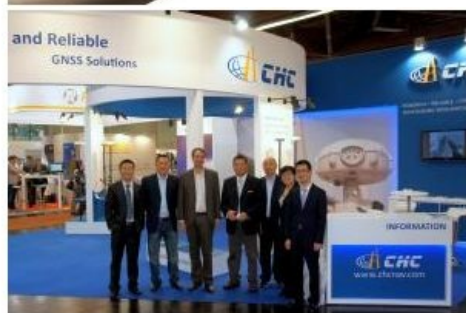


CHC NAVIGATION TECHNOLOGY

Towards the Democratisation of GNSS Technology



Shanghai-based CHC Navigation Technology Ltd. designs, manufactures and markets a wide range of professional GPS/GNSS solutions for the survey, construction and GIS markets. The past decade has seen the GNSS industry investing heavily in research and development to produce accurate and reliable positioning solutions, with a correspondingly high price point. However, economies of scale and productivity gains mean that GNSS receivers are now about to enter a commoditisation stage.

CHC was founded in China in 2003 based upon a clear strategy to provide reliable, high-performance yet affordable GNSS RTK solutions. To achieve this goal, CHC has invested in its own Research and Development Centre and set up a

systems engineering team to develop complete GNSS solutions leveraging strong relations with leading OEM GNSS vendors. In 2004, the release of the first products, including the X60 RTK and X20, received an incredibly positive market response. In 2006, CHC combined its GPS/GNSS positioning expertise with in-house software development to release the complete deformation monitoring solution, which was deployed in major bridge infrastructure projects in Asia.

Since 2008, CHC has been releasing more compact and technologically advanced GNSS products, such as the X91 GNSS and X900 GNSS series which are optimised for base plus rover operation and RTK networks, while maintaining competitive pricing and high reliability. "Our major achievement to date is definitely the satisfaction received from our

thousands of customers who are using CHC GNSS receivers daily in more than 50 countries," said George Zhao, CEO of CHC. "The loyal long-term relationships with and continued education of our international distribution partners are the key to success in this ever-evolving market, since they are critical to the professional support our end users receive."

CHC focuses on providing affordable and reliable GNSS RTK products and solutions worldwide. As a result of its strategy and vision, CHC is one of the fastest-growing providers of GNSS solutions with a significant international presence.

Committed to Quality

CHC's ISO 9001 certification applies to all aspects of CHC's development and manufacturing work, from initial design to delivery of final products. To ensure one of the highest reliability rates in the industry, CHC performs stringent QC procedures. These tests include: full vibration, temperature and complete GNSS systems configuration tests of each and every receiver prior to shipment.

Competitive Solutions

CHC customers benefit from outstanding GNSS solution performances scaled to end-user needs, from GIS and mapping solutions to high-precision GNSS RTK, maintaining high reliability at an affordable price point.

CHC employs over 450 professionals, including more than 100 R&D engineers. To manage its international sales expansion, which is enjoying a 100% compound annual growth rate, CHC has set up a strong team of sales and technical support professionals situated around the world to provide close support to distribution partners.

In addition, CHC believes that direct customer interaction is very important to delivering a quality product, and has recently developed a

direct presence in North America and Europe.

Global Scope

CHC GNSS receivers are widely used in more than 50 countries, from the Americas to Europe and from the Middle East and Africa to Asia-Pacific. In 2011, CHC sales in EMEA (Europe, Middle East and Africa) represented over 40% of CHC's international revenue – a clear sign that CHC's equipment quality and support fully satisfy the GNSS industry standards. To demonstrate that further, CHC has been welcoming hundreds of international visitors to its headquarters and manufacturing site in Shanghai. Dealers and customers alike have been extremely impressed by the company's structure, manufacturing organisation and QA/QC processes. *GIM International* readers who are planning to travel to Shanghai are welcome to pay a visit to CHC.

CHC customers' applications are numerous. While the core market remains centred on the private survey and construction segment within land surveying, cadastral and road projects for now, CHC is gaining more government and public-sector customers. However, the decision-making process in public tenders and long-term relations with the top three GNSS manufacturers present a challenge. Nevertheless, public organisations are now starting to reassess their options as they recognise that a competitive product selection process does not have to compromise GNSS accuracy and performance.

CHC is also growing its GIS and mapping market which demands cost-effective and reliable GPS/GNSS handheld rugged controllers. In Q2 of 2012, CHC will be introducing a new LT series which covers the entire GIS spectrum, from the precision data collection phase with centimetre to decimetre accuracy to the data maintenance and data use phase where sub-metre accuracy is required. The LT series is compatible with all third-party GIS software running on Windows Mobile, and benefits from fully integrated communication features such as GPRS, Wi-Fi and Bluetooth. "Our customers benefit from our products' outstanding GNSS performance at a price that doesn't break the bank," says George Zhao. "We strongly urge any surveyor planning to purchase a GNSS receiver to give our X91 GNSS or X900 package a trial run before making any decision. They will be surprised to find that the CHC solutions match the performance of the top brands at about one-third of the price."

Looking Ahead

GNSS core technology and reliable system integration is a challenge to master as it requires a sum of fundamental talents in R&D, including RF design, mechanical, PVT algorithm development and wireless communication. The coming years will see a consolidation of the available GNSS signals such as Compass, GPS, GLONASS and Galileo. The consumer and professional applications are also about to converge with the development of intuitive and connected hardware and software solutions. The GNSS industry will have to square the circle to provide appropriate technical features but maintain adequate price points for the end users.

Another point to consider for GNSS end users is the GNSS supplier's capacity to provide long-term support for its equipment. Taking optical survey equipment as an example, the past 15 years have seen the industry consolidating continually, with the smallest or non-core players being absorbed or disappearing. There are now signs of a similar phenomenon in the GNSS industry, and companies that have not yet reached the 'critical mass' needed to sustain necessary technological investments are likely to face a challenging time.

Finally, the survey, construction and GIS markets are still enjoying sustained growth in various regions and countries, including Latin America, South East Asia and India. The slower economies such as the USA and Europe are in fact giving us a strong driver to constantly provide a choice of GNSS receivers with the right features at the right price points.

CHC's target is to become one of the top 5 GNSS companies worldwide offering complete and reliable positioning solutions at a competitive price. Strong distribution partnerships, excellence in customer support and constant product innovation are instrumental to that strategy.

<https://www.gim-international.com/content/article/towards-the-democratisation-of-gnss-technology>
