

Global firms encouraged to invest in Shanxi's AI industry

Conference showcases latest advancements, innovations in province's high-tech products



By YUAN SHENGGAO

Shanxi is welcoming businesses from across the world to invest in its artificial intelligence industry, which has shown great development momentum over the years, said Lou Yangsheng, Party secretary of Shanxi.

The senior official made the remark at the opening ceremony of the 2020 China (Taiyuan) Artificial Intelligence Conference on Oct 31 in the Shanxi provincial capital city of Taiyuan.

"Shanxi should accelerate its development into an important base in China for the research and development of AI technologies and solutions, as well as for the manufacturing of AI-related products," Lou said.

He urged local governments and businesses to open up to the world and grasp the latest industrial trends and opportunities to boost the growth of the local AI sector.

The three-day event included a conference on AI, an industry exhibition, forums and signing ceremonies for cooperative projects.

More than 300 products and solutions were displayed at the industry exhibition, covering such areas as robots, language translation, autonomous driving and facial recognition. The exhibition demonstrated the latest breakthroughs in the industry worldwide.

A humanoid robot called Walker was among the most eye-catching exhibits.

Developed by Shenzhen-based UBTECH, Walker is a multipurpose robot for entertainment and house-keeping. It played soccer and did chores like watering flowers and cleaning floors at the exhibition venue.

For industry insiders, their attention was attracted by the robots with industrial applications, including those for fire fighting, mining and other operations in hazardous environments.

A robot with four legs called



A child interacts with a robot at the 2020 China (Taiyuan) Artificial Intelligence Conference. XUE JIANYING / FOR CHINA DAILY

AlienGo, developed by Unitree Robotics based in Hangzhou, Zhejiang province, attracted the attention of both ordinary visitors and industry insiders.

The robot can follow simple voice instructions such as "come here," "sit" and "rise". It can even perform somersaults.

AlienGo is mainly used to replace humans in risky missions such as patrolling chemical plants and coal mines, offering solutions to fire fighting, bomb diffusing and rescue, according to a Unitree Robotics staff member.

Also drawing visitor attention were robots used in sectors closely

related to people's lives.

For instance, Huihu Health Sciences based in Taiyuan, Shanxi province, displayed its medical service robot which can facilitate traditional Chinese medicine solutions.

With the robot providing free health checkups, the Huihu exhibition area was crowded with visitors.

Sitting before the robot, visitor Zhang Xia had her face, tongue and hands checked. Then a QR code was generated and shown on the robot's display screen.

After scanning the code, Zhang's health checkup report was immediately sent to her mobile phone. She

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Lou Yangsheng, Part secretary of Shanxi province

received detailed information on her skin and bones, as well as a comprehensive health assessment and recommendations for diet, sleep and exercise.

A Huihu staff member said checks of the face, tongue and hands are among the major TCM diagnosis measures. The robot on display is the first product made in China that uses big data, AI and other digital technologies to assist in TCM diagnosis.

The AI solutions for smart urban management were another highlight at the exhibition.

Chinese telecom giant Huawei displayed its smart urban management solution, which, according to an executive of the company, is "a comprehensive platform using all the cloud, AI, big data and algorithm resources to help city administrators acquire detailed information in all fields and make quick responses and accurate decisions".

For instance, the company has helped the Tianjin Economic Development Area develop an intelligent operational center, which is used to cover operations in multiple fields including economy, social security, transport, public facilities and services.

On the first day of the event, agreements on a total of 21 large investment projects were signed, covering such fields as smart transportation, software development, financial technologies and information technologies for medical care, according to the organizers of the conference.

Li Yu and Xue Jianying contributed to this story.

Taiyuan cleans up act, tackles air pollution

By YUAN SHENGGAO

Opening the window to air out her apartment in Taiyuan, capital of Shanxi province, local resident Wang Jingjing said she was happy with the air quality when the heating season started on Nov 1.

"The sky is blue and there is no pungent smell as we might sense in the previous heating seasons," Wang said. She added that "it looks unnecessary to use the air purifier" as she did years ago.

In some cities in the north of Shanxi, including Datong and Xinzhou, the heating supply began nearly two weeks ahead of Nov 1.

Homes became warmer but the usual smoggy days did not come, local residents said.

Pictures of blue skies and white clouds frequently appeared on social media, showing people's excitement with the clear days.

In Shanxi, a major coal production province in China, burning coarse coal for heating used to be a major source of air pollution, especially in the rural areas.

The local government began a campaign to replace coarse coal with clean fuels for heating in 2017.

"From 2017 to 2019, the fuel replacement project had covered nearly 3.6 million households," said Yan Wenquan, deputy chief of the Shanxi Energy Resources Bureau.

"Coarse coal-fired heating is expected to be phased out in nearly 5 million households in total by the end of this year.

Yan estimated the per household consumption of coarse coal is 4 metric tons a year. The project has led to a reduction of 20 million tons of coarse coal annually and a decrease of 300,000 tons of carbon dioxide emissions in the whole province.



A picture taken in Taiyuan shows an improved environment due to the efforts to control pollution. MA LIMING / FOR CHINA DAILY

China's tallest wooden structure stands pride of place in Yingxian

By YUAN SHENGGAO

In Shanxi, the province boasting the largest number of ancient structures in China, a wooden tower in Yingxian county is seen by many as the pride of them all.

The Sakyamuni Pagoda is the oldest preserved and largest wooden tower in China.

Located in the northwest of the Yingxian county seat, the 57.43-meter-high, five-story tower was built in the Liao Dynasty (907-1125).

The entire structure was put together with mortise and tenon joints, without using a single nail.

In 2016, it was included in the Guinness Book of World Records as the highest wooden tower in the world.

"Throughout the millennia, there were a lot of tall wooden structures in China, with some even higher than this one in Yingxian," said Sun Shupeng, an expert in ancient architecture in Shanxi.

He noted that most of the structures had collapsed in the previous centuries, making the Yingxian tower the most outstanding in modern days.

"As the tower represents the high level of architectural achievements of ancient China, it has now become an attractive site for both researchers and tourists," Sun added.

Ning Ruifeng, a tourist from Datong, recently visited the tower with his family.

"I'd like to show my son, who is a schoolboy, the miracle of Chinese architecture and the stories relating to the structure," Wang said.

He hired an experienced tour guide to tell them the history of the tower.

Adding to Shanxi's efforts in tackling air pollution is the renovation of its coking plants and other polluting enterprises.

Over the years, Shanxi has produced nearly half of China's coke, which is mainly used in steelmaking.

"Coking and steelmaking are the traditional economic pillars of Shanxi. We have made efforts to upgrade these industries in recent years to reduce air pollution and to realize low-carbon growth," said Zhang Zhanxiang, deputy chief of the Shanxi Department of Industry and Information Technology.

According to Zhang, more than 38 percent of the coking plants in Shanxi used advanced furnaces featuring higher efficiency and lower emissions by the end of 2019, compared with 25.5 percent at the end of 2017. He estimated the number can reach 50 percent by the end of this year.

In June, the Shanxi Department of Industry and Information Technology launched a new plan to reduce emissions in its steel industry, which requires a reduction of 34,000-40,000 tons of gas pollutants a year.

Chen Juan, a native of the Guangxi Zhuang autonomous region who studied at a university in Taiyuan 15 years ago, was impressed by the changes when she returned this month for a business trip.

"Taiyuan used to be a city full of black dust. You wore white shoes in the morning and found they were blackened in the evening," Chen recalled.

"But now there is no more black dust and pungent smell. I am surprised with the lovely days here."

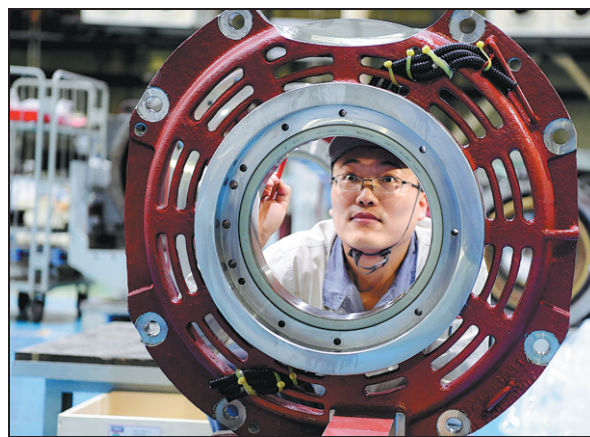
Guo Yanjie contributed to this story.



The Sakyamuni Pagoda in Yingxian county is the oldest preserved wooden tower in China. LI WENKUI / FOR CHINA DAILY



Staff members of CRRC Yongji Electric Motors assemble the permanent magnet traction motors to be used in the new-generation bullet train which has a top speed of 400 kilometers per hour. DAI CHENKAI / FOR CHINA DAILY



Technological breakthrough creates high-speed train that can run at 400 kilometers per hour

By YUAN SHENGGAO

New-generation high-speed trains that can adapt to different track gauges, widths and climates rolled off the production line at a plant in Changchun, Jilin province.

The new type of trains, developed by CRRC Changchun Railway Vehicles, is designed with a top speed of 400 kilometers per hour. Its ability to run on international railways with different track gauges and power supply makes international rail travel more practical, according to industry insiders.

A core component of the train, the permanent magnet traction motor, was independently developed by the CRRC Yongji Electric Motors based in Yongji city in Shanxi province.

The cutting-edge product, featuring large power capacity, light weight

“The (permanent magnet traction) motor ... will help China-made high-speed trains better meet the requirements of the international market.”

Xu Yong, senior engineer of CRRC Yongji Electric Motors

and adaptability to extreme weather, is crucial to ensuring the safe operation of its super-high-speed trains, according to Xu Yong, a senior engineer at CRRC Yongji Electric Motors.

"The fastest current trains in the world, which are used in Beijing-Shanghai and Beijing-Tianjin lines, are running at 350 km/h," Xu said.

"The last generation of trains has a constant speed of 400 km/h, showing a major technological breakthrough in the field.

"A crucial part of the train is the new permanent magnet traction motor developed by CRRC Yongji Electric Motors, with a per unit power output of 800 kilowatts."

The electric motor features a closed-loop cooling system, which allows it to work stably in various weather conditions, according to Xu.

The engineer explained that a higher or lower temperature could lead to substantial losses of power output. Now that problem is solved by the closed-loop cooling system.

"The system allows the train to travel through regions with a temperature difference of more than 50 degrees Celsius," Xu said.

The engineer said higher power efficiency and lower maintenance costs are among the other advantages of the motor.

"The power efficiency can reach 97 percent when the train runs at a high speed," Xu said. He added that the performance means the train's full-speed energy consumption is on a par with the current 350-km/h train at its highest speed.

"The motor represents the high level of Shanxi's manufacturing industry and will help China-made high-speed trains better meet the requirements of the international market," Xu said.

Guo Yanjie contributed to this story.