

University of Tennessee to team up with local medical professionals

By HAO NAN
haonan@chinadaily.com.cn

The University of Tennessee Health Science Center plans to build strategic cooperative relations with biomedicine companies in Chengdu, Sichuan province, and establish a long-term mechanism to ensure steady technology and personnel exchanges in the field of 3-D bio-printing.

The latest 3-D bio-printing technology is bringing about a medical revolution that will change human life in the future, said Steven Goodman, vice-chancellor of UTHSC, the Memphis campus of the University of Tennessee, launched in 1911.

Goodman made the comments during his visit to the Chengdu High-Tech Industrial Development Zone from Feb 22 to 26 with six other professors from the university.

Charles Yates, a professor of pharmaceutical research, said that what he saw at the high-tech zone's biomedicine exhibition hall reassured him that it was the right choice to seek partnerships in Chengdu.

The provincial capital of Southwest China's Sichuan province has developed a solid foundation for the biomedicine industry, fostering a growing number of promising companies in the sector.

Revotek, established in September 2014, for example, announced in December last year a breakthrough in the clinical application of 3-D bio-printing technologies. The company was the first in the world to successfully implant custom-made, 3-D bio-printed blood vessels into animals.

The achievement will provide solutions to vascular obstructions and is expected to be used in the treatment of cardiovascular diseases, according to the company.

"Revotek's 3-D bio-printing technologies have great significance for future clinical applications. We hope to establish a friendly and cooperative relationship with them," Goodman said. The company is currently working on establishing an international cooperation platform. It will set up overseas branches in countries including the United States and the United Kingdom to facilitate technical exchanges and cooperation to attract more professionals.

"We hope to make the 3-D printing of artificial blood vessels a new symbol of Chengdu, just like the giant panda, through cooperation with prestigious universities and research institutes

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worldwide," a representative of Revotek said.

During the five-day visit, Revotek, the University of Tennessee and the West China Hospital of Sichuan University reached an agreement to set up a cardiovascular hospital in Chengdu. The university will also establish a campus in the city.

In addition to the training and exchange of scientific researchers, Stephanie Cormier, a professor of pharmacology, said that they also want to train more 3-D-printing professionals and entrepreneurs through the cooperation.

The Sichuan provincial government has remained focused on international technological communication for years and aims to build Chengdu into a biomedicine center in western China.

In March 2016, the Chengdu high-tech zone signed an agreement with the city's Shuangliu district government to build an international biotech industrial park.

Planned to cover a total area of 44 sq km, the park will mainly focus on biomedicine, biomedical engineering and other healthcare industries. It is expected to accommodate over 30,000 companies by 2035, with combined output value reaching 500 billion yuan (\$72.53 billion).

Last year, the park attracted two research institutes that are named after two Nobel laureates: John Michael Bishop and Karl Barry Sharpless. Bishop won the 1989 Nobel Prize in physiology or medicine, and Sharpless was awarded the Nobel Prize in chemistry in 2001.



A farmer's family harvest oranges at an orchard in Ya'an, Sichuan province. The fruit are sold nationwide through e-commerce platforms. PHOTOS PROVIDED TO CHINA DAILY



Actress Shu Chang (center), farmers from Sichuan and other volunteers hold an online promotion for kiwi fruits produced in the province.



A farmer in Sichuan province shows his produce, for which he can now use the Rural Taobao online platform to reach more customers and increase his household income.

E-COMMERCE KEY TO POVERTY RELIEF EFFORTS

Villagers use Rural Taobao platform to trade in agricultural products, Zhang Zhao reports.

China's e-commerce giant Alibaba Group and third-party payment platform Ant Financial Services Group signed an agreement with the government of Sichuan province late last month to cooperate in a wide range of businesses including cloud computing, big data, e-commerce, logistical networks, tourism and credit systems.

Alibaba Chairman Jack Ma said that new retail and financing models, new manufacturing technologies and new energy solutions will influence many traditional industries over the next 30 years, and the company will be involved in Sichuan's poverty relief work by developing e-commerce in the countryside.

Alibaba and Ant Financial Services regard Sichuan as their headquarters in western China. Last year, the two companies invested a total of 3.16 billion yuan (\$456.2 million) in Sichuan.

In Yuhe village in the Chuanshan district of Sichuan's Suining

county, villager Tang Zhiyu became a Rural Taobao partner in November 2016, helping other villagers to buy and deliver fertilizer, seeds, agricultural machinery and home appliances online.

The turnover of his shop exceeded 10,000 yuan on the first day, and profits reach more than 1,000

24 counties in Sichuan province have access to Alibaba's Rural Taobao online shopping platform

16 counties will be removed from the poverty list by the end of 2017

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some of the first projects. In March 2016, Shimian tangerines were sold to many e-commerce platforms. The trade volume reached 1.28 million yuan in the first four days, according to Wang Zhiwei, director-general of the tangerine cooperative in Pingyang township of Shimian county.

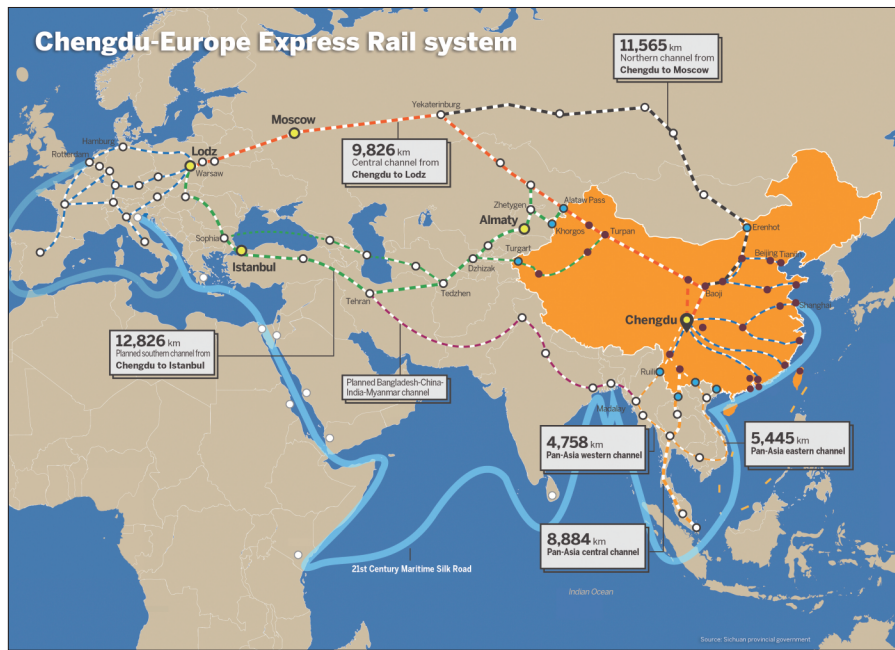
The provincial government of Sichuan has planned to build at least 10 model counties this year using e-commerce to help local residents escape poverty. The pilot counties will attempt to develop innovative policies and public services, help to build supply and logistical systems, and establish product quality standards and personnel training programs.

The e-commerce model will cover all 88 impoverished counties in the province by 2020, said the Sichuan Provincial Department of Commerce.

Contact the writer through zhang-zhao@chinadaily.com.cn

Global Foundries, one of the world's leading wafer fabrication company, launched its Chengdu 12-inch (305-mm) wafer fab project in Chengdu High-Tech Industrial Development Zone in February.

As the first 12-inch wafer production line in Southwest China, the project will attract investment totaling more than \$10 billion, making it Global Foundries' largest and most advanced wafer production base in China.



Express rail service to keep city's trade growth on track

By HAO NAN

Chengdu, capital of Sichuan province, began running freight trains to Belarus on March 1, bringing auto parts ordered by Chinese carmaker Geely for its joint venture in Minsk, capital of Belarus.

The train, running on the northern route of the Chengdu-Europe Express Rail service, is carrying 41 containers of auto parts, and will travel more than 8,800 kilometers over the course of 12 days to reach the Belarusian capital.

Feng Xuhong, vice-president of Chengdu Geely, said the auto parts and accessories, worth nearly \$600,000, were made at the company's plants in Ningbo, Zhejiang province, and Chengdu. They will be used to assemble the Geely G03 luxury sedan in Minsk. Once completed, the vehicles will be mainly sold in Eastern Europe and Central Asia.

"The greatest advantages of using the Chengdu-Europe Express Rail service are that it guarantees delivery efficiency and lower transportation costs," Feng said.

Before the express rail service, Geely used to send car parts to Minsk through combined sea and road transportation routes. "The rail route is much faster, reducing the time from 40 to 12 days," he said.

The Chengdu-Europe Express Rail service, which became operational in April 2013, is the fastest and most frequently used cargo railway route that links the city to European countries, in line with China's Belt and Road Initiative.

Stretching over 9,800 km, the service originally ran a weekly freight train from Chengdu to Lodz, an emerging European logistics hub in Poland.

It was then expanded to other cities such as Kutno in Poland, Nuremberg in Germany and Tilburg in the Netherlands, and finished trial runs to Istanbul in Turkey last year.

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Feng Xuhong, vice-president of Chengdu Geely

One of the most important reasons to build a free trade zone is to promote and facilitate easier trade links and processes. In this regard, the express rail service, which serves as an international logistics corridor linking China and Europe, will play a crucial role in the future development of Sichuan Free Trade Zone, according to the provincial government.

In August, Sichuan was approved by the central government to join China's third batch of an eventual seven pilot free trade zones. Preparation is now moving into the final stages, and it is expected that the launch date will be announced within weeks.

Dai Bin, head of a research center for regional economy and urban management at Chengdu-based Southwest Jiaotong University, said free trade zones must have the foundation to develop large transportation networks, because they, as platforms that integrate into global economic activities, need to maintain close economic ties with countries around the world.

Supported by the express rail service, the Sichuan Free Trade Zone can strengthen cooperation with China's coastal ports, establish more duty-free shops to boost cross-border e-commerce businesses and also better facilitate construction of bonded logistics centers, Dai said.

Over the past four years, many companies have benefited from the express rail service, including DHL Express, Lenovo, TCL and Dell.

The Chinese consumer electronics company TCL, for example, has used the service to transport 99 percent of the color television components produced at its factories in Chengdu and Huizhou, Guangdong province, since January 2016. The components are taken to the factory in Poland, which is the company's largest such facility in Europe, with an annual production capacity of 2.2 million color TV sets.

This year, the company is scheduled to increase its production capacity by an additional 800,000 TV sets at its factory in Chengdu. Components for these TVs will be transported to and assembled in Poland, and the finished sets will be sold throughout Europe.

Liang Tiemin, vice-president of TCL Multimedia, said since Chengdu is the starting point of the express rail service, the company plans to make the city its major manufacturing base for TVs to be sold in Europe.

Dong Mingzhu, chairwoman of the Chinese household appliance manufacturer Gree, is also very optimistic about Chengdu's strategic position and its market potential, saying her company would locate more projects in the city in future.

In 2016, 460 journeys were completed via the express rail service, delivering 73,000 metric tons of goods worth more than \$1.3 billion. It is expected to run 1,000 cargo trains to Europe this year.

Global Foundries executives and local officials at the ground-breaking ceremony of the Chengdu wafer fabrication project.

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Civilian businesses to lend industrial prowess to military

By CHEN MEILING
chenmeiling@chinadaily.com.cn

Sichuan province plans to authorize more than 50 local private companies to take part in military industry projects and transform five military units into civil-military integration companies this year, local officials said in February.

The integration will cover industries including aviation, aerospace, Internet Plus, advanced chip production and information security to launch more civil-military integration projects this year, said Xu Zhou, director of the National Defense, Science and Technology Industry Office of Southwest China's Sichuan province.

"We will promote more resource and technology exchanges between civil and military entities," Xu said. Sichuan, along with seven other regions, has been approved by the central government to push forward comprehensive innovation and reform trials.

The province is focusing its reform on civil-military integration with its strength in human resources and scientific research in military-related industries, said Xu. Sichuan Haite High-Tech, one of China's leading aircraft maintenance enterprises, is among the local private companies cooperating with military entities.

According to a People's Daily report, the company co-founded Chengdu HiWafer Technology with a local military research institute focused on electronic information research. They invested 2 billion yuan (\$290 million) in the joint venture to develop advanced radio frequency (RF) chips. The venture became operational in October 2016.

Li Biao, chairman of Haite High-Tech, told People's Daily that the RF chip was previously imported from other countries. It is advantageous in large data transmissions over long distances, which could be applied to internet of things technology and the construction of intelligent cities.

"Why did a company repairing airplanes begin to produce chips? Because if something meets the need of the nation, the industry and the public, it must have strong market potential in the future," the report quoted Li as saying.

Duan Tao, vice-president of the Sichuan Civil-Military Integration Research Institute, said military enterprises can provide a broader platform in terms of resources and technology, while private companies have rich assets and are more flexible in the market, People's Daily reported.

Mixed ownership
"Mixed ownership of companies is an innovative way to promote civil-military integration," the report quoted Duan.

The Southwest Automation Institute of China South Industries Group Corp, located in Mianyang, Sichuan province, was one of the

first entities to announce plans to transition from a military unit to a company, according to a Sichuan Daily report.

Four other units are expected to follow suit as part of the province's civil-military integration initiative. The institute is expected to become a listed company in the A-share market in 2019 through employee stock ownership and investment plans, said Liu Yong, general director of the institute.

"It's not easy to be the first to launch the transformation, but I think when it's done, others can learn from our experience," Sichuan Daily quoted Liu.

He told Sichuan Daily the institute, which has 40 years of history in automation and information, invented sensor technology in the late 1990s while developing military robots.

"We realized this technology has great potential in the market. But funding was a problem at the time," said Liu.

The institute founded Mianyang Weibo Electronics, a shareholding company, in 2006 to manufacture products used in railways, communications and petrochemical engineering industries, he said.

Weibo Electronics' per capita output value reached 800,000 yuan in 2016, he added.

Hao Yungang, the institute's head of development planning, said a company survey shows that employees were longing for the civil-military integration transformation because they expected it to result in better benefits.

"In addition to the rise of salaries, employees could also get profits from the dividends in the future. It's no surprise they look forward to the transformation," said Hao.

According to the Sichuan government, the province has established research institutes and technological trading centers for civil-military integration in the past year and will provide more financial support and continue to hold promotional events this year.

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Tian Yulong, engineer-in-chief of the State Administration for Science, Technology and Industry for National Defense, said entities should follow up business related to services-providing and maintenance when pushing forward the integration.



Delegates from the University of Tennessee Health Science Center pay a visit to the Chengdu High-Tech Industrial Development Zone.



John Michael Bishop, the 1989 winner of Nobel Prize in physiology or medicine, is appointed chairman of the academic board of the cancer research institute named after him.



Global Foundries executives and local officials at the ground-breaking ceremony of the Chengdu wafer fabrication project.

duction process, leading to higher yields.

Chengdu is the ideal place for the project as the city has complete infrastructure, a skilled labor force, and high-tech company cluster, said Sanjay Jha, CEO of Global Foundries.

The company's project fills the gaps in 12-inch wafer production in Southwest China. It will enlarge the scale of Chengdu's electronic information and integrated circuit industries, which will help the city

to build a globally renowned integrated circuit industry base, according to an official at the zone.

According to the city's plan, the output value of the electronic information manufacturing industry will reach 570 billion yuan (\$83.04 billion) by 2020, with an average annual growth rate of 20 percent; software and information services will achieve an output value of 430 billion yuan, with an average annual growth rate of 16 percent.

The city of Chengdu and Global

Foundries are also looking at funding the Chengdu Integrated Circuit Ecosystem Plan, with a view to carrying out additional, in-depth cooperation in various fields.

In the integrated circuit industry chain, Chengdu has also attracted global semiconductor manufacturing giants Intel, Texas Instruments and AMD, as well as Taiwan-headquartered semiconductor firm MediaTek, and the Chinese mainland's Spreadtrum Communications, to settle in its high-tech industrial zone.

On Nov 18, Intel launched its advanced test technology project in Chengdu High-Tech Industrial Development Zone, with total investment of \$1.6 billion.

The recent investment boom in Chengdu is rooted in Sichuan province's overall investment climate.

The number of major investment projects in the province is set to reach 1,952 in the first three months of 2017, with total funding of 786.9 billion yuan.

The projects will mainly focus on infrastructure, industrial development, livelihood enhancement and social undertakings. Among them, industrial projects make up the high-

est proportion, accounting for 41 percent, with an annual increase of 6.6 percentage points. The increase shows that industrial investment, mostly from non-State-owned businesses, is taking the place of infrastructure investment to drive local economic growth.

Several projects, including a high-tech rail production project in Guang'an, a biological composite material for 3-D printing project in Nanchong, and a new-energy gas generator project in Suining, are among the large-scale industrial investment ventures located in Sichuan.

Chengdu's high-tech, modern manufacturing, modern services and modern agriculture sectors accounted for 52 percent of total investment in key projects.

There are currently 168 projects in Sichuan that boast investment of 1 billion yuan. Such large-scale projects can only survive and thrive in the correct environment and market conditions. The province's major projects have bucked the continuing trend of economic stagnation, showing the province's increasing appeal to investors, according to an official at the Sichuan Provincial Investment Promotion Bureau.