TRAKUS

Frequently Asked Questions

What is Trakus?

- Trakus helps racing fans more easily follow their horses through real-time 3D virtual camera views.
- Trakus instantaneously tracks each horse and stores statistical information in a database.

Why horse racing?

- *Racing needs advancement in data integrity:* comprehensive automated reporting can eliminate errors from poor visibility, weather, camera angle limitations, manual entry, and imperfections in isolated trackside sensors. Trakus achieves these goals.
- Independent market research indicates strong affinity for information-rich visual displays, particularly for handicapping and wagering. Trakus delivers these capabilities.

What are Trakus' business goals?

- Working with its partner tracks, Trakus operates systems for a daily fee (to offset the cost of equipment and labor). Trakus graphics are incorporated into various displays: simulcast, television, internet, and mobile. The company is also seeking to form a joint venture with industry partners to aggregate data for consumer use.

Why now?

- *Racing has entered a new era:* Synthetic surfaces, high-res displays, and innovations from other forms of gaming have track operators modernizing facilities. The unique position racing enjoys with account wagering, and the evolution of broadband media and mobile devices, offer tremendous benefits to consumers. Digitizing races is the key, and Trakus is the solution.
- Even the most premier racetracks struggle for their signal to stand out in a crowded simulcast environment. Trakus provides professional tools to enhance the viewing experience and enrich the enjoyment of racing.

Why Trakus and not something else?

- *Trakus is unique in its class:* unlike sectional timing systems (e.g., photo-eye or RFID) that determine when a horse passes a known point, Trakus delivers full-field situational awareness by knowing the location of each horse dynamically (30x per second) throughout the race.
- Because positional information is gathered constantly for the full field, this allows for more comprehensive analysis of results, and therefore a more systematic approach and more thorough means of checks and balances in the assessment of reliability.

How does the Trakus system work?

- The racetrack is outfitted with permanent fixtures and cabling to support trackside equipment. A scale graphic model is customized to the track surface and other racetrack attributes. Small durable radio tags are fit into the saddle towels before each race. The system uses the information it gathers to generate a broad range of feature sets for use with simulcast and other media.

Trakus is:	Trakus Is Not:
Trakus is a wireless radio frequency tracking system.	*Trakus does not employ GPS or satellite technology, and does offer better accuracy and near-instantaneous latency.*
Trakus employs a proprietary processing technique called multi-lateration (U.S. Patent No. 6,204,813).	*Trakus does not use wires below the track surface to detect the proximity or timing of horses.*
Trakus uses small radio antennas situated around the track perimeter and ultra-lightweight tags fit into the saddlecloths.	*Trakus does not employ RFID or UWB, nor does it use any secondary sensors, such as video processing, infrared, inertial instruments, or other techniques.*
Horses are tracked during pre-race parade through the entire live race including the post-race cool down.	*Trakus does not use post processing algorithms to determine horse location; results are instantaneously available.*
Horses are tracked on and off the racetrack surface(s).	
Trakus has been shown to be accurate, reliable, and consistent with existing techniques for timing and scoring.	

How do we know the Trakus results are correct and reliable?

- Prior to commercial deployment, Trakus was reviewed in a series of system trials performed over several years; analyses covered a broad range of actual live race conditions, track surfaces, distances, and track geometries. Results were shown to be accurate, reliable, and consistent with the widely accepted existing techniques.
- Additionally, working closely with its commercial track partners Trakus continues to automate standard operating procedures for data quality assurance, system auditing, and results verification. As a unique benefit, Trakus information is gathered constantly for the full field and therefore it is generally more readily and quantitatively verifiable than other methods.

Why do the Trakus results sometimes vary from the *official* industry reporting?

- During the market introduction of Trakus, official times and margins continue to be reported using conventional methods (photo-eye systems, chartcallers). This ensures continuity with prior history in this phase of rollout. The company anticipates this to be an effective way to introduce the many other benefits of this technology. However, because the methods are independent during this phase, minor variations may exist with the posted results.

What is the difference between *timing* and *tracking*?

Timing **Pros and Cons**	**Tracking** **Pros and Cons**
Many timing systems employ passive techniques such as broken beam, inductive loop, or RFID to determine the time at which a certain reference (e.g., pole marker) is traversed. *Timing systems are often unable to determine identity of the horse when triggered, which must be manually recorded and later associated with the timing measurement.* *Timing systems that use photo-eye sensors can determine time for only the lead horse and not the full field.* *Timing systems are unable to determine margins between runners and do not indicate geometry or distance from rail.* *Flow-through timing systems (proximity indicator techniques) are unable to determine ground loss (or ground covered).* *Timing systems require chartcallers to manually record measurements in addition to making interpretations.*	*Tracking systems employ active sensing to dynamically determine the identity, location, and speed of each horse.* *Tracking systems offer situational awareness and can render a visual presentation of the race with virtual cameras.* *Tracking systems identify full-field times and margins plus additional information like trip distance and ground loss.* *Tracking enables virtual replays with play, pause, rewind, fast forward, and stepwise action with complete user control.* *Tracking systems provide automated rich metadata tagging for efficient video indexing and retrieval.* *Tracking systems provide automated measurements with digital charts for chartcallers to make interpretations.*
Bottom line: tracking systems do provide timing information, **but timing systems are unable to provide tracking information.**	

What about interference?

- Spread spectrum systems, like Trakus, that comply with unlicensed ISM band standards can be operated with other in-band and out-of-band wireless devices, including broadcast television audio/video equipment, computer networks, wagering systems, replay kiosks, mobile point-of-sale systems, player loyalty handhelds, and other mobile technology.
- Naturally, as with any wireless system, proper frequency coordination further ensures reliable operation, and Trakus has been proven to operate reliably in the presence of many other concurrently deployed wireless systems.

What's next?

- Expansion of T-Net™, a Trakus online suite of charts, past performances, multimedia elements, and interactive content for industry professionals, with a forum for account holders to provide feedback, exchange ideas, and have discussions about the Company's latest developments.
- Continued rollout of Trakus on a worldwide basis, forming industry partnerships with multi-track operators and regional sanctioning bodies in all key markets.

Trakus is a privately held company based in Massachusetts specializing in tracking systems and related technology services for sports and media. Through its Digital Sports Information® platform, it offers products and services for enhancing television, simulcast, Internet, and mobile applications. For additional information about Trakus, please refer to the company's website, http://www.trakus.com.