

## New generation of airships to transport goods around the world

The US space agency NASA is working on a project aimed at revolutionising the way cargo is transported around the world. A new generation of airships using helium rather than hydrogen is set to transport goods around the world that could replace ships, railways and lorries as a means of carrying freight. The first prototype is expected to make its maiden voyage next year. Scientists leading the project predict airships capable of carrying hundreds of tonnes of cargo at a time will be airborne by the end of the decade. It comes more than 70 years after the Hindenburg disaster, which brought to an end the earlier airship era. With the development of modern materials and aerodynamics knowledge gained from the space race means that the new generation will be capable of safely carrying loads that could not be carried before. **(Video-see P8)**

As well as carrying cargo, the new craft could also have a military use. It could provide logistical support. NASA is working with the US Department of Defense, as well as private companies, to develop the new vehicles. The prototype airship is being built with California based company Aeros, who have developed a new system that allows the buoyancy of the airships to be altered without loading or offloading material. The prototype airship 'The Aeros Pelican' uses compressor tanks that can add or remove helium to bladders inside the airship to adjust its altitude. A rigid structure using carbon composite fibre instead of a metal structure also allows the airship to lift far heavier loads than earlier airships could. The new generation of airships will be vertical take-off vehicles that land on rough terrain without the need for infrastructure, like specialist landing pads. This would make loading and unloading them far easier. Engineers have also modified the old cigar shaped Zeppelin design for a flatter more aerodynamic shape. In other words it looks a bit like Thunderbird 2!

In a separate development a British company last month signed a deal with a Canadian aviation company that could lead to 45 new airships capable of lifting 50 tonnes and travelling at 115mph. Hybrid Air Vehicle hope to develop airships capable of carrying between 200-1000 tonnes.

**Category: Airships / Technology / Cargo**  
**Level: Intermediate / Upper intermediate**

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## EXERCISES

**1. Airships:** Briefly, what three things do you know about airships? Go round the room swapping details.

**2. Dictation:** The teacher will read four to six lines of the article slowly and clearly. Students will write down what they hear. The teacher will repeat the passage slowly again. Self-correct your work from page one - filling in spaces and correcting mistakes. Be honest with yourself on the number of errors. Advise the teacher of your total number of errors. Less than five is very good. Ten is acceptable. Any more is room for improvement! More than twenty - you need to do some work!

**3. Reading:** The students should now read the article aloud, swapping readers every paragraph.

**4. Vocabulary:** Students should now look through the article and underline any vocabulary they do not know. Look in dictionaries. Discuss and help each other out. The teacher will go through and explain any unknown words or phrases.

**5. The article:** Students should look through the article with the teacher.

- a) What is the article about?
- b) What do you think about the article? (see links on page 8)

**6. Airships:** Think of five things the new airships might carry. Then add five things you might see inside them. Write them below. Explain to your partner why you chose these.

What an airship might carry	What you might see inside an airship
1	1
2	2
3	3
4	4
5	5

**The teacher** will choose some pairs to discuss their findings in front of the class.

**7. Let's think!** In pairs, think of three advantages and disadvantages of airships. Write them below.

Advantages	Disadvantages
1	1
2	2
3	3

**8. Famous airships:** Look at the two famous airships below. What do you know about them? Discuss in pairs/ small groups.

1	Zeppelin(s)	2	Hindenburg
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**The teacher** will choose some pairs to discuss their findings in front of the class.

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**9. Let's roleplay: CNN:** In pairs/groups. One of you is the interviewer. The others are one of the following people. You are in the *CNN TV* studio in London. Today's interview is about: *New generation of airships to transport goods around the world.* 5-10 minutes.

1 A Ministry of Defense spokesperson	3 An airship captain
2 A freight/forwarding company spokesperson	4 Aeros spokesperson

**The teacher** will choose some pairs to roleplay their interview in front of the class.

**10. Let's think!** In pairs. On the board write as many words as you can to do with **Airships**. *One-two minutes.* Compare with other teams. Using your words compile a short dialogue together.

**11. Let's draw!** In pairs. On the board draw an airship. Label it. Add five things that you could load onto it.

**12. Presentation:** In pairs, groups or individually: Prepare in class or at home a two minute presentation on: **Airships**. Stand at the front of the class to give your presentation to the class. The class can vote on the best presentation.

**13. Let's do 'The Article Quiz':** Have the students quiz each other in pairs. They score a point for each correct answer and half a point each time they have to look at the article for help. See who can get the highest score!

**Student A**

- 1) Name the US space agency.
- 2) Name the company from California.
- 3) Name the historic airship that was involved in a huge disaster
- 4) How long ago was the historic disaster?
- 5) Name the prototype airship.

**Student B**

- 1) What is Thunderbird 2?
- 2) What type of gas will be used on the new airship?
- 3) What does the new airship propose to carry?
- 4) How will the new airship take-off?
- 5) Name the cigar shaped airship.

**14. Let's write an e-mail:** Write and send a 200 word e-mail to your teacher about: **'The next generation of airships'**

**15. Sentence starters:** Finish these sentence starters. Correct your mistakes. Compare what other people have written.

- a) The Zeppelin \_\_\_\_\_
- b) The new airship \_\_\_\_\_
- c) NASA \_\_\_\_\_

## DISCUSSION

### Student A questions

- 1) Did the headline make you want to read the article?
- 2) Have you ever been in an airship?
- 3) Would you like to go in an airship? Why? Why not?
- 4) Do you think the new airship will be built?
- 5) Do you see the new airship being successful?
- 6) Just how important is this new airship?
- 7) How often do you see airships flying over you?
- 8) Will airships make a return to our skies?
- 9) Would you feel safe in an airship?
- 10) What is the difference between an airship today and 70 years ago?

### Student B questions

- 1) What do you think about what you read?
- 2) If you were a forwarding company would you be interested in using an airship for you business?
- 3) Will we see new landing stages created around the world for airships?
- 4) Will Ryanair or other low cost airlines start a revolution and offer cheap airship travel?
- 5) How will the military use these new airships?
- 6) Would you consider travelling in a luxury airship?
- 7) Where would you travel to in an airship?
- 8) What markets might airships in the future cater to?
- 9) When might you be booking a flight on an airship?
- 10) Did you like this discussion?

## SPEAKING

Let's discuss! The new generation of airships

*Allow 10-15 minutes – As a class / small groups / pairs / 1 to 1*

Discuss the following:

<b>The new generation of airships</b>
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The teacher can moderate the session.

## GAP FILL: READING:

*Put the words into the gaps in the text.*

### New generation of airships to transport goods around the world

The US space agency NASA is working on a project aimed at revolutionising the way (1)\_\_\_\_\_ is transported around the world. A new generation of airships using (2)\_\_\_\_\_ rather than (3)\_\_\_\_\_ is set to transport goods around the world that could replace ships, railways and (4)\_\_\_\_\_ as a means of carrying (5)\_\_\_\_\_. The first prototype is expected to make its maiden voyage next year. Scientists leading the project predict airships capable of carrying hundreds of tonnes of cargo at a time will be airborne by the end of the decade. It comes more than 70 years after the Hindenburg (6)\_\_\_\_\_, which brought to an end the earlier (7)\_\_\_\_\_ era. With the development of modern materials and aerodynamics knowledge gained from the space race means that the new (8)\_\_\_\_\_ will be capable of safely carrying loads that could not be carried before.

*disaster*

*hydrogen*

*freight*

*airship*

*generation*

*cargo*

*helium*

*lorries*

As well as carrying cargo, the new (1)\_\_\_\_\_ could also have a military use. It could provide logistical support. NASA is working with the US Department of Defense, as well as private companies, to develop the new vehicles. The (2)\_\_\_\_\_ airship is being built with California based company Aeros, who have developed a new system that allows the (3)\_\_\_\_\_ of the airships to be altered without loading or offloading material. The prototype airship 'The Aeros Pelican' uses compressor tanks that can add or remove helium to (4)\_\_\_\_\_ inside the airship to adjust its (5)\_\_\_\_\_. A (6)\_\_\_\_\_ structure using carbon composite fibre instead of a metal structure also allows the airship to lift far heavier loads than earlier airships could. The new generation of airships will be (7)\_\_\_\_\_ take-off vehicles that land on rough (8)\_\_\_\_\_ without the need for infrastructure, like specialist landing pads. This would make loading and unloading them far easier. Engineers have also modified the old cigar shaped Zeppelin design for a flatter more aerodynamic shape. In other words it looks a bit like Thunderbird 2!

*craft*

*vertical*

*prototype*

*rigid*

*bladders*

*terrain*

*buoyancy*

*altitude*

## GAP FILL: LISTENING

*Listen and fill in the spaces.*

### New generation of airships to transport goods around the world

The US space agency NASA is working on a project aimed at revolutionising the way cargo is transported around the world. A new generation of airships using helium rather than hydrogen is set to transport goods around the world that could replace ships, railways and lorries as a means of carrying freight. The first prototype is expected to make its maiden voyage next year. Scientists leading the project predict airships capable of carrying hundreds of tonnes of cargo at a time will be airborne by the end of the decade. It comes more than 70 years after the Hindenburg disaster, which brought to an end the earlier airship era. With the development of modern materials and aerodynamics knowledge gained from the space race means that the new generation will be capable of safely carrying loads that could not be carried before.

As well as carrying cargo, the new craft could also have a military use. It could provide logistical support. NASA is working with the US Department of Defense, as well as private companies, to develop the new vehicles. The prototype airship is being built with California based company Aeros, who have developed a new system that allows the buoyancy of the airships to be altered without loading or offloading material. The prototype airship 'The Aeros Pelican' uses compressor tanks that can add or remove helium to bladders inside the airship to adjust its altitude. A rigid structure using carbon composite fibre instead of a metal structure also allows the airship to lift far heavier loads than earlier airships could. The new generation of airships will be vertical take-off vehicles that land on rough terrain without the need for infrastructure, like specialist landing pads. This would make loading and unloading them far easier. Engineers have also modified the old cigar shaped Zeppelin design for a flatter more aerodynamic shape. In other words it looks a bit like Thunderbird 2!

## GRAMMAR

Put the words into the gaps in the text.

### New generation of airships to transport goods around the world

The US space agency NASA is working on a project aimed at revolutionising the way cargo is transported around the world. A new generation of airships using helium rather than hydrogen is set to transport goods around the world that (1)\_\_\_ replace ships, railways and lorries as a means of carrying freight. The first prototype is expected to make its maiden voyage next year. Scientists leading the project predict airships capable of carrying hundreds of tonnes of cargo at a time will be airborne by the end of the decade. It comes (2)\_\_\_ (3)\_\_\_ 70 years after the Hindenburg disaster, (4)\_\_\_ brought to an end the earlier airship era. (5)\_\_\_ the development of modern materials and aerodynamics knowledge gained (6)\_\_\_ the space race means that the new generation (7)\_\_\_ be capable of safely carrying loads (8)\_\_\_ could not be carried before.

**than**

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**it**

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## SPELLING TEST

The teacher will ask the class individually to spell the following words that are in the article. Afterwards, check your answers with your teacher, using the following ratings: **Pass = 12, Good = 15, Very good = 18, Excellent = 20**

1	revolutionising	11	compressor
2	transported	12	bladders
3	generation	13	buoyancy
4	lorries	14	logistical
5	prototype	15	vehicles
6	scientists	16	military
7	freight	17	aerodynamics
8	infrastructure	18	decade
9	terrain	19	craft
10	helium	20	airships

### LINKS

<http://www.telegraph.co.uk/earth/greenertransport/8739368/New-generation-of-airships-to-transport-goods-around-the-world.html> - (video and article link for see page 1 article)

<http://www.dailyclimate.org/tdc-newsroom/2011/05/airships-as-climate-solution>

<http://www.ukti.gov.uk/uktihome/aboutukti/item/123302.html>

### ANSWERS

GAP FILL: New generation of airships to transport goods around the world: The US space agency NASA is working on a project aimed at revolutionising the way **cargo** is transported around the world. A new generation of airships using **helium** rather than **hydrogen** is set to transport goods around the world that could replace ships, railways and **lorries** as a means of carrying **freight**. The first prototype is expected to make its maiden voyage next year. Scientists leading the project predict airships capable of carrying hundreds of tonnes of cargo at a time will be airborne by the end of the decade. It comes more than 70 years after the Hindenburg **disaster**, which brought to an end the earlier **airship** era. With the development of modern materials and aerodynamics knowledge gained from the space race means that the new generation will be capable of safely carrying loads that could not be carried before.

As well as carrying cargo, the new **craft** could also have a military use. It could provide logistical support. NASA is working with the US Department of Defense, as well as private companies, to develop the new vehicles. The **prototype** airship is being built with California based company Aeros, who have developed a new system that allows the **buoyancy** of the airships to be altered without loading or offloading material. The prototype airship 'The Aeros Pelican' uses compressor tanks that can add or remove helium to **bladders** inside the airship to adjust its **altitude**. A **rigid** structure using carbon composite fibre instead of a metal structure also allows the airship to lift far heavier loads than earlier airships could. The new generation of airships will be **vertical** take-off vehicles that land on rough **terrain** without the need for infrastructure, like specialist landing pads. This would make loading and unloading them far easier. Engineers have also modified the old cigar shaped Zeppelin design for a flatter more aerodynamic shape. In other words it looks a bit like Thunderbird 2! **(V1)**

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