



WHAT WE OFFER

- Integration of various enabling technologies for real-time tracking and positioning in sports
- Implementation of event detection functionality in sports applications
- Testing of tracking and positioning systems in sports environments

R&D COLLABORATION WITH FRAUNHOFER IIS

- Its in-depth expertise in tracking, positioning and navigation makes Fraunhofer IIS a reliable partner for R&D projects at both national and international levels.
- Our new and unique L.I.N.K. test facility makes it possible to recreate application-specific circumstances, in particular conditions found in large environments, for test and demonstration purposes.

In cooperation with

ATEKNEA Solutions Hungary Kft, INFOALAP, PPS Projects GmbH, ELITAC Ltd, ENESO Tecnología de Adaptación S.L, ADAPTOR AS, Budapesti Sportszolgáltató Központ, Instituto de Biomecánica de Valencia

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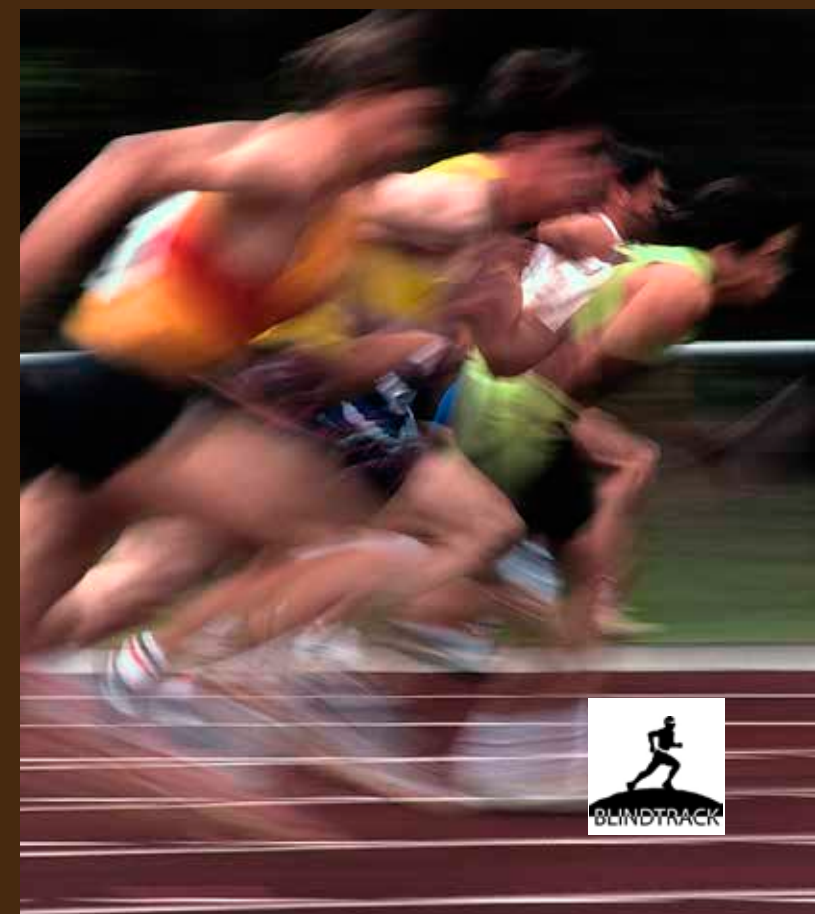
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BLINDTRACK

TRACKING AND POSITIONING IN SPORTS





AT A GLANCE

One of today's key social issues is inclusion of disabled people, a concept that has been put into practice to some degree in kindergartens and schools. In keeping with this is the fact that public interest in the Paralympic Games has been greatly increasing. Against this backdrop, there is a demand for technical aids that enable visually impaired runners to train for, and participate in, sports events without experiencing any barriers.

This is where the Blindtrack system comes in. It will help blind or partially sighted people become more flexible and independent in going about their leisure and health-related activities. In this way, it will contribute to their quality of life.

In this context, the Fraunhofer Institute for Integrated Circuits IIS is developing a tracking and positioning system that will use a belt worn by the visually impaired runner to provide tactile and acoustic warning signals and directions whenever the athlete is about to leave a previously defined lane.



The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 605821.

TECHNICAL DETAILS

Blind or partially sighted runners will be tracked using Fraunhofer IIS's BlackFIR® wireless tracking technology. Several tracking methods are being combined to make it possible to determine not only a runner's position, but also their current lane, speed and movement characteristics.

By analyzing imminent situations, it will be easy to prevent unintentional lane changes as well as collisions with other runners.

In the background, the system will perform calculations to determine which lane is ideal for the runner. The information will be transmitted to the athlete via Wi-Fi, with a vibrating belt producing warning signals as required and indicating when and how to change lane.

For training monitoring purposes, the system will log specific data that help optimize the athlete's performance.

CUSTOMER BENEFITS

- Ability for visually impaired long-distance runners to run unaccompanied
- Elimination of the need to adjust to accompanying runner's fitness level
- Speed measurement
- Training monitoring
- Performance optimization based on measurement of speed and distance traveled
- Ability to compete with sighted athletes
- Avoidance of inadvertent lane changes and collisions with other runners

TECHNICAL BENEFITS

- Real-time tracking and positioning
- Warning signals transmitted directly to athletes
- Positions determined to an accuracy of 0.5 m to 1 m
- Acoustic and tactile alerts