

## TEAM 5 – STAR



人大商学院 | MBA  
RENMIN BUSINESS SCHOOL

### BUY Hebei Sailhero Environmental Protection High-tech Co. Ltd.

Price: 7.69  
Price Target: 11.02  
Price Target Potential: 43%  
Price Target Period: 6M



### Investment Highlight

1. Hebei Sailhero Environmental Protection High-tech Co. Ltd. (Sailhero) is a China-based company principally engaged in the manufacture and sales of instruments and apparatuses. The Company is mainly engaged in ecological environmental monitoring equipment business, operation and maintenance service business, social testing business, environmental big data analysis and decision support service business, volatile organic compounds (VOCs) governance business and civil purification service business. The company's products include monitoring systems for air, waste water, smoke, water quality, rainfall and water micro-organisms. The company operates its business mainly in domestic market.
2. As a leading enterprise of domestic high-end environmental monitoring instruments over the past five years, the company's operating revenue has continued to grow at a high speed, with an annual growth rate of more than 25%, especially in 2015 the growth rate reached 42.56%. In the first half of 2019, the operating revenue was more than 670 million Yuan, an increase of 23.50% over the same period of last year. In recent years, the company has strengthened market development and continuously extended to districts, counties, towns and other markets, and was listed in the list of qualified suppliers of the United Nations global procurement system in June 2019.
3. The core competitiveness of the company lies in that the company can provide comprehensive services for the whole industrial chain of ecological environment, and adhere to the principle of independent research and miscellaneous development, increase investment in scientific research, and strengthen the construction of scientific and technological innovation talent team.
4. The policy of the 19th National Congress of China pointed out that "building ecological civilization is a millennium plan for the sustainable development of the Chinese nation, and we must establish and implement the concept of green water and; green mountains are golden mountains and silver mountains", benefiting from the increase of environmental protection policies, the continuous increase of orders, and the rise of performance.

*Team 5 – STAR consists of dynamic individuals from diversified backgrounds. Bringing with them a whole set of experience that is fruitful for a team competition like GNAM Investment Competition, to portray their core potential and inculcate the positive vibe throughout the team.*

#### TEAM MEMBERS:

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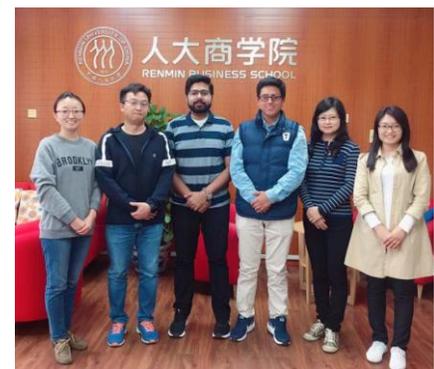
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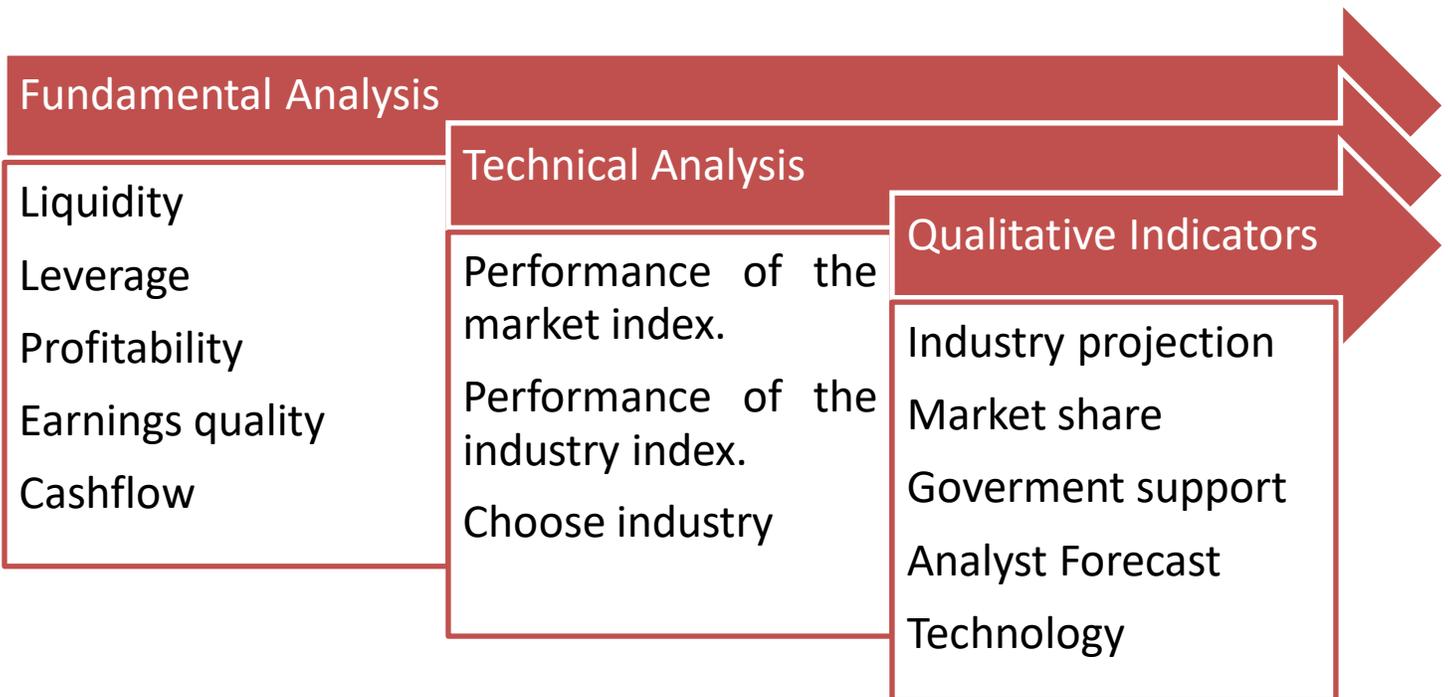


## GNAM Investment Competition 2019-2020

Our team decided to evaluate China's three financial markets: the Shanghai Stock Exchange, Shenzhen Stock Exchange and Hong Kong Stock Exchange. And we decided to invest mainly in the Shanghai and Shenzhen Stock Exchange, we ruled out investments on the Hong Kong stock exchange as we consider the future performance of stock prices will depend mainly on how the political problems will be solved between China and Hong Kong, and the trade war between China and United States of America, with the fundamentals of companies listed in that market becoming less relevant. The number of companies listed on the Shanghai Stock Exchange and the Shenzhen Stock Exchange amounts to 1,536 and 2,188 respectively. However, filters were made to eliminate companies that did not meet the conditions set out in the GNAM Competition base. The number of companies analyzed amounts to: 2,110

Shanghai	Shenzhen
795	1,315

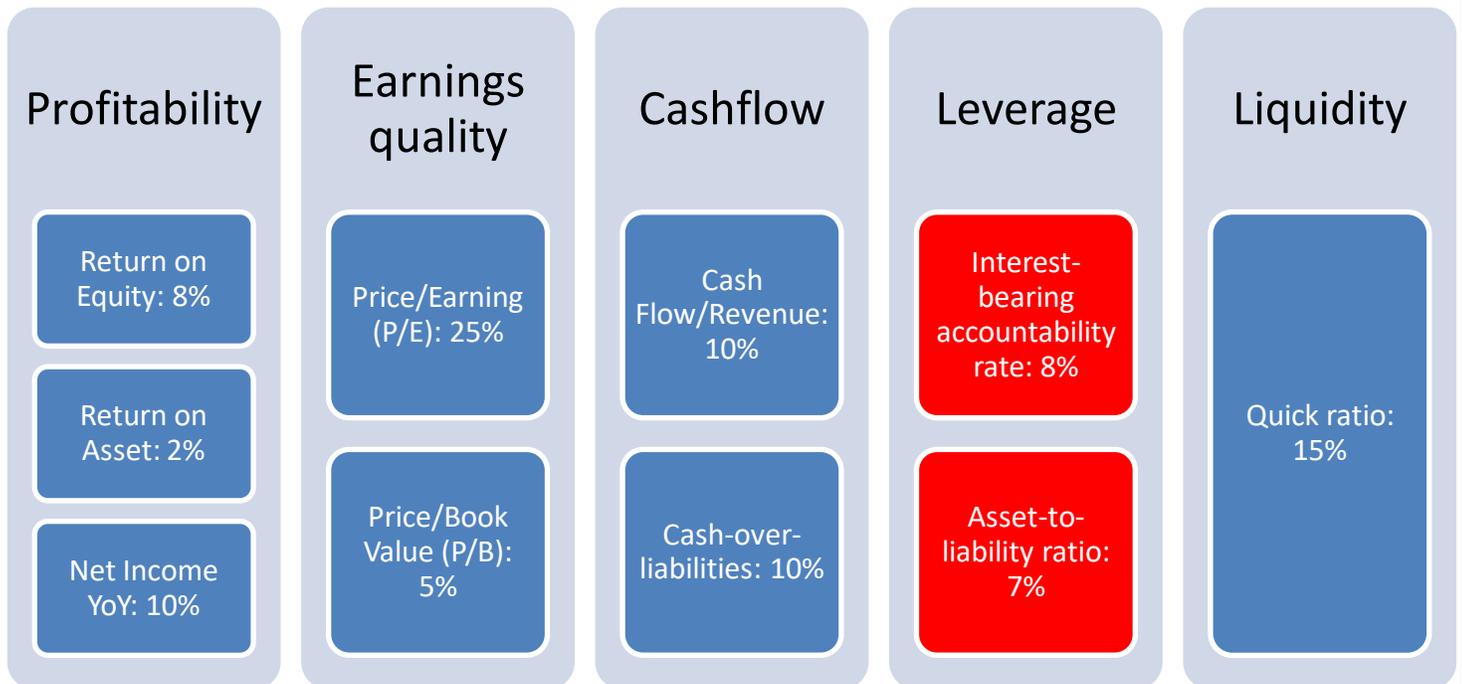
### FRAMEWORK





## FUNDAMENTAL ANALYSIS

The fundamental analysis is based on the evaluation of financial ratios of each company, the same that would determine the return of the shares. First of all, each company's financial ratio information was standardized taking into account the industry to which each company belongs after removing the outliers, thus making them comparable to each other. Subsequently, in order to develop a ranking of companies with the highest growth potential, weights were determined for each type of financial ratio, added and scored for each company. The ranking was based on the results of each company's score.



For standardization we apply:

$$Z Score_{a,b} = \frac{Financial\ ratio_a - mean(Financial\ ratio_b)}{Standard\ Desviation(Financial\ ratio_b)}$$

To estimate the score of each company we apply:

$$Score_a = 8\% * Z\ Score\ ROE + 2\% * Z\ Score\ ROA + 10\% * Z\ Score\ Net\ Income + 25\% * Z\ Score\ P/E + 5\% * Z\ Score\ P/B + 10\% * Z\ Score\ Cash/Revenue + 10\% * Z\ Score\ Cash\ over\ Liabilities + 8\% * Z\ Score\ Interest\ bearing\ accountability\ rate + 7\% * Z\ Score\ Asset\ to\ Liabilities + 15\% * Z\ Score\ Quick\ Ratio$$

Where a: Company, b: Industry



## GNAM Investment Competition 2019-2020

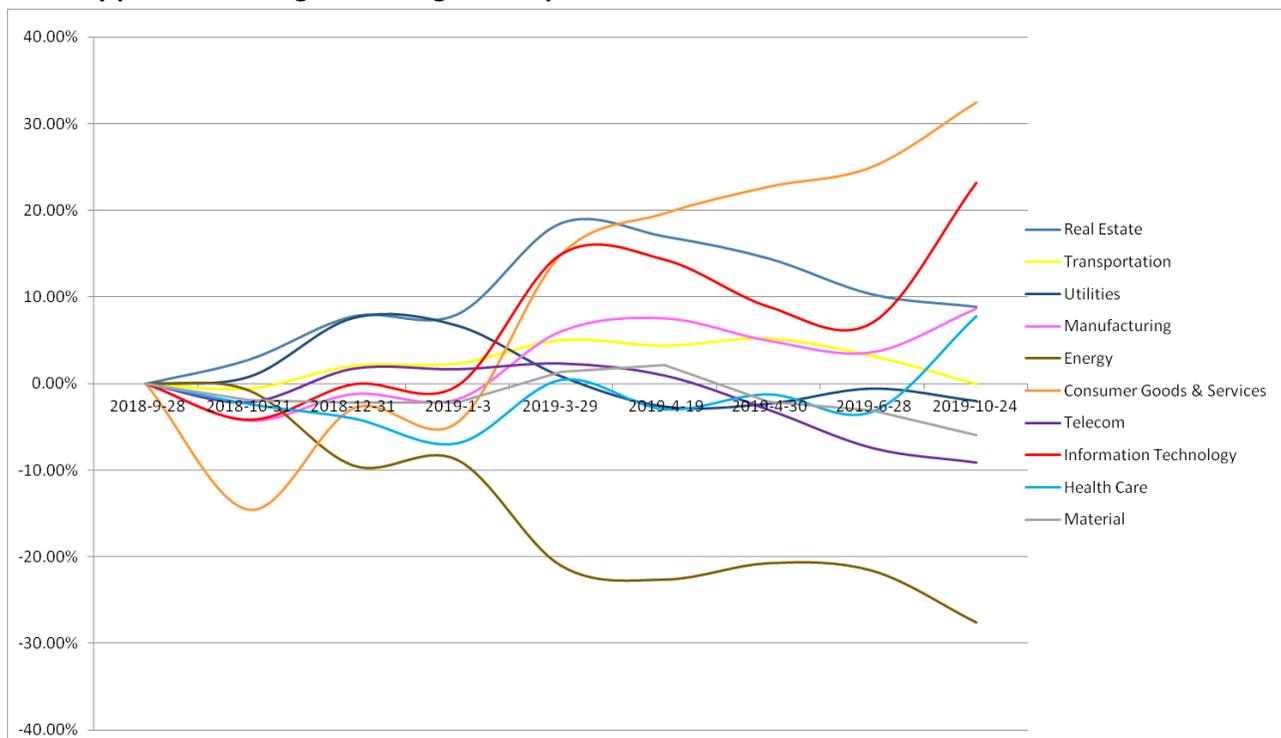
### TECHNICAL ANALYSIS

Technical analysis was focused on identifying those industries that has the greatest growth potential. According to the data obtained, all companies listed on the Shanghai and Shenzhen stock exchanges have been classified in 19 industries. For this the team has worked on the creation of sector indices and has compared the performance of each industry against the market benchmark, Shanghai Composite Index for one year. As shown in the chart below, the performance of four industries; consumer goods & services, information technology, manufacture and health care are significantly higher than other industries. Among the four industries the growth of consumer goods & services is the fastest and since June 2019 information technology, manufacturing and medical industries recovered from the declining trend with strong growth, while other industries continued as weak.

#### The industries that are of interest to us were:

- **Consumer Goods & Services**
- **Information Technology**
- **Manufacture**
- **Health Care**

Chart: Industry performance against Shanghai Composite Index

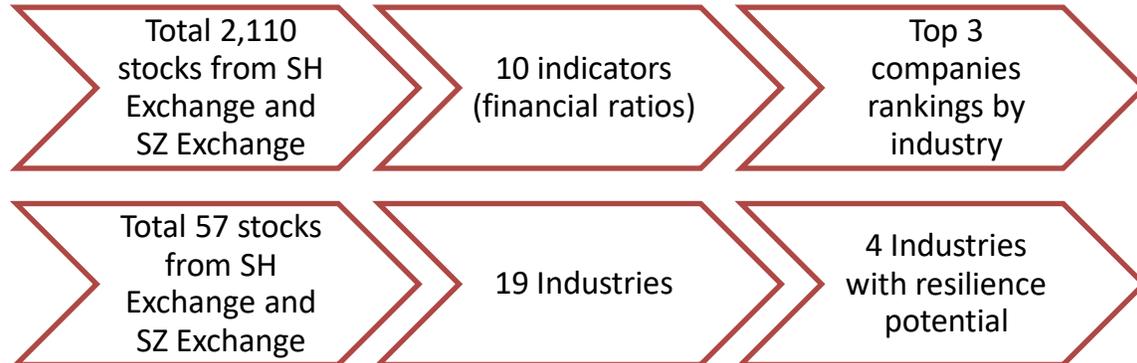


\*Please be noted that to make the chart clearer some industries were removed



## GNAM Investment Competition 2019-2020

### PROCESS AND RESULT



As a result of our analysis we have 4 industries and in each of them 3 companies. So we have 12 potential companies.

Then the fundamentals and valuation Z score were combined and ranked follow the below rule

Rank	1-2	3-4	5-6	7-8	9-10	11-12
Score	5	4	3	2	1	0

### QUALITATIVE INDICATORS

Then we researched each company and score them by the below Qualitative Indicators

<b>Business Prospects</b>	Whether the company has a bright business prospects
<b>Market Share</b>	Whether the company's products has a relatively high market share
<b>Government Support</b>	Whether the company's business is fully supported by the government
<b>Analyst Forecast</b>	Whether the company earned analysts attention with buy or strong buy recommendation
<b>Technology</b>	Whether the company invests enough in R&D and the technology is irreplaceable

The final score was calculated by: 35% valuation + 35% fundamentals performance + 30% qualitative

The full score is 20 so final score is calculated as

$$\text{Final score} = \frac{\text{Valuation}}{5} \times 7 + \frac{\text{Fundamentals}}{5} \times 7 + \frac{\text{Qualitative}}{5} \times 6$$

Industry	Company Name	Business Prospects	Market Share	Government Support	Analyst Forecast	Technology	Valuation	Fundamentals	Final Score
Industrials	Hebei Sailhero Environmental Protection High-tech	1	1	1	1	1	3	5	17.2
Health Care	Guangzhou Baiyunshan Pharmaceutical Holdings	1	1	1	1	0	5	3	16.0
Information Technology	LONGi Green Energy Technology	1	1	1	1	1	4	3	15.8
Consumer Discretionary	Shanghai Yuyuan Tourist Mart (Group) Co	1	1	1	1	0	2	5	14.6
Consumer Discretionary	Btg Hotels (Group) Co., Ltd.	1	1	0	1	0	4	1	10.6
Industrials	Fujian Longking Co.,Ltd.	0	0	1	0	0	5	1	9.6
Health Care	Yunnan Baiyao Group Co.,Ltd	1	0	0	0	0	2	4	9.6
Health Care	Beijing Tongrentang Co., Ltd	1	1	0	0	0	0	4	8.0
Consumer Discretionary	Shanghai Jin Jiang International Hotels Co., Ltd.	0	0	0	0	0	3	2	7.0
Information Technology	Unisplendour Corporation Limited	1	0	0	0	0	1	2	5.4
Information Technology	Tianjin Zhonghuan Semiconductor Co., Ltd.	0	0	1	1	0	1	0	3.8
Industrials	Anhui Zhonghuan Environmental Protection Technol	0	0	1	1	0	0	0	2.4



## 1. Introduction to Hebei Sailhero Environmental Protection High-tech Co. Ltd.

### COMPANY PROFILE

**Hebei Sailhero Environmental Protection High-tech Co. Ltd. (Sailhero)** is a leading pioneer in Chinese environmental monitoring industry, which was founded in 1996, has been specialized in manufacturing advanced environmental monitoring instruments for more than 20 years. On November 5th, 2010, Sailhero listed on the Growth Enterprise Market, became the first listed company in the environmental monitoring industry in China.

They have devoted themselves to research and develop advanced technologies and products, providing on-line and automatic environmental monitoring solutions, achieving national strategic objectives. As an excellent innovator, Sailhero focuses on researching core technologies aligning with top universities and research institutes like THU, CHINESE ACAD SCI, which maintain their products in leading domestic level.

Sailhero's products spread all over China, the leading products cover 30% of the market.

### Sailhero's main technologies and product lines include:

- Ambient Air Monitoring and Early Warning System
- Surface Water Monitoring System
- Underground Water Monitoring System
- Drinking Water Monitoring and Early Warning System
- Acid Rain On-line Monitoring System
- Pollution Source On-line Monitoring System
- Emergency Monitoring, Decision-making and Command System
- Providing Operation Service of Environmental Monitoring Instruments for Customers

Sailhero is actively promoting merger and acquisition operations, speeding up internationalization process, quickening the pace of stepping in line with international standards. The company believes that they will usher in a new era of environmental monitoring.





## GNAM Investment Competition 2019-2020



Source: Official Website

As a leading enterprise of domestic high-end environmental monitoring instruments and meters, the company has developed into a group company integrating environmental monitoring, treatment and service. Its business covers the fields of ecological environmental monitoring equipment, operation and maintenance services, social detection, environmental big data analysis and decision support services, VOCs treatment, rural decentralized sewage treatment, etc. With the advantages of service in the whole industry chain and in the industry they have strong competitiveness.

The company's products are mainly related to environmental monitoring system, and a series of products are constantly innovated and developed. The company's market is mainly domestic, and at the same time, it develops foreign markets including the United States.

### MILESTONES

**2000** Launched the first air quality testing system with proprietary intellectual property rights, and became a leadership in the market.

**2001** COD online monitoring instrument accessed to national certification of environmental protection.

**2003** Launched the online monitoring instrument of Chinese water quality first in China.

**2005** Successfully developed the digital emergency monitoring vehicles.

**2010.11.05** Sailhero listed in Shenzhen Stock Exchange. **They became the first listed company in environmental monitoring industry in China.**

**2011** First to launch the automatic monitoring system of ground water quality.

**2012** Sailhero PM2.5 monitoring instrument successfully became one of the "Recommended manufacturers of PM2.5 monitoring instrument".

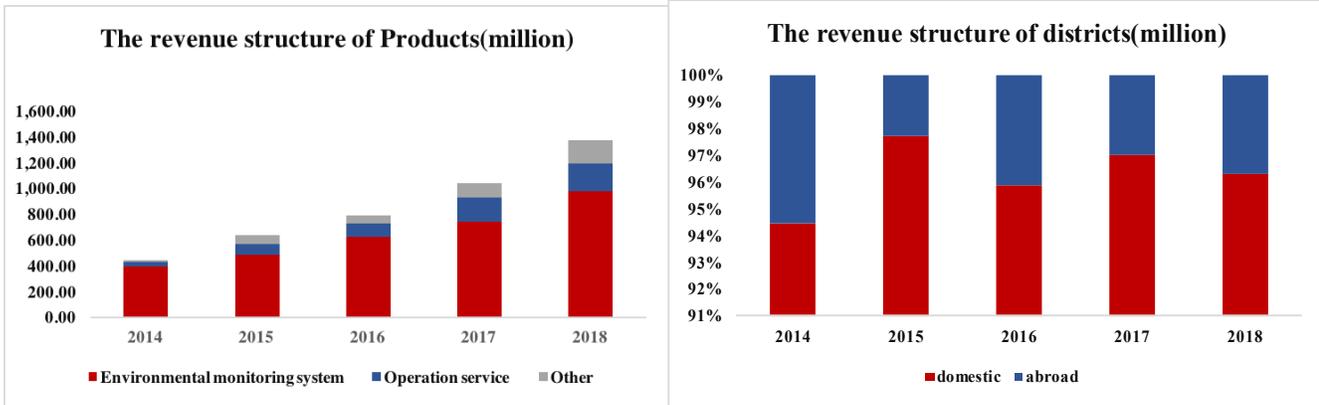
**2013** Sailhero monitoring system of air quality widely applied in China, and reached 30% market share.

**2014** Acquired Cooper Environmental Service (CES) Company, Kedilong Scientific Instrument & Equipment Company, Ltd Guangzhou and Xiande Environmental Protection Hi-Tech Company, Ltd Guangxi. They are now entering a new segment of conglomerate



### GNAM Investment Competition 2019-2020

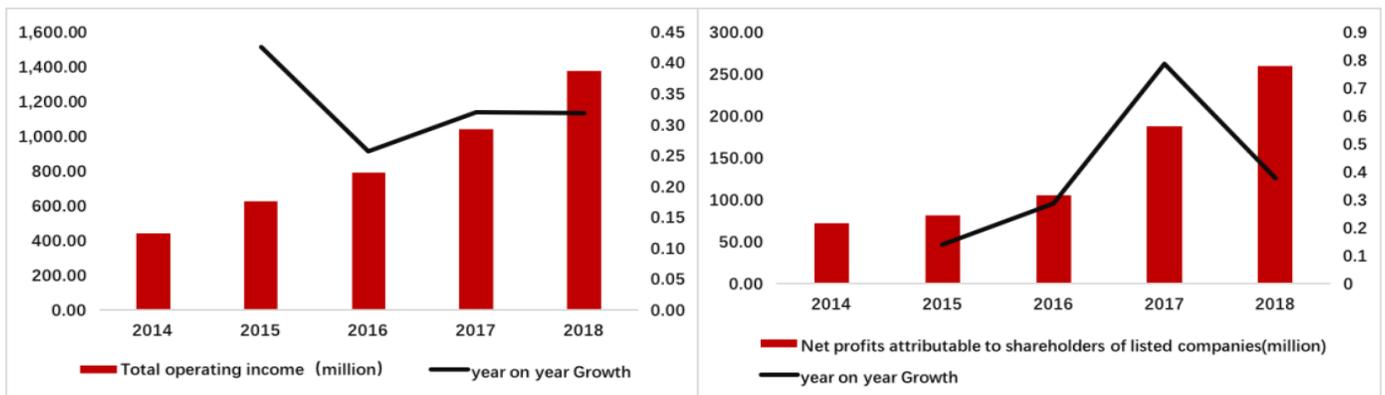
#### REVENUE STRUCTURE



According to the latest quarterly report up to 2019, the company has repurchased 5.65 million shares through the special securities account for share repurchases through centralized bidding trading, accounting for 1.03% of the company's current total share capital.

The company focuses on the development of its main business. In the past five years, its operating revenue has continued to grow at a high speed, with an annual growth rate of more than 25%. In the first half of 2019, the operating revenue reached over 670 million Yuan, an increase of 23.50% over the same period of last year. The company's sustained growth in recent years has benefited from new breakthroughs in the company's market layout. Based on the continuous consolidation of markets in Hebei, Shandong and Henan, the company has made major breakthroughs in markets in Anhui, Jiangxi, Jiangsu, northeast and Northwest China.

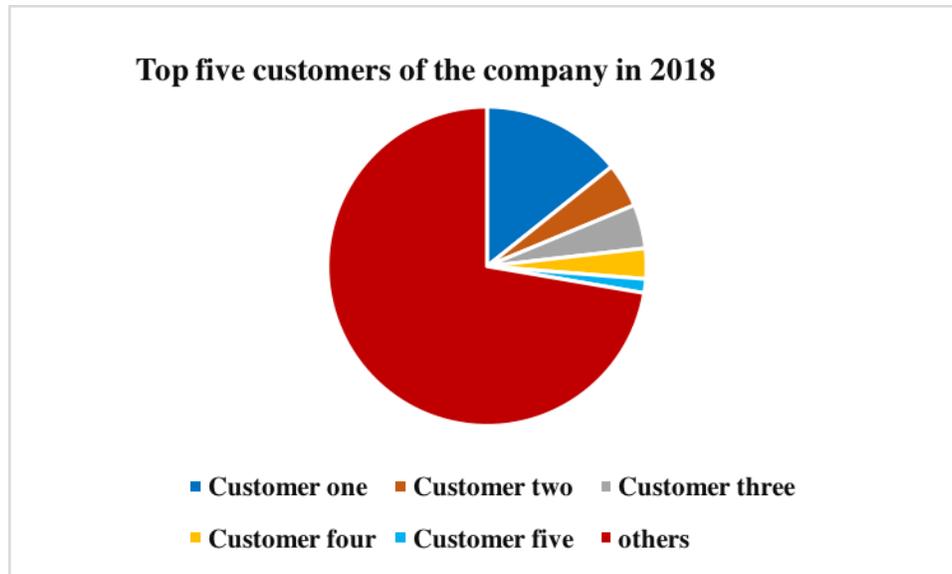
In June 2019, at the invitation of UNON, the company applied to join UNGM. It marks that the company is included in the list of qualified suppliers of the United Nations global procurement system.





## GNAM Investment Competition 2019-2020

In 2018, the total sales amount of the top five customers accounted for 27.69% of the total annual sales, down 6.55% from 34.24% in 2014. The company continued to expand new business partners, which is conducive to the long-term development of the company.



## Analysis of core competitiveness

### 1. Competition pattern

The company can provide comprehensive services for the whole industrial chain of ecological environment, and a comprehensive, one-stop environmental improvement plan integrating environmental monitoring, consulting services and governance for the government. It has the advantages of the whole industrial chain service and has strong competitiveness in the industry. Among them, in the conventional air monitoring market, the company continues to maintain a high market share; in the grid monitoring market and the air pollution prevention and control management consulting service market, the company has a complete product line and a complete quality control system, with a professional team of experts, combined with the grid data application, all occupy a leading position in the market.

### 2. Advantages of the company

#### A. Technological innovation advantages

The company continues to increase the independent product innovation, relying on innovation to drive the steady high quality of business operation.

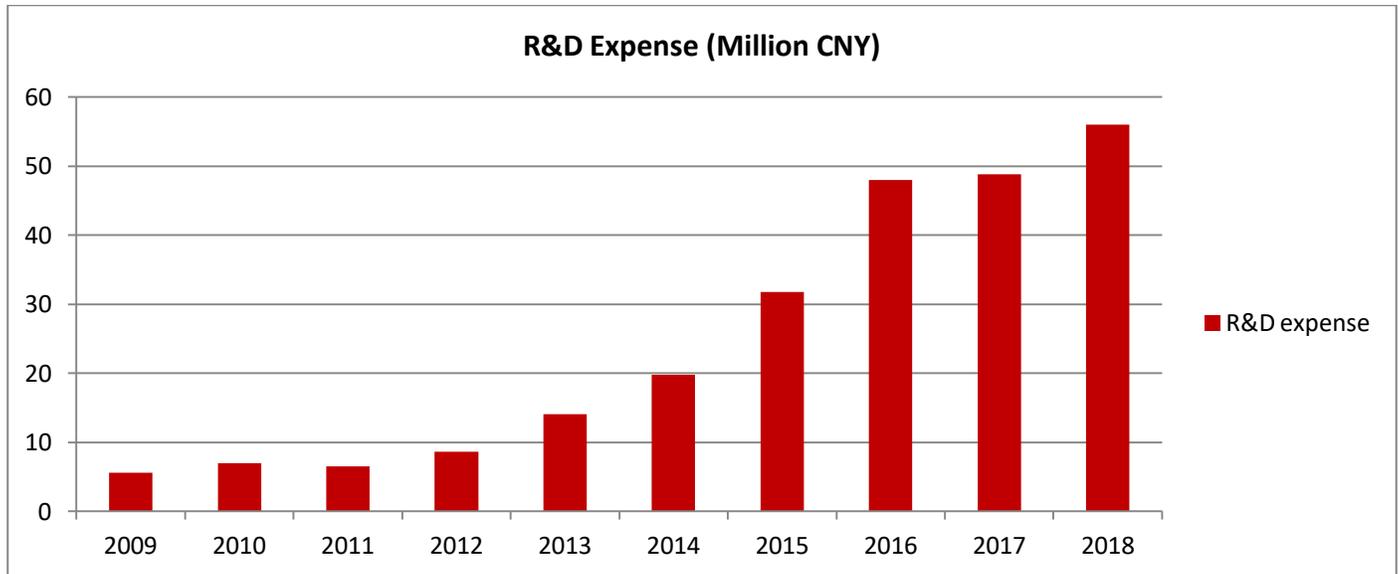
The company has always adhered to independent research and development as the guide, increased investment in scientific research, and strengthened the construction of scientific and technological innovation talent team. A large number of scientific and technological achievements, scientific and technological awards and patents have been formed, which has driven the technological progress of the company. The company (including subsidiaries) has 90 patents and 112 software copyrights.



### GNAM Investment Competition 2019-2020

The company has newly developed pollution source quality control equipment, odor, tail gas and other monitoring equipment, continuously upgrading and improving water quality monitoring products, laying a solid foundation for the company to seize the market.

In June 2019, the Ministry of industry and information technology announced the list of enterprises (the first batch) meeting the requirements of environmental protection equipment manufacturing industry (environmental monitoring instruments), among which the company was listed, marking the recognition of the product innovation and technical innovation level of the company in the field of environmental monitoring.



#### B. Service advantages of the whole industrial chain

The company provides comprehensive services for the whole industrial chain of ecological environment, and provides the government with a comprehensive, one-stop environmental improvement program integrating monitoring, consulting services and governance. Based on more than 20 years of technology accumulation, the company has a complete product line.

## 2. Prospects of the Industry

### Development trend of the industry

1. Environmental quality monitoring continued to increase in 2018.

On the one hand, the state attaches great importance to the air environment monitoring and management. On the other hand, with the state's attention to environmental protection, water quality monitoring has developed rapidly in recent years.

2. The VOCs governance management framework system has been basically established and continues to be improved.



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In July 2018, the State Council issued the three-year action plan to win the blue sky defense war, focusing on Tianjin Hebei and its surrounding areas, the Yangtze River Delta, Fenwei plain and other regions.

3. Intensive implementation of rural sewage treatment policies stimulates a huge market.

No.1 document of 2018; "Opinions of the CPC Central Committee and the State Council on the implementation of the Rural Revitalization Strategy".

All national policies and development trends are conducive to the business development of the company and the consolidation of the competitive market position of the industry.

Protecting the environment is part of the fundamental national policies. Green Development was highlighted in the 19th Party's national conference, including green production, green consumption, and green technology innovation. Lucid waters and lush mountains are invaluable assets.

Reference: to the announcement from the annual conference.

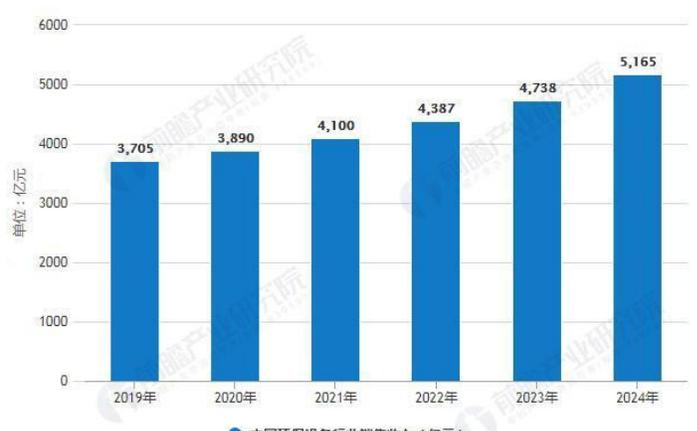
### 9. Ensuring harmony between human and nature

Building an ecological civilization is vital to sustain the Chinese nation's development. We must realize that lucid waters and lush mountains are invaluable assets and act on this understanding, implement our fundamental national policy of conserving resources and protecting the environment, and cherish the environment as we cherish our own lives. We will adopt a holistic approach to conserving our mountains, rivers, forests, farmlands, lakes, and grasslands, implement the strictest possible systems for environmental protection, and develop eco-friendly growth models and ways of life.

The environmental protection industry is therefore huge and has grown for the last 10 years. Greater opportunities of further growth are expected in line with the green development policies. (Reference: Graphs shown sales of environmental equipment in 2018 was 356 Billion CNY, YOY growth rate 3.5%. Yearly revenue is forecasted to be 517 Billion in 2024 or 45% increase on the revenue of 2018.)



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It's an industry with many small- and medium-size companies. No one dominates and therefore leaves room for relatively new players like Saihero which benefits from newer technologies adopted and specific focus on environmental protection measurement instruments.

The company specified in the measurement instruments for environmental protection, which is one of the nine prioritized areas. On top of hardware provision, the company is also engaged in operation and maintenance services of the instruments, and related consultancy business.

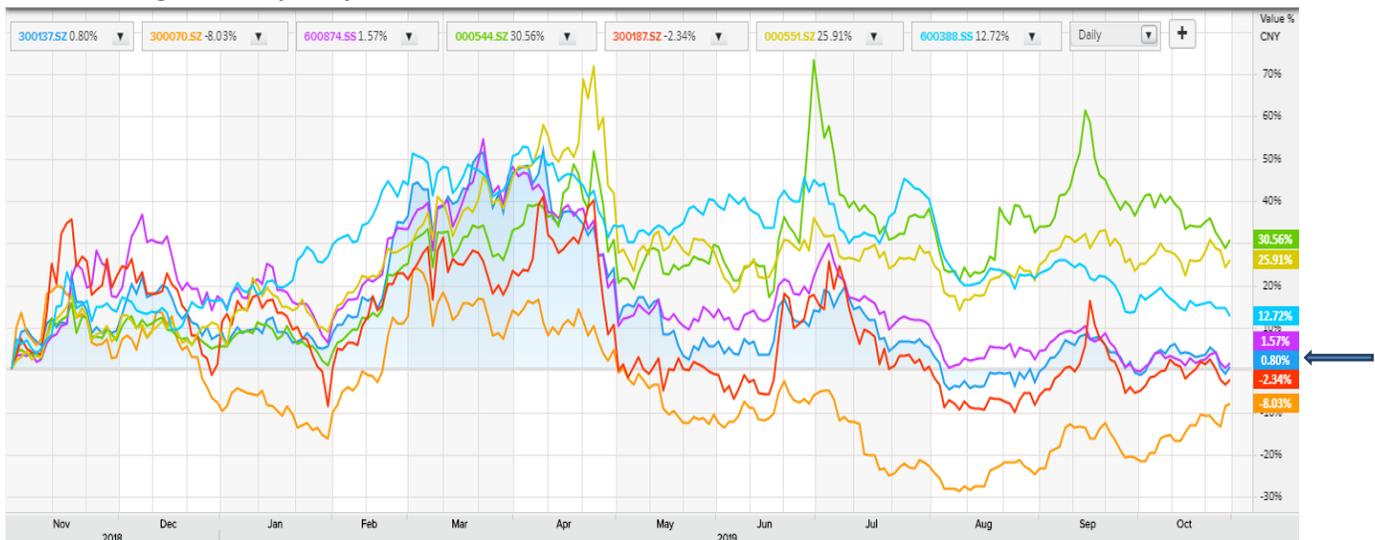
General Secretary Xi Jinping pointed out in the nineteen major reports of the party that building ecological civilization is a millennium plan for the sustainable development of the Chinese nation. We must establish and practice the concept of "green hills and clear hills", namely, Jinshan Yinshan. It is imperative to speed up the reform of ecological civilization system, optimize economic structure and develop intensive economy. As an important hand in the transformation of economic structure, environmental protection will undertake an important mission in this historic stage.

## 3. COMPETITOR ANALYSIS

The key indicators comparison against the peer group is as below; Hebei Saihero has a very strong financial performance compared with its competitors.

Peer Group Comparison	The peer group includes Beijing Originwater Tech, Tianjin Capital Environmental Protection Group, Central Plains Environment Protection, Yonker Environmental Protection, Create Tech & Science and Fujian Longking				
	Hebei Saihero	Max	Min	Average	Median
ROA (%)	14.16	14.16	-5.20	4.73	4.98
ROE (%)	9.32	10.58	1.91	5.72	5.02
Net Income YoY (%)	33.91	33.91	-219.09	-25.27	10.66
PE	15.20	36.65	-23.92	16.07	20.31
PB	2.12	2.19	1.06	1.69	1.68
Interest Bearing Debt Ratio	31.54	73.86	26.28	46.42	44.46
Liabilities/Assets	20.64	72.56	20.64	49.81	49.12

While looking into the price performance Hebei Saihero was undervalued.





## 4. VALUATION

	HISTORICAL (ACTUALS)			FORECAST (MEDIAN)		
	FY Dec-16	FY Dec-17	FY Dec-18	FY Dec-19	FY Dec-20	FY Dec-21
REVENUE	789.543	1042.538	1373.572	1769.000	2214.000	2763.000
NET INCOME	105.312	188.169	264.058	322.120	388.300	449.650
EARNINGS PER SHARE	0.194	0.344	0.480	0.580	0.700	0.820
RETURN ON ASSETS	6.151%	9.634%	11.301%	11.570%	12.420%	12.690%
RETURN ON EQUITY	7.360%	12.190%	15.290%	15.790%	16.470%	16.360%

Based on the above estimated future years financial performance and the average industrial P/E (19) the target stock price in the next 6 months is

$$0.58 \times 19 = 11.02$$

Compare to the **current price 7.69** we expect a **43%** upside by the time when the annual report announced in 2020 April.

Below is the chart of Hebei Saihero against Shanghai Stock Exchange Composite Index, it performed better than the benchmark but now it's below the benchmark; so with the strong financial performance the price has high probability to reach then benchmark and then outperform again.





## GNAM Investment Competition 2019-2020

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- 1) [http://www.sohu.com/a/281970413\\_100292074](http://www.sohu.com/a/281970413_100292074)
- 2) <https://www.qianzhan.com/analyst/detail/220/190215-dfea4022.html>
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- 4) <https://en.sailhero.com/>
- 5) <https://www.sina.com.cn/>