



# **Linqu County Scale Above Industrial Enterprises Scientific and Technological Innovation Ability Steadily Improved**

**Shijiang Li<sup>1</sup>, Xiaoli Yi<sup>2</sup>, Jingfen Chen\***

**The Linqu County Bureau of Statistics, Weifang 262400, China.**

---

**Abstract:** At the present stage, in order to make the Linqu County scale above industrial enterprises scientific and technological innovation ability to be improved. Linqu County strive to build a wide benefit, efficient and coordinated innovation support policy system, give full play to the effectiveness of tax policy, maximize the innovation potential of the whole society, for the county new growth energy conversion cast a strong innovation engine.

**Keywords:** Industrial Enterprises; Technological Innovation; Ability; Strategy

---

## **Introduction**

In recent years, under the strong leadership of the county, the county government, linqu county always adhere to the innovation is the first driving force of development, the full implementation of innovation driven development strategy, the county industrial enterprises independent innovation ability, scientific and technological innovation system mechanism, accelerate innovation support policy system, technology support of the development of enterprise increasingly prominent.

### **1. Investment in science and technology continues to increase, and government investment has played a significant driving role**

In recent years, Linqu County thoroughly implemented the innovation-driven development strategy and the old and new momentum transformation strategy, focus on improving the independent innovation ability of enterprises, focus on enhancing research and development investment, the comprehensive strength of scientific and technological innovation has been significantly improved.

#### **1.1 R & D investment has been increasing**

In 2019, the county's industrial enterprises above the standard r & d investment of 500.3 million yuan, 16.0% higher than at the end of 2015. From the perspective of industry: industrial enterprises above designated size in the county cover 17 industrial categories, among which non-ferrous metal smelting and rolling processing industry, chemical raw materials and chemical products manufacturing industry, and special equipment pharmaceutical industry ranked the top three in 2019, accounting for 44.5%, 20.3% and 7.0% of the r & d investment of industrial enterprises above the regulation, respectively.

#### **1.2 Government investment has played a significant driving role**

The government financial investment in R & D funds can play a guiding role in the "r & d investment" of enterprises, and can effectively guide enterprises to build a diversified R & D investment mechanism. Since the 13th Five-Year Plan, the investment source of industrial enterprises above designated size has shown an increasing trend. In the past four years, the government invested 51.63 million yuan in funds, driving 1.868 billion yuan of research and development funds from enterprises. The government's "small investment" played a significant role in lever "large investment" in enterprises.

### **2. Enterprises play a major role in innovation, and the development of research and development institutions was strengthened**

Since 2016, Linqu County has continued to improve the policy system to encourage scientific and technological innovation, continue to stimulate the endogenous impetus of enterprise innovation, to promote the county's scientific and technological innovation work to a new level has laid a solid foundation.

#### **2.1 Research and development activities are more active**

In 2019, 220 projects in the county, 331.4% compared with 2015, 64.2% compared with 2018, 1679 researchers and developers, 74.5% compared with the end of 2015. In terms of R & D projects, 200 projects are selected by enterprises,

accounting for 90.0%, and 20 national and local science and technology projects, accounting for 10.0%. In terms of project cooperation form, the project is mainly completed by enterprises independently, accounting for 95.9%, followed by cooperation with domestic universities, accounting for 3.6%. The universality, innovation and activity of enterprise R & D and development activities constantly improve <sup>[1]</sup>.

## **2.2 The development of research and development institutions has been continuously strengthened**

R & D institutions run by enterprises are an important organizational guarantee for enterprises to continuously carry out R & D activities. In 2019, 17 industrial enterprises above designated size in the county established research and development institutions, accounting for 6.4% of all industrial enterprises above the regulations. A total of 28 research and development institutions, including 2 research and development institutions set up overseas. There are 915 R & D personnel in the enterprise R & D institutions, including 45 doctors and masters, accounting for 4.9% of the R & D personnel in the research institutions. The original price of instruments and equipment in the fixed assets of the enterprise R & D institutions was 58.03 million yuan, an increase of 13.8% compared with the end of 2015. The strengthening of the infrastructure of R & D institutions has laid a foundation for enhancing the R & D vitality of enterprises.

## **3. The capacity for scientific and technological innovation has been steadily improved, with fruitful results in scientific and technological innovation**

In recent years, Linqu County has formulated the "Implementation Opinions on Deepening the Reform of science and Technology System and Accelerating the Development of Innovation", supporting the innovation and development of small and micro science and technology enterprises, promoting the transformation of scientific and technological achievements, and strengthening intellectual property work, which has greatly stimulated the innovation vitality and creative potential of the whole society.

### **3.1 Independent research and development capabilities have been continuously enhanced**

Invention patent is the patent type with the highest technology content, the greatest innovation value, the strongest core competitiveness and the longest protection period. It is a comprehensive index to measure the quality of scientific research output and market application level in a region. In 2019, 218 patents were applied for by industrial enterprises, including 40 invention patents accounting for 18.3%; 347 registered trademarks at the end of the period; 12 scientific papers; 6 national or industrial standards, significantly increased core technologies and independent intellectual property rights from the end of 2015, innovation and development capability.

### **3.2 The scientific and technological output effect is obvious**

There is a long-term and stable balance relationship between R & D investment and new product sales revenue. New product sales revenue can directly reflect the output of enterprises in the research and development of new products. In 2019, 31.4% of industrial enterprises above the designated level launched new products, and the sales revenue of new products reached 7.42 billion yuan, accounting for 21.1% of the operating revenue of all industrial enterprises above the designated level, compared with 2015.

## **4. Vigorously develop scientific and technological innovation, and support and lead the development of the real economy with scientific and technological innovation**

### **4.1 Encourage researchers to innovate and start businesses, and build a highland of scientific and technological talents.**

We will formulate relevant policies and measures, focusing on the introduction and training of scientific and technological personnel, encouraging their entrepreneurship, and stimulating the enthusiasm for the transformation of scientific and technological achievements, and strive to make breakthroughs in the management of scientific and technological personnel, protection of scientific and technological innovation, and support for scientific and technological entrepreneurship. Adhere to the introduction of intelligence and the introduction of projects at the same time, combined with

the city's industrial development plan, introduce and train a group of high-level innovative talents and high-end innovation teams. Encourage and support all kinds of innovative talents or innovative teams at home and abroad to serve the city's economic and social construction in various forms such as part-time employment, cooperative research and joint training, so as to improve the gathering degree of innovative and entrepreneurial talents in the city.

#### **4.2 Accelerate the cultivation of innovation-oriented backbone enterprises and enhance their independent innovation ability.**

Leading enterprises are the focus of characteristic industrial parks. According to the deficiencies and weaknesses of the industrial chain, introduce large enterprises and groups, give full play to the leading role of driving, radiating and demonstration, and gradually derive or attract more related enterprises to gather; improve the independent innovation ability of small and medium-sized enterprises to help the technology, quality and standard of leading enterprises. Actively undertake domestic and foreign industrial transfer, strive for and introduce major projects with good comprehensive benefits, strong drive and high science and technology; start the establishment of major innovation project resource library in Anqiu, gradually establish backbone enterprise echelon and major project group of high-end industry development in Anqiu; and strive to communicate and coordinate with superior science and technology authorities, and obtain more projects and funds in our city.

#### **4.3 Build innovative industrial clusters and strengthen the guidance of the innovative development of industrial agglomeration.**

Integrate various innovative resources such as government, industry, learning, research, application, capital, and mediation, and build and develop a number of innovative industrial clusters by excavating one, cultivating one, one mature and demonstrating one. For each industrial cluster, make scientific and detailed planning according to its development law, focusing on improving the main elements of the cluster system; change the government support direction from individual project and enterprise support to key value link and key generic technologies, into support for industry-university-research cooperation and collaborative innovation; improve public service and improve the utilization efficiency of public resources. We will build and improve public technology research and development and support platforms, industry information exchange and release platforms, industry training institutions, etc.

#### **4.4 Build science and technology characteristic industrial parks to enhance the overall competitiveness of the region.**

Promote the construction of various park incubators and other entrepreneurial carriers with high standards, build characteristic service platforms, establish characteristic industry alliances, characteristic industry entrepreneur federations and other organizations, and strive to create a good environment with international standards and domestic first-class. According to the resource endowment, vigorously build characteristic industrial park, guide and coordinate characteristic industrial park reasonable distribution, development, form dislocation development, complementary advantages, coordinated development, characteristic, overall strength of industrial development pattern, to make characteristic industrialization, industrial characteristic, characteristic industry scale, speed up the formation of "location brand".

Improve the mechanism of industry-university-research innovation cooperation and gather scientific and technological innovation resources.

## **References**

- [1] Wang, YY., Zhang, B., Zhang, B., Enhance innovation ability Industrial enterprises above designated scale have become the main force of scientific and technological innovation in Chuzhou [J]. Anhui Science and Technology, 2016 (12): 3.
- [2] Ma, LM., 2016 Analysis of R & D situation of industrial enterprises above designated size in the province [J]. Anhui Science and Technology, 2017 (11): 3.
- [3] Mao, SQ., Wang, Y., Huang, M., Research on the Evaluation and Development Countermeasures of Scientific and Technological Innovation Ability of Guangzhou Industrial Enterprises [J]. Science and Technology Management Research, 2020,40 (11): 7.

[4] Song, N., Research on Scientific and technological Innovation Ability of Chinese Industrial Enterprises —— is based on the perspective of integrated development of informatization and industrialization [J]. Sme Management and Technology, 2020 (17): 4.

About authors: First author: Li Shijiang (1979-), male, Han Nationality, Linqu County Bureau of Statistics, Weifang City, Shandong Province, professional title: senior statistician, research direction: comprehensive accounting statistics, Population and social science statistics, industrial statistics.

Second author: Yi Xiaoli (1981-), female, Han Nationality, Yeyuan Subdistrict Office, Linqu County, Weifang City, Shandong Province, professional title: intermediate economist, research direction: rural economy, agricultural statistics, population and social science statistics.

Corresponding author: Chen Jingfen (1971-), female, Han Nationality, Linqu County Bureau of Statistics, Weifang City, Shandong Province, professional title: senior statistician, research direction: comprehensive accounting statistics, population and social science statistics, industrial statistics