

HYDRO INTERNATIONAL INTERVIEWS STEVEN XU, CEO, HI-TARGET

Looking Far beyond the Horizon



These are exciting times in the geomatics and hydrographic industry. Innovative solutions are being developed, integration is the main keyword and the big players are acquiring smaller companies that add a new dimension to their portfolio. Europe, Japan and North America are traditional strongholds of geomatics, but several very ambitious companies from China are doing their utmost to catch up with the

frontrunners. Steven Xu, CEO of Hi-Target, was more than happy to share his thoughts and expectations with Hydro International. Read the interview here.

Wim van Wegen and Joost Boers, Geomares Publishing, The Netherlands

Hi-Target was established in Guangzhou, China, in 1999. What were its ambitions in the early years?

Hi-Target started out as a small company. The chairman, Mr Liao Dinghai, founded the company after he graduated from Dalian University. Mr Liao served in the national navy as a hydrographic surveyor for a period before Hi-Target was founded. At that time he had the opportunity to take part in some big hydrographic survey projects in China but the equipment they used for surveying was very old and difficult to operate, even dangerous at times. Slowly and surely Mr Liao realised it was his ambition to manufacture more advanced equipment on his own to change surveying conditions in China, but it remained a dream for a while. He then received a chance to work on another big project, this time for Nansha island exploration. The Chinese government spent lots of money importing GPS devices for this project. Mr Liao was one of the first people to use GPS for surveying. He quickly learnt how GPS devices work and took every opportunity to attend industry events to help him develop advanced surveying technology. Mr Liao established Hi-Target in 1999. Today, Hi-Target successfully promotes the implementation of RTK production localisation and is a leader in China.

What are your present ambitions, both nationally and internationally?

Now that's what you call a big question! But I would like to put it simply: in our domestic market we want to be the number one. There is a unique opportunity as the Chinese market is huge and has an enormous potential. We are currently making great strides so things look very promising for Hi-Target in China.

When it comes to the international market, our ambition is to become one of the most respected premium brands. We dream of being mentioned in the same breath as Trimble and Leica Geosystems. When people think of 'Made in China' they traditionally associate it with copies, low quality or even worse. But this is clearly changing nowadays. Many Chinese companies already have their own core technology. But I am keen to stress that we also believe the international market offers a lot of potential for Chinese software. Without linguistic and cultural barriers, software developed by Chinese companies will be increasingly widely used in different countries. Therefore, we think there are great opportunities on the horizon in the survey industry.

Hydrographic survey and nautical charting is important in Asia/Pacific for various purposes: offshore construction, navigation, EEZ surveying and Oil & Gas. Will Hi-Target further expand the focus on ocean research and mapping? How?

Hi-Target had been focused on Marine technology R&D and innovation since the company was established. In 2003, the first domestic digital echo sounder was launched by Hi-Target, which significantly promoted the Chinese marine surveying development. In the following decade, Hi-Target marine business developed and expanded very fast; the specific team grew from 10 people to more than 600 people now. In 2014, Jiangsu Hi-Target Marine Information Technology Co.,Ltd, a subsidiary of Hi-Target for marine business, was established in Nanjing, Jiangsu province.

After Jiangsu Hi-Target Marine Information Technology Co.,Ltd was established, the company kept developing its technical strength in acoustic research, signal processing and transducer performing. To cooperate with the acoustics institute of Chinese academy of sciences, Hi-Target has already mastered the absolute competitive advantages in marine technology R&D, production, marketing and so on.

At present, the company is increasing efforts on R&D and the industrialisation of high-end marine detection equipment, including the multibeam echo sounder, underwater acoustic positioning equipment. And in the next five years, the company plans to achieve the production and complement of multibeam sounding systems, underwater positioning systems, underwater robots and ADCP products, etc. for marine surveying and mapping services, marine environmental monitoring, marine engineering, marine geophysical prospecting,

marine biology, marine renewable energy, underwater archaeological salvage, inland waterway transport, water conservancy engineering, hydrological monitoring, maritime surveillance and other fields.

What major developments do you foresee in GNSS technology and what are the implications of these developments on the surveying profession in general and the manufacturers of receivers in particular?

Future GNSS technology should be developed to be more compatible, easier to use and more cost-efficient. In view of the global growth of satellites, GNSS technology should be highly compatible with various satellite systems. Furthermore, satellite-enhanced signal acquisition should become increasingly convenient and popularised so that people can get enhanced signals in different accuracies through various channels. It is also essential to improve cost-efficiency in order to promote the use of satellite navigation technology – and especially high-precision technology – in more industries.

In terms of the implications of these developments on the surveying profession, I expect high-precision GNSS surveying data to gain in popularity. At the same time, GNSS will be combined with other surveying technology and information technology, such as geographic information technology, total stations, 3D laser, UAV and so on. The use of mass data for surveying will lower the barriers to market entry for high-precision data. And for the manufacturers of receivers, the implications are actually quite simple: there are chances but also challenges for us. GNSS technology will be used in other industries and the market demands will increase rapidly. We, the manufacturers, have to conduct research into core technology and promote our applications to more fields, beyond just surveying – otherwise we may be out of the game.

Technology and societal needs are rapidly changing. What are your thoughts on how surveyors around the world should adapt to these changes?

Surveying used to be a relatively isolated industry but it now combines with other industries. It has become easier to enter the market for professional surveying in the open air, and some manual survey activities have been replaced by unmanned aerial vehicles, 3D laser scanning, etc. However, the working standard of data processing is higher. Therefore, surveyors should adapt by moving from front stage to backstage. In other words, surveyors should learn to use high-end equipment like unmanned aerial vehicles, better understand the demand for industry applications and improve their ability to analyse data for industry solutions.

How does your company keep pace with – or even stay ahead of – changing technology and societal needs, particularly in terms of R&D?

Hi-Target is a company relying on technological innovation for long-term development. Since becoming listed, Hi-Target has been focused on speeding up the layout of the R&D team, promoting and developing technology innovation constantly with the aid of capital strength. In fact, the annual investment in R&D is more than 11% of our total revenue, we have more than 1,600 staff, more than 30% of whom are R&D engineers, and over 10% are professors or hold PhDs. In recent years we established several research institutes and even overseas R&D centres to study the international advanced technology and achieve successful breakthroughs in technical challenges. We have already mastered the core technology in satellite navigation, high-end marine and 3D laser scanning industry, established a specialised R&D team and subsidiaries for those high-end businesses and launched more and more high-end products with proprietary intellectual property rights, like multibeam echo sounders, 3D laser scanners, mobile mapping systems, etc. In this way, Hi-Target keeps seeking technology innovation and promoting R&D strength to keep pace with the technological developments and societal needs.

Looking ahead at the geomatics industry in general, do you foresee any ‘rising stars’ that will significantly change the hydrographic industry, such as marine autonomous systems (MAS), much like AUVs and USVs have done over the past years?

In our opinion, the products for further marine marketing should be portable, highly accurate, easily operated and highly efficient.

Are you working with universities to develop maritime solutions through scientific research?

In China, there are many famous universities with rich scientific research technology and theoretical accumulation in marine application. Jiangsu Hi-Target Marine Information Technology Co.,Ltd has already cooperated with several universities for ADCP, underwater robots and software development.

Some people say that high precision is no longer the privilege of surveyors and that today’s GNSS advances, smartphones and other low-cost equipment mean that decimetre accuracy is available to people without qualifications and specialist knowledge.

What’s your reaction to this? How should the profession adapt?

The key thing is to keep pace with industry developments relating to geography and location information services. What we suggest is firstly applying new technology, addressing the market demand with rapid low-cost access to information, updating data, mastering the real measurement technology and trying to develop the highest-grade technology possible. Secondly, in the near future the surveying and mapping operation will become increasingly simple. The current mode of working will be replaced by the mode of quickly acquiring large amounts of data. Therefore, measuring personnel should focus more on the data processing and application side of things rather than how to survey in the field.

There are many different manufacturers of survey equipment in China today. Western countries have seen a process of consolidation over recent decades. Is the situation similar in China? In other words, are manufacturers looking to join forces or merge with other companies, either in China or abroad?

I would say yes, the current industry in China can be likened to what Western countries have gone through in the past decades; China is experiencing a process of integration. After becoming listed on the stock market in 2011, Hi-Target merged with many businesses to expand its product lines and research abilities, such as 3D laser, indoor positioning, total stations and ocean survey. Today, we’re also interested in cooperating with research centres and universities abroad, perhaps even merging with a research team.

Your company operates worldwide. What is your business model in terms of dealer and service networks around the globe?

Yes, we are active worldwide. We mainly export surveying devices through our authorised dealers in the various countries around the world, and most of the dealers work on the basis of an exclusive or non-exclusive model. Hi-Target currently has more than 100 dealers in 70 countries. To improve our after-sales service, we have set up a maintenance centre in Hong Kong to provide services for Southeast Asian countries, and in Europe we have just opened a Czech maintenance centre. At the end of this year, we will launch a maintenance centre in America to provide better services for customers in both North and South America.

What type of company will Hi-Target become over the next five years in terms of products, services and customer base?

Over the next five years, Hi-Target will evolve and specialise in devices, system integration, data services and suchlike, providing what we call ‘comprehensive industry solutions’ including product hardware, industry application software and support services. Examples are

entire and various solutions from devices to services for 3D laser scanning, high-end sounding and positioning marine applications, and BDS applications for precision agriculture, etc.

More Information

www.hi-target.com.cn/en/

Steven Xu is CEO of Hi-Target Surveying Instrument. He graduated from Wuhan University, Surveying and Mapping Institute, having mastered the basic theory and key technology of geodesy, engineering surveying, satellite positioning and navigation. With more than 15 years’ experience in GNSS, GIS, 3D laser scanning and marine technology research, Steven remains committed to the satellite navigation and positioning industry. Under his leadership, Hi-Target achieves numerous technological breakthroughs, overcomes technical difficulties and successfully offers solutions for a wide range of industries. Steven also serves as director of the Chinese national satellite positioning technology association, is director of Wuhan University’s Surveying and Mapping Institute (Guangdong alumni branch) and director of the Chinese national instrument industry association (surveying and mapping instruments branch).

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