privacy policy
2	Big data	The five V's, structured and unstructured data, big data vs data analysis vs ML vs AI
3	Data science and the cloud	The stages of data science on a real Ibestat dataset, cloud storage, the 3-2-1 backup rule
4	Cybersecurity and regulation	Confidentiality, integrity, availability; device, system and global levels; a passive website audit; RGPD, LOPDGDD and NIS2
5	Deliverable 5 · Data and security brief	The brief, the sections, the rubric and the individual defence