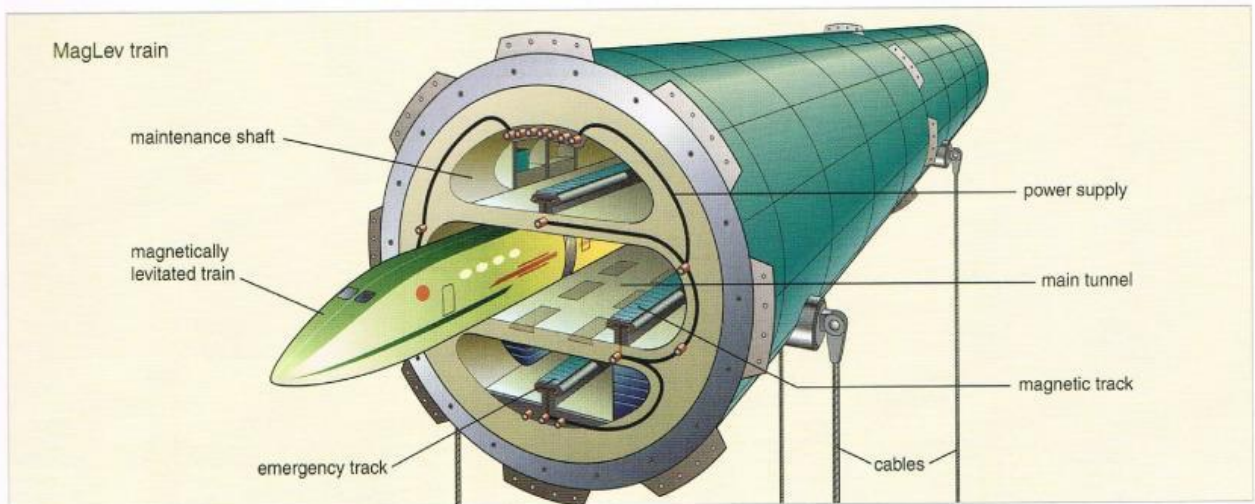


3 Future projects



- Start here**
- 1 Work in pairs. Look at the picture. What is it? How does the vehicle move?
 - 2 42 Listen to this radio interview and complete the specification chart.

Trans-Atlantic MagLev Tube	
Location of tube	(1) <i>Under the Atlantic Ocean from Britain to the USA</i>
Possible date of completion	(2) <i>2100</i>
Length	(3) km
Depth below sea level	(4) m
Number of cables	(5)
Speed of train	(6) km/h
Source of power for train	(7)

Language Use *will* and *won't* to predict a future fact or event.

They/We My company The engineers		will 'll will not won't	build it in 2050.
--	--	----------------------------------	-------------------

When	will	they/you	build it?	In 2050.
	Will		build it in 2050?	Yes, they will. / No, they won't.

3 Disagree with each statement.

- 1 The engineers will start the tube in 2020. (2080)
- 2 The tube will be under the Pacific Ocean. (Atlantic)
- 3 The tube will connect Britain with Europe. (the USA)
- 4 The train will use diesel. (magnetism)
- 5 The tube will contain compressed air. (a vacuum)
- 6 The trains will travel at 11,000 km/h. (8000 km/h)

Example: 1 They won't start the tube in 2020. They'll start it in 2080.

- Reading 4** Read this interview and produce a specifications chart for the bridge (see 2 on page 56). Use the words in the box.

completion date deck height length materials pier pylon span

Bridge of the Future: Europe-Africa Bridge

RadioTech presenter Tom Burns interviews engineer Galal Hamdy.

Tom: What project are you working on now?

Galal: We're designing the world's longest bridge.

Tom: Where will it be?

Galal: Between Morocco and Spain. It'll connect Europe with Africa.

Tom: What are the specifications of the bridge?

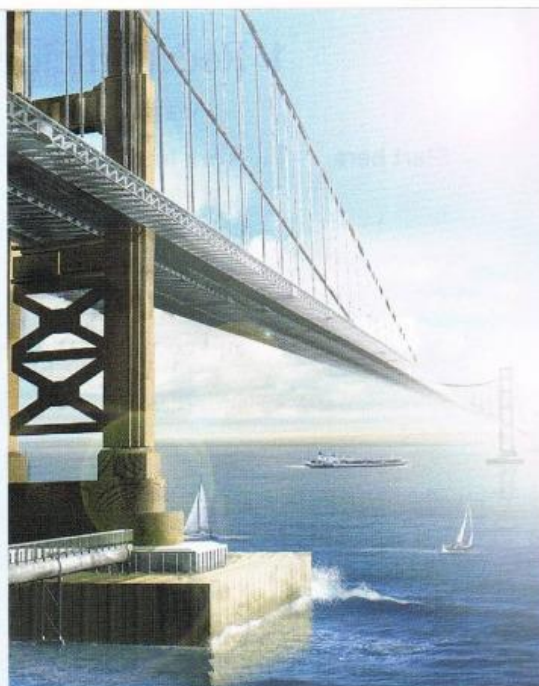
Galal: It will be almost 15 km long. In our design, the bridge will have two spans. Each span will be 4800 m long.

Tom: That's a very long span. How will that be possible?

Galal: The bridge will have three steel pylons, on concrete piers. The pylons will be 1000 m high. The deck will be very light and strong. It'll be made of fibreglass.

Tom: Many engineers think you won't be able to build this bridge.

Galal: I don't agree. I think we'll complete it around 2030.



- Speaking 5** Work in pairs. Ask and answer questions about the specifications of the bridge.

A: *How long will the bridge be?* B: *It will be almost 15 km long.*

- 6** Here is a possible project schedule for the Europe-Africa Bridge. Roleplay an interview between a TV presenter and an engineer.

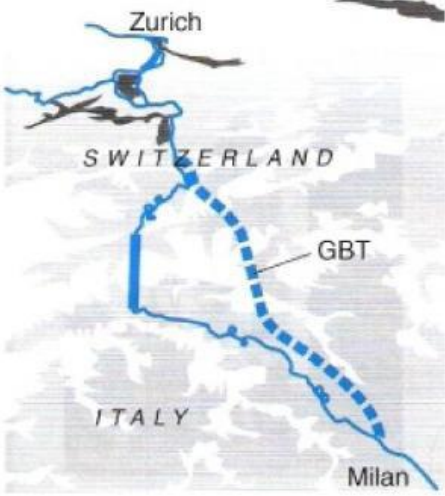
Task	2024	2025	2026	2027	2028	2029	2030	2031	2032
1 lay foundations									
2 build piers									
3 put pylons on piers									
4 attach cables to pylons									
5 make deck									
6 fix deck to cables									
7 build roads									
8 open bridge									

TV Presenter: *When will you build the piers?*

Engineer: *We'll start in 2026 and finish in 2027.*

3 Future projects

- 1 Read the article about a new train tunnel. Complete the specification chart.



The Gotthard Base Tunnel

The Gotthard Base Tunnel (GBT) will be the longest railway tunnel in the world. Engineers are building it now, in Switzerland, under the Alps. They will finish the project in 2016–2017.

Today, many trucks use the roads over the Alps. In future, they will use the GBT. The tunnel will connect Zurich in Switzerland with Milan in Italy.

There will be two tunnels. Each tunnel will be about 57 km long. They will run about 600 metres below the old St Gotthard railway tunnel (completed in 1881).

The new trains will use electricity. Some trains will carry trucks and cars. Fast passenger trains will travel at 250 kph. About 200–250 trains per day will use the GBT.

Gotthard Base Tunnel (GBT)	
Location of tunnel	in Switzerland, under the Alps
Possible completion date	
Number of tunnels	
Length of tunnels	
Depth below old tunnel	
Maximum speed of trains	
Source of power for trains	
Number of trains per day	

- 2 Change the long forms to short forms.

- 1 They are building a new tunnel. *They're building a new tunnel.*
- 2 There will be two new tunnels. _____
- 3 They will finish the tunnel in 2017. _____
- 4 The trains will not use magnetism. _____
- 5 There will be more than 200 trains per day. _____

- 3 Underline seven mistakes in this report. Then rewrite the report.

The GBT will be the longest road tunnel in the world. It will connect Italy and France. Engineers will finish the project in 2011. The new tunnel will be above the old railway tunnel. There will be over 300 trains per day. The new trains will use diesel. All of them will run at 250 kph.

The GBT will be the longest railway tunnel _____
