

City of ceramics hopes to fire innovation

Huairen listed among Shanxi province's characteristic towns thanks to its millennium-long industrial heritage



By YUAN SHENGGAO

The Shanxi city of Huairen, a renowned production site of everyday ceramics in North China, is ushering in a new era for development after it was recognized as a provincial-level characteristic town.

The government of Shanxi announced its first batch of 10 characteristic towns in September 2022 and Huairen was among them.

Developing towns with characteristic industries is a new strategy in Shanxi, which aims to create economic engines that accelerate high-quality industrial growth locally.

Huairen has a heritage of more than 1,000 years in producing ceramics.

The city began to modernize the industry in the 1950s.

It has experienced leap-forward development since the late 1970s when China's reform and opening-up initiatives began.

At present, Huairen's ceramics enterprises employ more than 50,000 local people, whose per capita annual income is about 50,000 yuan (\$7,255), according to official statistics.

The city's officials predicted that the total annual industrial added value of Huairen's ceramics sector could reach 10 billion yuan in 2025. There will be 90 ceramics manufacturers



From left: A robotic arm handles clay in one of the ceramics enterprises in Huairen. Huairen hosts the 11th China Ceramic Products Design Contest in October 2021. PHOTOS BY WANG RONG / FOR CHINA DAILY

that can produce a total of 4 billion sets of porcelain ware annually, they predicted.

Local entrepreneurs have realized that the listing of Huairen as a provincial-level characteristic town is a great opportunity for the ceramics industry's growth, in terms of increasing the influence of local products, strengthening local enterprises' innovation, and expanding marketing channels.

"However, to make these goals possible, we still need to learn from our counterparts in other regions in the country," said An Yang, head of the service center of the Jinshatan Ceramics Industry Park, a major development zone for the industry in Huairen.

He explained that the ceramics industry is a highly competitive sector, with some cities in China, like Chaozhou and Foshan in Guangdong province, Jingdezhen in Jiangxi prov-

ince and Liling in Hunan province, having their own comparative strengths.

An had just returned to Huairen on Feb 24 from a research trip in Guangdong. He said his visit to the city of Chaozhou was worthwhile and inspiring.

"With its total annual ceramics output value surpassing 50 billion yuan, Chaozhou is definitely a hub for the industry," he said.

But he noted that, apart from scale, what is worth studying is the local enterprises' focus on innovation, in terms of technology and operation.

He said he is glad that there are quite a few entrepreneurs in Huairen who always keep innovation in mind.

Peng Jianchun is one such innovative-minded entrepreneur.

Graduating from a renowned university specializing in ceramics in the city of Jingdezhen, Peng had worked with ceramics manufacturing compa-



nies in Jingdezhen and Chaozhou, familiarizing himself with almost every production procedure like raw materials preparation, forming, glazing and firing.

He returned to Huairen in 2013, founding Zunyi, a ceramics research and manufacturing company. After many trials and tests, he invented the technique of mixing gangue, a byproduct of coal, with kaolin, a clay mineral, to produce irregular-shaped porcelain ware.

Winning popularity in the domestic market, Zunyi's products are now sold to such countries as the United States, Canada, Australia and South Korea. Peng's company is the first local manufacturer in Huairen that exports products to developed world markets.

According to Peng, Zunyi is developing resource- and cost-efficient solutions for ceramics production in order to cope with the rising prices of

fuel and raw materials since the second half of 2022.

To better share its expertise with local businesses, Zunyi signed an agreement with the Huairen city government earlier this year to establish a public research platform. It offers design, testing, training and research and development services for local manufacturers.

"Innovation and opening-up are now the consensus among local entrepreneurs," said An of the ceramics industry park. "So local businesses are now conducting in-depth collaborations with advantageous companies, universities and research institutions in and outside of Shanxi, aiming to improve their innovation capability and upgrade their technologies and operations," he said.

To date, Huairen boasts two provincial-level technological centers and 11 city-level R&D centers, laying a foundation for the local

ceramic industry's development.

Local companies are also recruiting experts from other regions of the country to improve their capability in design and R&D.

Hongda Ceramics, for instance, has introduced a team of designers from Chaozhou to the company. Meanwhile Yijiaqin, another local manufacturer, invited a Beijing company to design its trademarks.

The local government has offered its assistance to help manufacturers promote their products nationwide and across the world.

One such move is that it has established an e-commerce center for selling local ceramic products online.

The center, with a total floor space of about 1,700 square meters, has 22 online showrooms and hired hosts to promote local products through livestreaming shows.

According to Song Xingtong, chief of the Huairen bureau of commerce, the center is one of the local government's efforts to promote the ceramics industry through e-commerce.

To date, he said the city is home to 57 e-commerce businesses and 157 companies with e-commerce operations. A total of 5,000 people are engaged in such operations.

In addition, the government is helping enterprises with branding and marketing by hosting promotional events, arranging for them to attend industrial shows in other regions of the country and setting aside a special fund for branding campaigns.

Yuan Zhaohui contributed to this story.

Coal trade reaping the benefits of digitalization

By YUAN SHENGGAO

Industrial digitalization is now a buzzword in Shanxi province's coal industry, as digital technologies are extensively used to improve businesses' operational efficiency.

When people talk about the burgeoning smart coal mines in the province, Zhang Ding, an executive for trading management at Taiyuan Coal Trading Center, knows that production is not the only sector benefiting from digitalization.

Trading of coal, as what his center has done since its launch in 2007, is also a major sector rapidly going digital and smart in recent years.

"Sales of coal are now quite different from those in the past, when deals were made offline and the entire process of inquiries and offers was very time-consuming," Zhang said.

He said the trading center was established to help to improve transaction efficiency for coal suppliers in Shanxi and buyers throughout the country. And the efficiency in transaction has improved with the use of emerging technologies such as the internet of things, big data, cloud computing and artificial intelligence.

Wang Pan, another executive at the center, cited an example to illustrate the center's high efficiency. On Jan 21, Chinese New Year's Eve, he received a request from a coal supplier in Changzhi city for coal sale.

The client was somewhat concerned with the timing of the request, as he anticipated most of the center's staff and clients' personnel should be on leave for Spring Festival.

Wang assured him the deal could be successful considering the big client base of the center's trading platform. As he expected, the transaction was completed in an hour.

From Jan 19-27, the center completed 78 transactions for 1.57 million metric tons of coal. The center's trading platform now has 24,629 member businesses throughout the country.

Jinneng Holding Group, a leading coal producer in Shanxi, is a member of Taiyuan Coal Trading Center.

Leveraging the center's platform, Jinneng has realized digitalization for transaction-related procedures such as purchases, sales, logistics, transportation and payment settlements.

It now has a unit dedicated to coal sales with a digital operational system that makes standardized man-



Jinneng Holding's coal is unloaded from a ship in Qinhuangdao Port. HE YUNAN / FOR CHINA DAILY

agement possible for inquiries, responding, pricing, order-based production planning, logistics, railway and port transportation coordination, according to the company's executives.

As an example, the group's coal deliveries to buyers across China and the world are made mainly through the railway linking Datong in Shanxi and Qinhuangdao in Hebei province, and then shipped from the seaport of Qinhuangdao.

Jinneng has an office in Qinhuangdao, responsible for the coordination of rail-sea transportation.

Shi Yanqing, chief of the office, begins his work every morning by checking delivery information through the digital operational system.

"We see the arrival of trains carrying our group's coal almost once an hour in Qinhuangdao," Shi said. "Despite this frequency, everything can be handled orderly, thanks to the system."

He said once he receives train departure information from Datong, he immediately informs the port logistics company in Qinhuangdao.

"The travel from Datong to Qinhuangdao is less than 20 hours, and this is a period long enough for the port to get personnel and equipment ready for unloading and loading," Shi said. "The system has allowed seamless connections among suppliers, transporters and buyers."

Zhang Yi contributed to this story.

Master repairers test their skills in contest

By YUAN SHENGGAO

When visiting museums and historical sites throughout the country, people seldom notice the completeness of some items that are the work of relic repair experts.

Shanxi, one of the leading provinces in terms of number of relics, recently highlighted the workers' efforts by hosting a relics repair skills contest.

The contest, held in Taiyuan on March 25 to 26, gathered 219 workers from 27 regions of China to show their skills.

It comprised six sections for woodwork, masonry, ceramics, metal items, wall paintings and sculptures.

Ren Wei from Shandong Museum won the first prize in metal items repair. Ren was a painter and began a career in cultural relics repair in 2015.

When talking about his career development, he said: "Relics repair is a cross-discipline trade requiring different knowledge in fields like fine arts, chemistry and physics. I hope my former experience in the fine arts can help."

In the contest, Ren used a super-sonic device to remove dust from a piece of metalwork, helping to return its previous luster.

His opinion was shared by Yang Yujie from the Palace Museum in Beijing. She won the first prize in ceramics repair.

She repaired a lotus-patterned blue-and-white porcelain bowl with one-fourth of its surface area lost.

"Patching the lost parts of porcelain ware is the most common practice seen in ceramics repair," Yang said. "And this job requires multidisciplinary knowledge, like chemistry in putting on the patch, and fine arts in recovering drawings and patterns."

There were a number of experi-

enced workers taking part in the contest. Yang, for instance, has been in the trade for 18 years.

Fu Youxu from Dunhuang Academy in Gansu province is among the oldest of the contenders. He has worked in wall painting repair for more than three decades.

Despite his experience, Fu regarded the event as a rare opportunity to learn. "Relics repair requires lifelong learning," Fu said. "The longer you engage yourself in the trade, the more you feel you learn."

Fu said he has done wall painting repairs across China, including the Xinjiang Uygur autonomous region, the Tibet autonomous region, and Qinghai and Shanxi provinces.

"Every time I worked in regions outside Gansu, I brought back the knowledge, skills and visions of local workers," Fu said. "And the contest here is a great opportunity as you can meet so many repair workers and experts."

He Dalong, secretary-general of the Shanxi Association for the Protection of Ancient Architecture, who is also an organizing official of the event, praised the participants' abilities in mastering both modern and traditional skills.

He expects traditional skills in repairs can be preserved. "I hope the contest can lead to the revival of ancient craftsmanship in cultural heritage protection."

Li Shu contributed to this story.



Jincheng gets new 'brain' with smart technologies

By YUAN SHENGGAO

In the 1,700-square-meter hall of Jincheng's administrative center, a 155-sq-m display screen hanging on the wall displays data and images relating to the Shanxi city's management.

Near the screen, dozens of civil workers are on duty, which includes answering calls to the 12345 city hotline, receiving requests for administrative approval and handling affairs relating to healthcare and community management.

This establishment is called Smart Jincheng Coordination Center, the first intelligent urban management and operational center for a prefecture-level city in Shanxi province.

Founded in 2019, the center has developed more than 20 applications for city management and is called "the brain of Jincheng city," according to local officials.

Through a 5G network, cloud computing and big data processing facilities, the center has collected more than 700 million pieces of information in areas including population,

business entities and macroeconomic statistics, officials said.

Through more than 4,300 5G base stations, it has branched out to every corner of the city.

Residents can now feel the convenience brought about by the smart city system, any time and any place. Checking traffic information, paying bills for water, gas and electricity, and applying for administrative services can all be handled online.

The benefit of a smart city management system can also be felt in the remote villages.

Wang Jianfei is a head of a rural farming cooperative in the village of Tielu. Every day before getting to work, he takes out his smartphone and clicks an e-farming icon.

"Our farms are no longer the conventional ones you find elsewhere," Wang said. "They are digitalized farms."

He explained there are a lot of sensors around the farms to monitor things like air temperature, soil moisture and fertility. "They are connected to the city's agriculture bureau, where experts analyze the data and give us



Civil workers on duty at Jincheng's smart coordination center. TIAN FEI / FOR CHINA DAILY

suggestions on farming through the phone app."

In addition to city management, digitalization is also popular in the local business community.

Jingang Group, a local steelmaker, has developed a whole-process digital platform for various operations.

"Through an integrated system for production and sales, our product delivery period can be shortened by 15 percent compared to several years ago," said Chen Guanghai, a company executive. "Digitalization has also led to a 5 percent increase in production efficiency and a 2 percent improvement in product quality."

Coal producers in Jincheng are now using digital technologies to upgrade their mining shafts. There

are a total of 151 intelligent smart mining shafts under construction, with 69 becoming operational.

Jincheng's digitalization move is backed by 10-plus local companies specializing in digital technology development.

Anheng, a digital tech company in Jincheng, for instance, has built a data safety operational platform to serve the needs of governments and institutions.

The number of digital tech companies is expected to grow substantially in the years to come as the city is planning for the construction of 10 digital-related industrial parks.

Wang Tianxiao contributed to this story.



From top: A woman inspects metalware at the relics repair skills contest. A total of 219 people compete in the event. PHOTOS BY WU LIUHONG / FOR CHINA DAILY