# Unit 1 · Digitalisation and IT/OT

Picture a city-builder game such as *Cities: Skylines*. Your city has two halves. One half physically **works**: the water plant, the power station, the traffic lights, the factories. The other half **keeps the records**: the city hall with its registers, taxes, permits and the service desk for citizens. A real company is the same kind of city. In this unit you learn to see both halves, the office side called **IT** and the operational side called **OT**, and to understand why the most interesting work happens in the pipes that connect them.

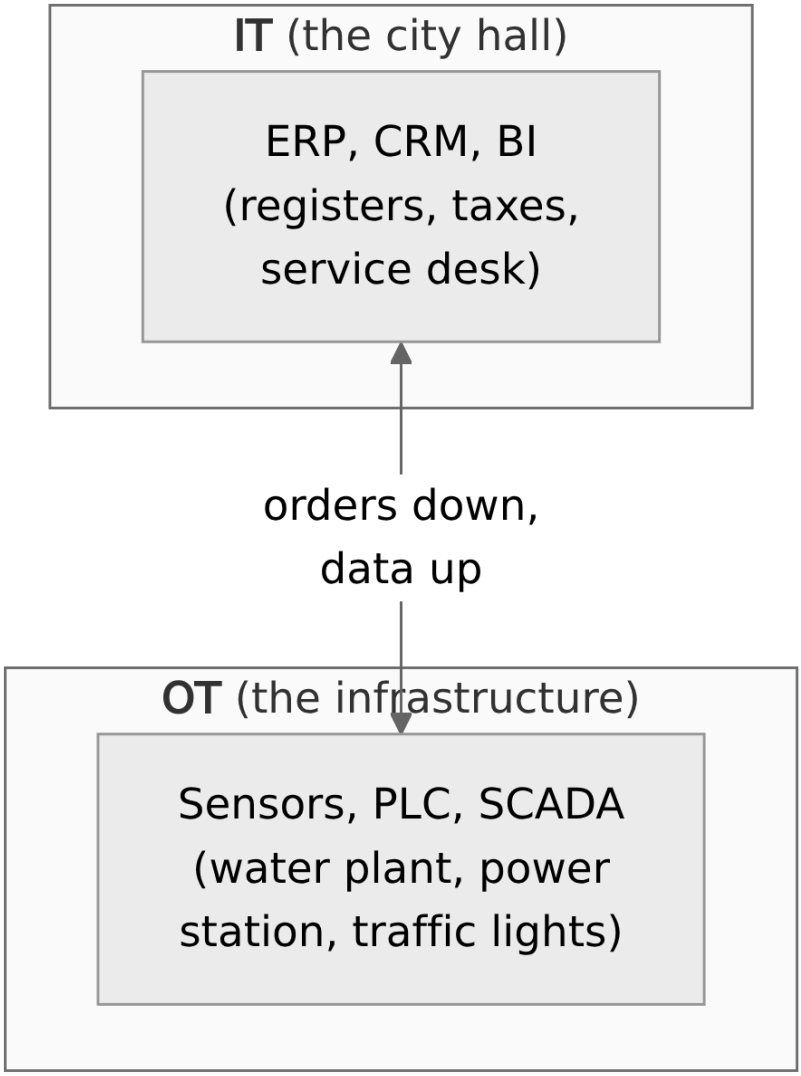
**What you will learn**

- Tell **digitisation**, **digitalisation** and **digital transformation** apart, and avoid the trap of thinking that digitalising means buying computers
- Explain how digital technology changes the way a company is **organised**
- Name the typical **departments** of a company and the IT systems each one uses (**ERP**, **CRM** and others)
- Compare **IT** and **OT**: their differences and, just as important, their similarities
- Place the plant technologies (sensors, PLC, SCADA, MES) on the **automation pyramid**, and choose the right plant and business technologies for a real company
- Explain why connecting IT and OT matters, what it costs, and what an **end-to-end** digital company gains

The arrow in the middle is the whole unit. Lessons 1 and 2 are about the two boxes; lesson 3 is about the arrow.

## Lessons

| # | Lesson | What it covers |
|---|---|---|
| 1 | What is digitalisation | Digitisation, digitalisation and digital transformation; how they change a company; IT and OT for the first time |
| 2 | Industry 4.0 and IT systems | The four industrial revolutions; departments, ERP and CRM; IT and OT in depth |
| 3 | Plant, business and IT–OT | The automation pyramid with a real plant in Mallorca, business technologies, connecting IT and OT, end-to-end digitalisation |
| 4 | Deliverable 1 · IT/OT X-ray | What you hand in, who writes what, how it is assessed, the defence |


IT (the city hall)
ERP, CRM, BI (registers, taxes, service desk)
orders down, data up
OT (the infrastructure)
Sensors, PLC, SCADA (water plant, power station, traffic lights)