

From "Mud" to Gold: How to "Transform Decay into Magic"?

By Mao Xinhui

In 2008, Zhang Wenbiao, a graduate student from CESE of Tongji University, faced the dilemma of choosing a career path. His participation in competitions and entrepreneurial experiences during his time at school planted the seed of entrepreneurship in his heart. Zhang quickly gathered a team of entrepreneurs and, with a startup capital of 150,000 yuan from the Shanghai Student Science and Technology Entrepreneurship Foundation and Tongji Fund, established Shanghai Tongchen Environmental Protection Co., Ltd. in a single room at Tongji Technology Building.

"At the beginning of our entrepreneurship journey, we did everything and encountered many obstacles." Looking back at the 15-year entrepreneurial journey, Zhang Wenbiao, Chairman of Tongchen Environmental Protection, said, "Whether it was the science and technology park, Tongji University, or management gurus in society, they all provided us with tremendous help."

Tongji University National University Science and Technology Park, where Tongchen Environmental Protection is located, is a collaborative effort between Tongji University and the Yangpu District government. It gathers abundant resources such as talents, markets, technologies, and channels needed for innovation and entrepreneurship. Over the years,

Tongchen Environmental Protection has deeply rooted itself here, relying on Tongji University's disciplinary advantages and the professional platform services provided by Tongji Science and Technology Park. By analyzing where social needs and their own problems lie, they have successfully bridged the gap between industry, academia, and research, thus achieving their own development.

At the beginning of its establishment, Tongchen Environmental Protection undertook numerous projects and invested a lot of effort in building an environmental technology network trading platform, aiming to provide services more conveniently through the website. However, during the actual operation, they discovered that the website had a long development cycle and required significant upfront investment, which put immense pressure on a startup company. With the in-depth guidance and advice from entrepreneurial mentors at the Tongji Science and Technology Park, Tongchen Environmental Protection chose to enter the sludge treatment field, which aligned more closely with their development direction. They independently developed a spiral sludge dewatering machine that enables resource recycling. The equipment's outstanding features, such as high efficiency, low energy consumption, and minimal noise, gained recognition from professional clients, further solidifying

the company's entrepreneurial direction of providing solutions centered around environmental equipment.

From tiles made of riverbed sediment to walls constructed from coffee grounds and eco-friendly public toilets with zero emissions, the integrated demonstration zone located at the intersection of Shanghai, Suzhou, and Jiaxing in the Yangtze River Delta region is hailed as a "showcase" for green development in the region. Tongchen Environmental Protection's innovative practices of "transforming decay into magic" can be found there. Through comprehensive water environment management encompassing dredging and solidification of water bodies, ecological restoration of water bodies, and the production of heat-treated bricks from sediment, Tongchen Environmental Protection transforms the sediment in the demonstration zone's river channels into various green building materials. The compressive strength of the products can reach up to 100 megapascals, which is more than three times the strength of regular tiles.

Outstanding research and development capabilities are the core strengths of Tongchen Environmental Protection. Relying on Tongji University's research and talent advantages in the field of environmental protection, the company has established its own research and development innovation platform and team,

bringing together professional technical personnel and expert advisory teams from various disciplines such as environmental engineering, mechanical engineering, fluid mechanics, electrical engineering, industrial design, and chemical materials. The collaboration between the enterprise and universities ensures the advantageous position and sustainable development of Tongchen's product technology from the technological source.

Zhang Wenbiao stated that the goal is to transform environmental protection from being solely a cost center for customers to becoming a profit center that brings tangible economic benefits. "This year, we will also introduce a new type of ultra-high-pressure press machine. This equipment can turn 'mud' into gold by converting coal slurry into usable products, bringing more profits to coal mining companies."

On May 15th, the Enterprise Service Center of Tongji Science and Technology Park was officially inaugurated. As the main window for providing services to park-based enterprises and entrepreneurial teams of students and faculty, the Enterprise Service Center undertakes the main functions of incubating technology companies and fostering innovative talent.

Like Zhang Wenbiao, many college students start their own businesses immediately after graduation, and they face significant obstacles.

From registering a company and setting up accounts to daily operations, market promotion, building factories, visiting clients, signing contracts, and hiring employees, a series of new problems arise one after another. Describing the early stages of entrepreneurship as being both the boss and the worker is not an exaggeration. At this stage, Tongji Science and Technology Park not only provides them with affordable and convenient office spaces but, more importantly, also offers targeted training and activities to help the startup teams transition from professional technical talent to business management talent.

In recent years, the park has made great efforts to create an innovative entrepreneurship service system that encompasses the "full chain, full elements, full cycle" approach. It has gradually expanded to the front end and back end, establishing a three-tier enterprise service mechanism consisting of "liaison officers, counselors, and entrepreneurship mentors," to meet various needs of enterprises throughout their entire life cycle.

"As times change and technology advances, enterprises are also demanding more. As a science and technology park, we must continuously innovate the service content and strive to create more value for enterprises," said Qian Xuebiao, the General Manager of Shanghai Yangpu Tongji Science and Technology Park Co., Ltd.

How High is the "Technological Content" of Green Practices?



By Tang Shunjia and Dou Yuqi

One evening in March of this year, as the lights started to shine, many office workers, residents, and even hurried passersby were drawn in by the sound of live music and entered Changyang Campus. Playing

Frisbee, drinking hand-brewed coffee, tasting fragrant tea, and exploring the magical world of upcycling old items... The first Changyang Joy Market with the theme of "green living" opened, and in the night, the tall industrial buildings resembled a carefully coordinated giant color

palette, while the bustling crowd created a lively atmosphere with wisps of fireworks rising.

Here, the once-rumbling sound of textile machinery has long been replaced by the sound of keyboards from today's entrepreneurs.

Recently, the Changyang Cam-

pus Low Carbon Smart Platform was launched. According to the reporter's understanding, this platform achieves dynamic, data-driven, and visual management of information such as carbon emission intensity, greening construction, air quality, and environmental governance in the park by strengthening the integration of environmental data sets through technologies such as the Internet of Things and big data.

Entering Changyang Campus, wireless grass-cutting robots accurately position themselves on the lawn and operate automatically. Intelligent patrol robots provide 24/7 security services, patrolling back and forth. Driverless buses shuttle white-collar workers, speeding up travel within the park. The integrated intelligent superfast charging station, "light storage and charging inspection," has been successfully deployed in the Changyang Campus parking lot, creating a new 2.0 version of the demonstration station for "light storage and charging inspection" and forming a comprehensive AI supercharging network system...

Artificial intelligence and green low-carbon practices are the shining credentials of Changyang Cam-

pus. Zhang Hong, General Manager of Shanghai Changyang Campus Enterprise Development Co., Ltd., introduced, "Currently, the park focuses on elements such as energy consumption data collection, public charging piles, and carbon footprint management. Under the leadership of the District Ecological Environment Bureau, it is actively promoting the construction of a low-carbon digital platform, laying the foundation for low-carbon digital management. At the same time, the park continues to strengthen the low-carbon radiation of the surrounding areas. Baolong Xuhui Plaza uses environmentally friendly materials and high-performance environmental equipment, equipped with an intelligent monitoring and regulation system. The energy consumption intelligent management platform of the City Concept Creative Park can monitor internal energy consumption in real time. The Great Campus insists on putting people first and empowering with technology, creating a low-carbon park, a digital park, and an ecological park, actively advocating for green lifestyles and consumption patterns."