TAKING GNSS TO THE NEXT LEVEL

IN JUST FIVE SHORT YEARS, SHANGHAI-BASED TERSUS GNSS HAS BECOME ONE OF SOUTH-EAST ASIA'S LEADING SUPPLIERS OF PRECISION GNSS RTK SOLUTIONS, WITH ITS OEM BOARDS AND SURVEY RECEIVERS CHALLENGING THE ESTABLISHED BRANDS. GEOCONNEXION CAUGHT UP WITH THE COMPANY'S FOUNDER AND CEO, XIAOHUA WEN, TO FIND OUT MORE

GEOconnexion (GEO): *Tersus (Latin):* Clean. Neat. Correct. Pure. One wonders if these dictionary definitions reflect the company's approach to technology in what is a highly dynamic and extremely competitive global marketplace?

Xiaochua Wen (XW): I guess they all reflect the approach of our 50-strong workforce in designing and delivering centimeter-level GNSS RTK and PPK solutions. It also mirrors a corporate culture that we describe in five mottoes: Have bold aspirations; Solve the hard problems; Get things done; Move forward as one, and work with integrity.

GEO: How would you describe the company's evolution to date?

XW: We are backed by VC investors whose stake in the business is for the long term. We have spent the past few years developing our product portfolio, building an expanding global dealer network of some 70 offices, and establishing subsidiary companies in the United States and Australia. East Asia has traditionally been our primary export market – e.g. in countries such as Viet Nam, Malaysia, Indonesia and even Japan – I say 'even' because Japan is noted for its business culture and perfectionism and where Tersus products and services have gained wide acceptance and respect. With this solid background, Tersus is now ready to focus its efforts on building partnerships in much wider markets.

GEO: You introduced the David receiver to world markets in 2017 with considerable success. What factors have made it so popular?

XW: As well as its affordability and flexibility – as a base station, rover or monitor – David's compact size, IP67 rating, Real-Time Kinematic function and in-built 4GB memory for recording GNSS observation data all contributed to its popularity. But this was just the start. We followed it up with a dual antenna variant (David Plus) and, last year, introduced an advanced version called Oscar. With its calibration-free tilt compensation function, high-performance multi-constellation and multi-frequency GNSS board, and improved anti-jamming performance, Oscar takes the technology to the next level in offering high positional accuracy and stable signal detection.

GEO: While tilt compensation is not exactly new, how do you achieve it without calibration?

XW: True, there are products on the market offering a 'tilt compensation' function but, they mostly rely on a calibration process that can take several minutes at each location and are prone to magnetic disturbance from nearby structures. Our Tersus GNSS calibration-free function frees surveyors from this time-consuming process by integrating the tilt sensor and electronic bubble. This combination is unaffected by any magnetism.

'Working with an external GNSS antenna, the free Tersus Survey App and post-processing software, the David GNSS receiver is a low-cost solution for all survey applications, including real-time RTK positioning and data collection for PPK.

GEO: The David receiver is complemented by the company's Nuwa controller software for point or static surveying, the latest version of which (2.0.0.9) is available from the Google Play store. What new and improved features can users anticipate in the next release – and when?

XW: As the version number indicates, Nuwa is still in its early stages. It has a lot of powerful functions to handle professional survey or GIS jobs. However, we also understand that an experienced surveyor may need a familiar way to do field code, or may use certain CAD or GIS packages to which Nuwa needs to export files. In short, our efforts are focussed on satisfying workflows in a variety of scenarios — the roadmap will become self-evident with the advent of the Oscar Receiver. And while we don't have a time frame as yet, our development team is forging ahead and many new and improved features are in the pipeline. Please stay tuned!

The latest Oscar receiver is also now available in three variants – Basic, Advanced and Ultimate – with various memory and display options

GEO: The company has been adopting Open blockchain technology to make corrected RTCM data more widely and readily available. Can you say something about this?

XW: Yes. Working with pasnet.io, we developed a blockchain solution that is now built into our David base station receivers. The solution mines incoming raw GNSS data, applies RTCM corrections, and serves it to the Internet via our GeoCaster Caster software and GeoBee NTRIP modem. The service is infinitely scalable, independently-operated, and gives registered users the same level of service anywhere in the world.

The original David survey receiver is now available as five installation kits to suit end user applications on land and in the air.

GEO: Will the roll-out of 5G mobile networks have an impact on your product line?

XW: Almost certainly, because the greater speed, reduced latency and increased capacity offered by 5G will be especially relevant to those seeking autonomous driving solutions. Already, our OEM boards offer lane-level, autonomous vehicle positioning accuracy, and these will be enhanced to meet the needs of real-time V2V (Vehicle-to-Vehicle) and V2X (Vehicle to Everything) communications. This all requires close partnerships with auto manufacturers and systems and sensor integrators. This will certainly be one of our longer-term objectives.

GEO: Tersus has traditionally used the INTERGEO Expo as a launch platform for new products. Can we expect the same this year in Stuttgart? And if so, any clues as to what we might anticipate?

XW: As a high technology company, Tersus GNSS Inc. is continuously investing in R&D against a carefully-planned, long-term innovation plan. Will there be something new at INTERGEO? Let's just say you won't be disappointed!.