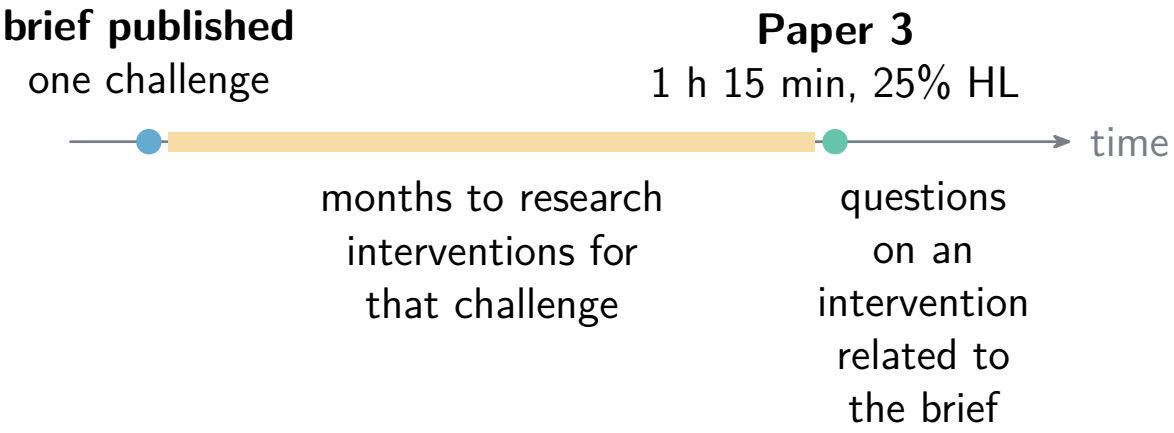
Exercise walk-through

4.2
HL: Paper 3 practice

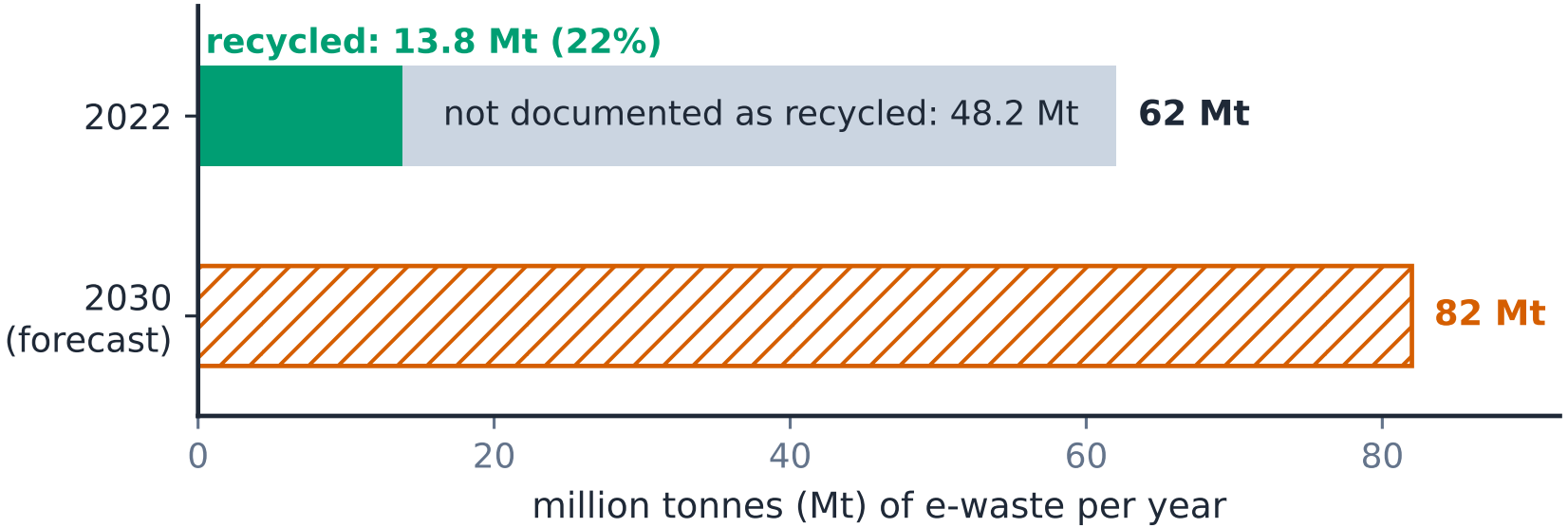
International Baccalaureate · IB Diploma · Digital Society · HL

Figure: HL challenges and interventions



- Paper 3 starts months before the exam.
- Match each part of the diagram to the text.

Figure: The three challenges



- **E-waste** is growing faster than recycling: most of it is not documented as recycled.
- Read the axes and units first.

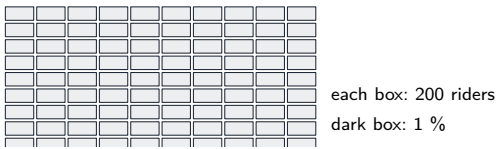
Sources for this lesson

- International Baccalaureate, *Digital Society guide* (first assessment 2024), the **HL extension** and the specimen Paper 3.
- National Press and Publication Administration of China, notice on preventing minors' addiction to online games (30 August 2021).
- European Union, ***General Data Protection Regulation*** (Regulation 2016/679, in force 2018) and the common charger directive (Directive 2022/2380).

Exercises 2.1·2.2

2.1 Identify **two** stakeholders in the case and the interest of each. [2]

2.2 20,000 passengers ride each day. The system wrongly flags 1 % of innocent passengers. Assuming nearly all passengers are innocent, calculate the false alerts per day, and explain why the "95 % accurate" claim is not enough to judge the system. [3]



Exercises 2.1·2.2

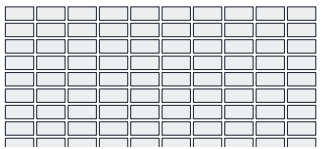
2.1 Identify **two** stakeholders in the case and the interest of each. [2]

2.1

any two with an interest: drivers: safety at work; passengers: privacy and fair treatment; council: safety, fare income, public support; supplier: selling the system; civil-liberties group: protecting rights

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2.2 20,000 passengers ride each day. The system wrongly flags 1 % of innocent passengers. Assuming nearly all passengers are innocent, calculate the false alerts per day, and explain why the "95 % accurate" claim is not enough to judge the system. [3]



2.2

$20\,000 \times 0.01 = \mathbf{200}$ false alerts per day; "accuracy" does not say how many false alerts or for which groups errors are higher; it comes from the supplier, which has an interest in selling the system

Exercises 2.3·2.4

2.3 Explain **two** ways the council could reduce the risks to privacy if it uses the cameras. [4]

2.4 Compare **two** interventions for driver safety: AI cameras, and more staff on buses at night. [6]

Exercises 2.3·2.4

2.3 Explain **two** ways the council could reduce the risks to privacy if it uses the cameras. [4]

2.3

any two, explained: delete footage after a short time unless an incident is reported; no sharing with police without a warrant; an independent audit of error rates for different groups; clear signs and public consultation before use

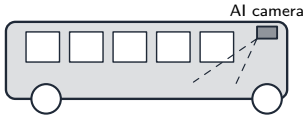
2.4 Compare **two** interventions for driver safety: AI cameras, and more staff on buses at night. [6]

2.4

AI cameras: cover all buses, all day; lower running cost; risks: privacy, false alerts, bias; more staff: a human presence can prevent attacks and help passengers; cost: high and continuing; limited to some routes; comparison on effectiveness and fairness; a judgement, e.g. staff on the riskiest routes plus simple cameras without AI

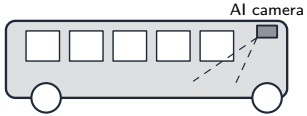
Exercise 3.1

3.1 *(Paper 3 style.)* Recommend whether the city council should introduce the AI cameras. Justify your recommendation with reference to the case, the HL extension and **one** real-world example. [15]



Exercise 3.1

3.1 *(Paper 3 style.)* Recommend whether the city council should introduce the AI cameras. Justify your recommendation with reference to the case, the HL extension and **one** real-world example. [15]



3.1

Mark with the markbands: [13-15] clearly focused on the question, accurate and relevant knowledge and real-world examples used as evidence, concepts applied, well-developed critical analysis, different perspectives evaluated, a reasoned conclusion; [10-12] focused, mostly accurate knowledge, analysis with some evaluation; [7-9] some focus, relevant knowledge, mostly narrative or description with limited analysis; [4-6] little focus, limited knowledge, mostly narrative; [1-3] little understanding of the question. Points that may be included: the challenge stated clearly: safety and fare loss against privacy and fairness; stakeholders and their interests; analysis of the accuracy claim and false alerts (200 a day in the worked case); risks: bias, data sharing, lack of consultation; benefits: driver safety, evidence for incidents; alternatives evaluated: staff, simple cameras, data rules; a real-world example, e.g. a city that banned or limited facial recognition (San Francisco, 2019), or the EU AI Act's limits on real-time biometric identification in public spaces; criteria used: effectiveness, fairness, feasibility; a clear, justified recommendation; conditions or safeguards attached to the recommendation