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19 China's Robot Exhibition

China's Largest Exhibition: Robots and Technology Invades China

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China's Robot Exhibition

China's Largest Exhibition: Robots and Technology Invades China

LESSON SUMMARY	
READING + LISTENING + SPEAKING	**1HR**

PRE-ASSESSMENT PROFICIENCY INFORMATION

STUDENT	**SCORE**

Pre — Test

Complete the set of pre-assessment activities given below. Read instructions carefully.

PRE — 01 | True or False Not Given

*Listen to the audio carefully and determine whether the statements provided are True, False or Not Given based on the information you hear. Mark **True** if the statement is **correct**, mark **False** if the statement is **incorrect**, and **Not Given** if the information is **not mentioned** in the audio.*

	TRUE	FALSE	NOT GIVEN
1 This allows individual robots to remain lightweight by leveraging the unlimited processing capacity of the cloud.	☐	☐	☐
2 The manufacturing sector had a minor presence at the event.	☐	☐	☐
3 A critical strategic industry and is investing heavily through the "Made in China 2035" plan.	☐	☐	☐
4 Chile still relies heavily on foreign robotics firms for many core companies.	☐	☐	☐

PRE — 02 | Re-Tell

*Listen to the audio carefully and **take notes** on the main points and key details. After the audio ends, **re-tell what you heard in your own words**. Focus on summarizing the main ideas, supporting details, and any examples mentioned.*

01
Reading

The recent World Robot Conference held in Beijing showcased China's **ambitious** vision to become a global leader in robotics. This premier industry event attracted over 150,000 visitors and 800 exhibitors, making it the largest robotics exhibition ever held in China. The exhibit displayed a remarkably wide array of robots, ranging from industrial automation to consumer electronics. Numerous interactive demonstrations highlighted advances in perspective capabilities, mobility, manipulations, human-machine collaboration, swarm robotics, robot software, and cloud robotics. Several leading Chinese robotics firms, including Siasun, Estun, and DJI, showcased their latest service robots for ethereal, hospitality, retail, and other applications. They featured advanced capabilities like autonomous navigation and object recognition using computer vision and deep learning. Some models employed advanced **algorithms** like reinforcement learning to train robots efficiently through trial-and-error experience. A number of collaborative robots were **unveiled**, designed to augment humans by safely working alongside them. Sensitive force control and collision detection enable these robots to dynamically respond to physical contact with people and adapt to their environment.

This showcases China's focus on **leveraging** robotics for human **amplification** rather than human replacement. The manufacturing sector had a major presence at the event. Chinese robot makers compete intensely with foreign firms like ABB, Kuka, and Fanuc, which have long dominated industrial automation.

01
Reading

Chinese companies aim to disrupt this space with cheaper, flexible collaborative robots as well as modular robot arms customized through cloud platforms. Drone giant DJI displayed its advances in commercial applications beyond consumer drones. Its enterprise models are equipped with precision sensors and mapping technologies for surveying, public safety, and infrastructure inspection. DJI is also exhibiting its new RoboMaster TT educational robot designed to teach programming and AI.

A key theme across many exhibits was robot swarms and multi-agent systems. Dozens or even hundreds of simple individual robots demonstrated collective behaviors to accomplish complex tasks. Their distributed coordination takes inspiration from biological collectives like ant colonies and **beehives**. Possible real-world applications include flexible manufacturing, last-mile delivery, surveillance, agriculture, and disaster relief. Cloud robotics was highlighted as the way of the future, with robots connected to cloud platforms to offload computationally heavy processing. This allows individual robots to remain lightweight by leveraging the unlimited processing capacity of the cloud.

The technology also **facilitates** large-scale data sharing and over-the-air updates across fleets of robots. 5G networks will enable real-time cloud robotics by providing the high- bandwidth, low-latency connectivity required for remote operation. Chinese tech giants like Huawei and Alibaba demonstrated how their cloud **platforms** can stream sensor data and send control signals to robots with minimal delay. The rise of edge computing will also enable some processing to occur locally while still connected to the cloud.

The Chinese government views robotics as a critical strategic industry and is investing heavily through the "Made in China 2025" plan. Local governments have funded massive robotics parks across China as incubators for start-ups and test beds for collaborative research between academia and industry. China is rapidly racing to close the gap with countries like Japan, Germany, and the United States, which have long dominated advanced robotics technology. The nation aims to leverage its strengths in manufacturing scale and integration to redefine how robotics is applied in various sectors. However, China still relies heavily on foreign robotics firms for many core companies like precision reducers and controllers.

Chinese companies also lag behind in fundamental research and cutting-edge software like perception, decision-making, and machine learning. Nonetheless, the **enormous** talent pool and data resources available in China, coupled with aggressive **acquisitions** of foreign tech firms, are enabling rapid progress. The steady improvement across so many robotics domains makes it daunting for other countries to keep pace with China's relentlessly focused robotics strategy. While the exhibition demonstrated China's technical capabilities and ambition, many of the displays were prototypes rather than commercial products. *(4:54)*

02

Activity

A1 | Pair Me Up   *Match the words on the first column to its corresponding meaning on the second column.*

AMBITIOUS	1 _____	**A**	marked by extraordinarily great size, number, or degree
ALGORITHMS	2 _____	**B**	an expanded statement
UNVEILED	3 _____	**C**	the act of acquiring something
LEVERAGING	4 _____	**D**	something resembling a hive for bees
AMPLIFICATION	5 _____	**E**	having a desire to be a successful, powerful, or famous
PLATFORM	6 _____	**F**	the action of a lever or the mechanical advantage gained
BEEHIVES	7 _____	**G**	to make (something) easier
FACILITATES	8 _____	**H**	a procedure for solving a mathematical problem
ENORMOUS	9 _____	**I**	not veiled
ACQUISITION	10 _____	**J**	a device or structure incorporating or providing

A2 | Right Words   *Complete the sentence by choosing the word that fits the context. Choose from the box below.*

beehives
amplifications
unveiled
facilitates
enormouse
algorithms
ambitious
leveraging
acquisition
platform

1 China's focus on _____ robotics for human.

2 Coupled with aggressive _____ of foreign tech firms.

3 Their distributed coordination takes inspiration from biological collectives like ant colonies and _____.

4 The technology also _____ large-scale data sharing and over-the-air updates across fleets of robots.

5 A number of collaborative robots were _____, designed to augment humans.

6 The _____ talent pool and data resources available in China.

7 _____ rather than human replacement.

8 Some models employed advanced _____ like reinforcement learning.

9 Flexible collaborative robots as well as modular robot arms customized through cloud _____.

10 World Robot Conference held in Beijing showcased China's _____ vision to become a global leader in robotics.

03

Speak Up   *You are welcome to authentically share your thoughts as you go through the following questions.*

1 What do you think about the new invades of robots in China?

3 Is there an advantage of making robots?

2 Why Chinese robotics companies are pushing the boundaries in areas like human-robot collaborations?
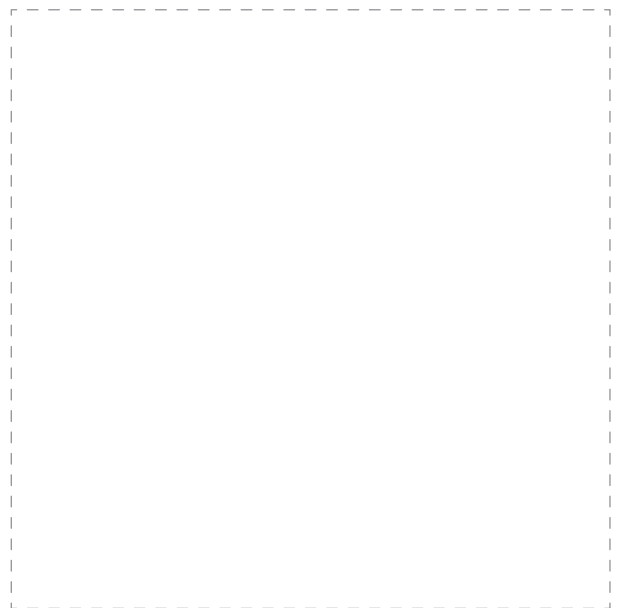
4 Do you think that robots can help humans?

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FOOD FOR THOUGHT

The best way to predict the future is to create it.

—Abraham Lincoln

The Creative Box; Draw something, write something, do anything to this box — let yourself be free with the box.

KEY ANSWERS
1E 2H 3I 4F 5B 6J 7D 8G 9A 10C

1 leveraging — 2 acquisition — 3 beehives — 4 facilitates — 5 unveiled —
6 enormous — 7 amplification — 8 algorithms — 9 platforms — 10 ambitious

LESSON SUMMARY

READING + LISTENING + SPEAKING   **1HR**

ASSESSMENT PROFICIENCY INFORMATION

STUDENT   **SCORE**   **DATE**

SCAN FOR EDUCARE.