ETB-Pegasus has been out and about measuring lots of different horses and we are constantly being surprised by how little truly objective measurement has been done on the movement of a horse’s limbs.

We are really pleased to see that so much more serious research is now being investigated using sophisticated measurement techniques, and that ETB-Pegasus is becoming the tool of choice of many eminent professionals. We continue to be a unique sensor based measurement tool that can be used in a real life equine environment.

In fact, at this year’s ICEL conference, in spite of there being some single-sensor based systems that measure movement in a vertical plane (to identify lameness) there was nothing that provided the equipment that is able to measure the variances of a sound horse’s movement under different conditions, something that ETB-Pegasus can do so easily and accurately.

We are very excited about the many research projects that are currently being undertaken and planned using ETB-Pegasus to discover as yet unmeasured aspects of horses’ gaits. We will look forward to telling you all about them as they are completed and published.

We are thrilled to announce that Nottingham Trent University is the latest university to take possession of an ETB-Pegasus kit and we are just about to be launching into Ireland with Limerick University the latest academic institution to buy a kit.

As ETB are a British company it is now time to get patriotic! Everyone’s eyes will be firmly focusing on our Olympic athletes and hoping that our equine teams will be able to banish the bad luck of past Games and perform to their full potential to bring us the medals we know they are capable of doing. Good luck to all the GB teams and individuals who will be taking part. We must have the strongest squad ever selected and we have the home advantage so here’s to huge successes across all the disciplines.

ETB-Pegasus are proud to be supporting the World Class Performance programme and we have been providing data for the detailed research that is being undertaken to improve elite performance. We will be bringing you details of the work we have been doing in future newsletters.

It is with great sadness that we report the death of Louise Woof, founder of the world renowned Woof boot. Louise, who uncomplainingly suffered from multiple sclerosis for many years, lost her fight for life at the beginning of July.

Famous for pioneering the use of neoprene in the manufacture of brushing boots, and for her passionate work in improving horse breeding with her own Maximillion stud, Louise will be a great loss to the equine world.

We are proud to have Woof Wear as our suppliers of boots, specially adapted to hold our cannon bone sensors, and we offer our sincere condolences to Louise’s family and friends at this very sad time.

LOUISE WOOF (1957—2012)
We are proud to have strengthened our ties with one of the UK’s premiere equine universities.

Having previously been used for published research projects, last year we were pleased that Nottingham Trent University looked to us to again supply them with an ETB-Pegasus kit for one of their students to use in her dissertation. During their loan of the kit the university were able to make further use of the equipment and were hugely impressed with the potential it provided to them.

Then in May the university hosted a demonstration evening where GB’s Olympic eventing team member Mary King and her daughter, Emily, gave a packed audience a masterclass in the skills of improving flatwork and jumping. We at ETB-Pegasus were happy to support the event and spent a very enjoyable evening demonstrating our kit while the Kings performed on their beautiful horses. During the very successful evening Mary had the honour of having NTU’s fabulous newly refurbished indoor arena named after her. This, she told us, was the first time she has had a building named after her.

And just last month NTU took delivery of their very own ETB-Pegasus kit. Next year’s students will have the opportunity to use the equipment in their studies and we wait expectantly to see what exciting research the faculty with be producing.

On collecting their kit Senior lecturer, Cassie White, told us “We are delighted to be able to add Pegasus limb phasing system to our resources at Nottingham Trent University. The kit will enable us to develop our research into equine biomechanics during exercise and will provide our undergraduate and postgraduate students with some fantastic opportunities to explore gait parameters. I recently attended the ICEL 7 conference in Sweden where six studies utilising Pegasus limb phasing system were presented, including validation in an applied schooling situation and this shows great promise for future student / staff collaborative projects, particularly for publication using this equipment.

Congratulations NTU on coming up with the budget in these austere times. It is great that your people have the vision for the potential our kit will give to you and your students.

Making ETB-Pegasus reporting easier to understand

The more we measure horses, the more we have discovered that the ETB-Pegasus Gait Analysis reports can provide so much information that people can be overcome with data overload.

So we have been spending the past few months working at simplifying and shortening our reports to make them easier to understand for the general public.

The beauty of how ETB-Pegasus captures data means that we will be able to provide some very simple and easy to understand high level measurements while at the same time we will still be able to hold all the most detailed data without having to re-run the trial.

This will make it easier for people starting out with ETB-Pegasus to develop a better understanding of the potential of the system before delving deeper into the data.

BEVA Congress 12-15 September 2012 Birmingham

We continue our support of the British Equine Veterinary Association and this year we have booked a super stand at the BEVA congress, so when you have a break from attending the great lectures that will be taking place throughout the four packed days we would love to see you.

We will have our human kit with us, so if you would like your own gait analysed to see how much you have stiffened up from sitting for too long, it will only take us a few minutes to measure you and run your own personal report.

Find us at Stand C51
The seventh international conference on Canine and Equine Locomotion (ICEL 7) was strongly supported by established biomechanical research groups from many eminent establishments across the world.

We had a fabulous presence at this year’s prestigious conference with no less than six papers presented using ETB-Pegasus gait analysis to provide unmatched quality data, three of which were for Utrecht University. All the work that used ETB-Pegasus was well received by the attendees and much interest was generated in our kit.

ETB-Pegasus was able to provide objective, accurate and repeatable data in ways not previously possible to be measured (for example work on circles and in a horse’s natural environment). This provides so many exciting possibilities for research in the future.

Full details of the abstracts can be found on the Pegasus website, but in summary here are four of the research projects undertaken and their conclusions:

**Objective evaluation of the canter in Friesian horses specially used for dressage**  
(Utrecht & Ghent Universities - John Voskamp, Ids Hellinga, Willem Back)

As stated in the FEI rules, a good quality canter has a 3-beat nature. Riding influences the phasing pattern and stride duration of horses and improves the diagonal association of the trailing front and leading hind limb at canter. Based on the results of this study, it appears that Friesian horses show a diagonal dissociation (trailing front minus leading hind) at canter. There is significant difference between ridden and free moving and this is defined as an improvement as the dissociation has reduced. In fact, Friesian horses apparently seem to show a so-called decoupled canter. This knowledge could be applied to future selection and training procedures, designed for generally improving the canter in this breed. Objective evaluation of gait using these mobile systems thus may have the potential for monitoring selection and training of horses.  

**Practical Relevance:** Objective evaluation of gait with IMS equipment gives the possibility for early selection of young foals.

**The Effect of the Pessoa Training Aid**  
(Animal Health Trust - Vicky Walker, Sue Dyson, Rachel Murray)

The study showed that a Pessoa training aid may be beneficial for general training of horses, and for rehabilitation of horses recovering from limb injuries, because it appears that it encourages horses to maintain posture and lumbosacral flexion without concurrent increase in loading of limb structures.

**Kinematics of Horses Ridden on Straight Lines and Circles**  
(Hartpury College & AHT - various)

The study suggested that during circular motion there are different movement patterns between the inside and outside limbs as well as the fore and hind limbs, although the pattern appears to be gait dependent. To achieve circular locomotion it appears that there is increased protraction of the inside hind limb, which may relate to bending through the horse’s trunk and maintenance of balance.

**Validation of microgyro-based measurements of equine cannon bone angles against a high speed video locomotion analysis system**  
(Upsalla University—Lars Roepstorff, A Egenvall)

The study found the IMU system to be reliable and sufficiently accurate for the measurement of sagittal angles in walk and trot and ascertaining the temporal phasing of the limb movement. This means that the system could be used in field studies, for example when studying horses on circles, targeting distal limb symmetry (spatial and temporal) for horses in walk and trot.
ETB-Pegasus were pleased to support local BHS-affiliated riding club, Shillington Riding Club, at their fundraising quiz night.

In a keenly fought contest, the packed hall had a thoroughly enjoyable evening and raised over £500, which will help the club continue to support the grassroots riders in the Bedfordshire and Hertfordshire area.

We supplied one of the prizes for the raffle, an ETB-Pegasus gait analysis trial for one lucky winner. It was gratifying to see that this was one of the very first prizes chosen. Club secretary Florence Kerry-Smith was the lucky winner and was impressed by how easy it was to run the trial. Her horse, Ted, an ex-eventer who tends to get a tad excitable, behaved very well, and Florence was pleased to discover how flexible our kit is to use. Because ETB-Pegasus is measuring every stride from the moment the sensors are switched on, it didn’t matter when the horse messed around, and it made no difference as to where he went (or more specifically, where he didn’t want to go!) , we were still gathering data all the way through. We then had the option to eliminate the parts where he wasn’t moving properly, and concentrate on any section of the trial we chose to look at.

The trial highlighted how much more time Florence spends riding on her good rein, as opposed to working on her worse rein (3:1!) It also picked up that in his canter Ted’s paired diagonal limbs moved with the foreleg coming through ahead of the hindleg, which is a distinct indicator of a possible problem in how a horse is moving, which Florence can now address with her equine therapist.

For more information about Shillington Riding Club take a look at their website: www.shillingtonridingclub.co.uk

You may not be aware that ETB-Pegasus evolved from a human gait analysis system that is now becoming widely accepted by eminent health professionals, sports physios and trainers as a perfect way to measure and monitor how people move.

ETB, a UK based company who initially designed the sensors to measure the action of stroke victims, continues to develop and extend the scope of their products. They now have strong partnerships with the following associations who are finding the kit an invaluable and easy to use tool.

- London Broncos
- Southend Football Club
- UK Athletics
- Stanmore Orthopaedic Hospital
- Exeter Hospital
- London Knee Clinic
- APOS therapy

The company is renowned for its innovative products and director Director Diana Hodgins MBE has recently been invited to be a visiting professor at the University of Hertfordshire, working in the School of Engineering and Technology.

The human system will be exhibited at the European Orthopaedic Research Society in Amsterdam in September. Two papers on monitoring knee OA and gait characteristics with age using the system will also be presented.

www.pegasus.uk.com

www.shillingtonridingclub.co.uk