

## 8

## Old and new

## 8.1 The Internet of Things

GOALS ■ Talk about smart technology ■ Use relative clauses



## Vocabulary &amp; Listening smart technology

1a Work in small groups and discuss the questions.

- 1 How would your life be different without the internet?
- 2 What, in your view, is the best thing about the internet? What is the worst thing?

b Look at the picture above and discuss the questions with a partner.

- 1 Have you heard of the Internet of Things? If so, how would you explain it? If not, what do you think it means?
- 2 Why do you think it is happening now?

2 8.1 ))) Listen to the first part of a radio interview with a technology expert and check your answers to exercise 1b.

3a 8.2 ))) Listen to the next part of the interview. Tick the topics that are mentioned.

- business investment opportunities
- devices in the home
- health and fitness
- cars
- animals
- trees

b 8.2 ))) With a partner, make notes about how the people below could benefit from IoT. Listen again and check.

- a car owners    b farmers    c people with diabetes

4a In the last part of the interview the disadvantages of IoT are discussed. What do you think the presenter and technology expert will talk about? Discuss with a partner.

b 8.3 ))) Listen and check your predictions. Make notes on the details you hear.

5 How do you feel about the Internet of Things? Do you think the benefits are greater than the risks? Why/Why not?

6 Complete each group of collocations with a noun from the box.

broadband data device fault privacy security technology

- 1 hack a \_\_\_\_\_ / control a \_\_\_\_\_ remotely / a smart \_\_\_\_\_ / an internet-connected \_\_\_\_\_
- 2 personal \_\_\_\_\_ / send and receive \_\_\_\_\_ / access \_\_\_\_\_ / protect \_\_\_\_\_
- 3 high-speed \_\_\_\_\_ / install \_\_\_\_\_ / wireless \_\_\_\_\_
- 4 high \_\_\_\_\_ / a threat to \_\_\_\_\_ / a \_\_\_\_\_ issue / \_\_\_\_\_
- 5 a technical \_\_\_\_\_ / develop a \_\_\_\_\_
- 6 advances in \_\_\_\_\_ / the latest \_\_\_\_\_
- 7 protect your \_\_\_\_\_ / respect someone's \_\_\_\_\_ / a threat to \_\_\_\_\_

7 Work in groups and discuss the questions.

- 1 How many handheld smart devices (e.g. smartphone, tablet) do you own? Which do you use most? Why?
- 2 Do you have a broadband connection in your home? How fast and reliable is it?
- 3 Has your computer or any other device you own ever been hacked?
- 4 How do you feel about companies using your personal data to advertise their products to you?
- 5 Have you read any news stories about internet-based security attacks?

## Grammar & Speaking relative clauses

- 8 Read the information about identifying and non-identifying relative clauses. Then, with a partner, look at sentences 1–6 from the listening in exercises 2 and 3 and decide if the relative clauses (underlined) are identifying or non-identifying. Write *IR* or *NIR*.

*An identifying relative clause tells us which person, thing or place you are talking about. The sentence makes no sense without it.*

*A non-identifying relative clause gives extra, non-essential information. The sentence makes sense without it.*

- 1 It's a phrase we hear a lot nowadays ...
  - 2 My guest on today's programme is Duncan Bates, whose award-winning blog covers the latest news in the world of technology.
  - 3 IoT is the technology that allows any physical object ... to communicate with other objects ...
  - 4 ... IoT is an area in which huge amounts of money are being invested ...
  - 5 ... you could have a ... car whose inbuilt computer could go online when it develops a fault ...
  - 6 The pump, which is attached to your body, monitors the insulin levels in your blood.
- 9 Study the relative clauses in exercise 8, then match sentences 1–6 to rules a–e in the Grammar focus box. One sentence matches to more than one rule.

### GRAMMAR FOCUS identifying and non-identifying relative clauses

- In identifying relative clauses:
  - a you can use *that* instead of *who* or *which*, e.g. \_\_\_\_\_.
  - b you can leave out the relative pronoun when it is the object of the relative clause, e.g. \_\_\_\_\_.
- In non-identifying relative clauses:
  - c use commas to separate the clause from the rest of a sentence, e.g. \_\_\_\_\_ and \_\_\_\_\_.
  - d *Whose* is used in both types of relative clause to talk about possession, e.g. \_\_\_\_\_ and \_\_\_\_\_.
  - e Prepositions can come before their relative pronoun in formal English. Prepositions are followed by *which*, not *that*, for things, e.g. \_\_\_\_\_.  
In informal English the preposition comes at the end of the sentence.  
*IoT is an area I'm interested in.*

→ Grammar Reference page 150

- 10a Complete the sentences with *who*, *whose* or *which*.

- 1 What we really need is a smoke detector \_\_\_\_\_ knows the difference between burning toast and a real fire.
- 2 Do you know anyone \_\_\_\_\_ has a smart fridge?
- 3 I don't like the idea of living in a world in \_\_\_\_\_ everything \_\_\_\_\_ I do is monitored.
- 4 I have a smart coffee machine, \_\_\_\_\_ is connected to my alarm, \_\_\_\_\_ means my coffee is ready as soon as I wake up.
- 5 Songdo, \_\_\_\_\_ is a 'smart city' in South Korea, has 60,000 residents \_\_\_\_\_ homes all have ultra high-speed broadband.
- 6 A Japanese company has recently introduced a smart toilet \_\_\_\_\_ you can control using a smartphone app.

- b With a partner, decide which of the relative pronouns in exercise 10a can be replaced with *that*.
- c Which pronouns can be omitted completely?

### PRONUNCIATION pauses in relative clauses

- 11a 8.4 ))) Listen to the sentences. Notice how the commas affect the pronunciation.

Identifying: *Cars which are internet-connected can book themselves in for a service.*

Non-identifying: *My car, which is internet-connected, can book itself in for a service.*

- b 8.5 ))) Listen and write five more sentences, then insert the commas.
- c Read aloud the sentences in exercise 11b. Pay attention to the pronunciation of the relative clauses.

- 12 **TASK** You are going to discuss the benefits and potential risks of some internet-connected things. Student A, turn to page 129. Student B, turn to page 134.

### ▶ VOX POPS VIDEO 8