

Engineering a bright future for Zhanjiang

Mayor says massive projects fuel jobs and the economy, but pristine environment remains the top priority, **Tom Clifford** and **Sun Shangwu** report.

If your goal is to engineer success, then having an engineering background is a decided advantage.

With a degree in engineering, Zhanjiang Mayor Wang Zhongbing spent a year in the German city of Dusseldorf.

A famed German automaker has the motto *vorsprung durch technik* — or advancement through technology — which is an accurate description of the approach the mayor is putting into practice.

He knows his harness bolts from his rivets and is equally at home discussing weight load ratios, investment, tourism and the environment.

Considering his background it is not surprising that his language is peppered with engineering terms.

The recent launch of the Zhanjiang government website, in conjunction with China Daily, is a “bridge to friendship”, he said.

Reaching out to the world through the website, he added, is a natural extension of journeys undertaken 2,000 years ago during the reign of Emperor Wu in the Western Han Dynasty (206 BC-AD 24), when the central government sent officials and recruited sailors to depart from Xuwen in Zhanjiang and Hepu in Guangxi. They sailed west to Vietnam then arrived at what is today India and Sri Lanka, bringing silk, gold and other cargo.

But the website is just one element of the technological advance that is transforming the city in Guangdong province.

Reflecting on the achievements of 2014, the mayor said it was a remarkable year but it's the vision for the future that animates him.

“We’ve ensured our air quality, blue skies, white clouds,” he said.

“Major new works are underway, a new airport is planned to be constructed at the end of 2015 and the Bao-steel plant in Donghai Island will start production in September,” he said.

Those projects include a massive harbor expansion, and the Shenzhen-Maoming section of the high-speed railway linking Shenzhen in the



The crude oil terminal in Zhanjiang can accommodate vessels of up to 300,000 tons. PHOTOS PROVIDED TO CHINA DAILY

Pearl River Delta with Zhanjiang that started construction in June.

A high-speed rail line linking Hepu county in the Guangxi autonomous region is now set to start construction.

The mayor said the city is also on target to reach a 60 percent urbanization rate in the coming decade, while its GDP is projected to hit 400 billion yuan (\$65 billion) in 2017.

Another massive project under construction is a petrochemical joint venture, the largest Sino-foreign project of its type to be built on the Chinese mainland, that will include a refinery to process 15 million tons of crude oil a year.

As well, other projects include a giant papermaking project by China Paper Corp and Chenming Group, a planned 50-square-kilometer

petrochemical industrial park and a 30-sq-km steel industrial park in the Zhanjiang Economic and Technological Development Zone.

The phrase Mayor Wang uses to characterize the area is Hi Valley in South China, where innovation and technology are at the frontline of development in the steel, pharmaceutical and marine industries.

A priority

But for the city of about 8 million residents ensuring a pristine environment remains a priority.

“We want people to use green energy when they go about their daily lives, going to work or moving around the city,” he said.

“We have 5,000 bikes costing 60 yuan a year to rent, as well as 400,000 electric bikes in use. We also have 70 km of

green paths in the city to walk or cycle and 1,000 buses have been taken off diesel.”

These measures help to maintain PM 2.5 readings below 20 in the city all year-round.

The rainbow approach to the environment is summed up by Wang. “Green mountains, blue seas and skies and white clouds.”

The city richly endowed with nature's bounty includes the fifth largest island in China with 28 km of beaches.

One particular stretch of 20,663 meters has made it into the Guinness Book of Records as the longest uninterrupted beach in China.

The quality of its seafood is renowned throughout southern China and is whetting an increasing number of appetites further afield.

Located on the Leizhou Peninsula, the city enjoys a tropical climate.

It is unique in China with 33 km of golden coastline flanking the urban center. Jinsha Bay Bathing Beach and Fishing Port Park Bathing Beach are among the largest in China.

With Nansan, Techeng, Donghai, Naozhou and Nanping islands — the “Five Islands and One Bay” — the city has some of the most distinctive coastal tourism sites in Guangdong.

The city is making an increasingly well-known name for itself but Wang is mindful of his duties and who the city answers to.

“It is the people who will judge us on the economy and environment. We are answerable to them,” he said emphatically.

“Last year we were hit by two typhoons within a 60-day period. No one died and the city recovered quickly. Our focus is always on the people,

this generation and future generations,” he said.

Planning for tomorrow

Consequently planning for tomorrow, in the form of reaching out to educational institutions both at home and overseas will help the students of today have a successful tomorrow.

Zhanjiang has seven universities and colleges with 110,000 students, second only to Guangzhou as the city in the province with most institutions of higher education.

In recent years, Guangdong Medical College in Zhanjiang has had cooperation and exchange programs with a number of foreign universities including Canada's Saint Mary's University and Thompson Rivers University, the UK's University of the West of England, University of Huddersfield and Univer-



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city of Wolverhampton, the Netherlands' Noordelijke Hogeschool Leeuwarden, Australia's Griffith University, Ireland's University College Dublin, Japan's Jikei Group of Colleges, Kokusho Japanese Language School and Poland's Euro-Asian Foundation for Business Education.

The city and its environs are renowned for the fertility of its red soil. It seems anything can take root and grow including a vision for the future that will give Zhanjiang and other cities like it in China an increasing role in the national and international economy.

“Our doors are wide open to the world,” Wang said.

Zhanjiang cuisine is famous, and with 2,044 km of coastline, more than 140 islands, a 20,000-sq-km marine area and more than 1,000 kinds of fish, it provides an environment, both natural and commercial, that is rich in opportunities.

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Baosteel forges landmark facility

By **TOM CLIFFORD**

Any retailer, large or small, can tell you three things are crucial to setting up shop — location, location, location.

Whether it is a corner store or a multimillion dollar steel project, making access easier for those wanting to trade with you is a prime consideration.

It is a guiding principle for Baosteel, whose 12.6-square-kilometer steel plant on Donghai Island in Zhanjiang is on schedule to produce medium-grade and high-end steel when the first of two blast furnaces is completed in September.

With the second blast furnace due to fire up in March 2016, the Guangdong province plant will produce about 8.75 million tons of steel and about 8.23 million tons of iron annually.

“We have two berths for iron ore shipments from Australia and Brazil,” said Xia Zhengda, director of corporate culture department at Baosteel Zhanjiang Steel Co. “This plant means the vessels will be able to save valuable time as their journeys will be lessened.”

He added that the shipping cost will be lower than to facilities in Shanghai.

“Each vessel will take about 10 days to get here from Australia and carry 300,000 ton of iron ore. They each have enough iron ore to help make the steel for two Bird's Nest stadiums.”

The project is located on a

sun-drenched island dotted with shrimp farms and fields of sugar cane. Nature's bounty provides sustainable living for thousands of people directly and many more indirectly. Not surprisingly, the environment is a major focus for harmonious corporate and city development.

This is not a typical type of steel plant with flames burning off excess fumes. Protecting the rich soil and abundant marine life are high on the agenda, Liu Daide, deputy chief for construction at Baosteel Zhanjiang, explained inside the project's main building.

“Our safeguards are higher than the national standard and we will release environmental impact reports regularly,” he said.

“All this will be published on an environmental website. There will also be third-party monitoring. All these measures are necessary and important but there is another factor we should take into account. The project will employ thousands of people and many of them will be living nearby with their families. They also demand a clean environment.”

The facility will produce steel for automobiles and home appliances, thick sheets for construction and steel for shipbuilding.

When fully operational, four to five vessels carrying iron ore will berth each month along with smaller vessels carrying coal and coking coal, vital

ingredients in the steel-making process.

The iron ore and coal already delivered is stored in huge dome-like structures to make sure no wind-blown particles get into the atmosphere. The plant itself is set to have the lowest discharge of any steel producing facility in China and almost 100 percent of byproducts, including solid waste and wastewater, will be recycled, Liu said.

The location also means the plant is nearer to both domestic and overseas markets.

“Much of the steel, initially, will be used in southern China but markets for Chinese steel are growing in Southeast Asia as well as in Europe and the US,” he said.

Resembling a space rocket on a launch pad, the first blast furnace is already taking shape. At 1.6 billion yuan (\$257.5 million), the made-in-China equipment uses the most advanced technology.

Temperatures inside will reach 1,700 C for steel and 1,600 C for iron.

The workforce at the plant will number about 4,000. Already more than 500 residents of the island, including farmers, have been trained to work at the site when it is fully operational.

Circular economy

Not a project done in isolation, it is part of a broader vision that encompasses a circular economy that includes a nearby petrochemical complex.

Slag from the steel plant will be processed into cement that can withstand the erosive force of seawater. Hydrogen produced by the steel plant's coke oven gas, wasted by many other facilities, can be utilized by the refineries, while waste plastics from the petrochemical plant can be used for the blast furnace.

The petrochemical complex, a joint initiative between Sinopec and the Kuwait Petroleum Corp, is designed to process 15 million tons of crude oil annually along with more than 800,000 tons of ethylene. The refinery is due to be completed in 2016.

It has already passed strict environmental protection assessments from the Ministry of Environmental Protection.

The steel project is not the biggest in China — other plants produce 20 to 30 million tons of steel and iron annually — but it is nonetheless a landmark development, said Liu inside a room almost spartan in its functionality. A table and chairs provided a basic seating arrangement and the only adornment was a large map with colors charting the project's advance.

“The plant is located to take advantage of the market, and emphasize the importance of the environment.”

When the first molten iron flows off the line in September a small celebratory party will be held to mark the occasion “but then it is back to work”, Liu said.



The No 1 blast furnace at Baosteel's Zhanjiang plant is scheduled to be completed in September.