

let technology run its course

**RS**  
**scan**  
INTERNATIONAL

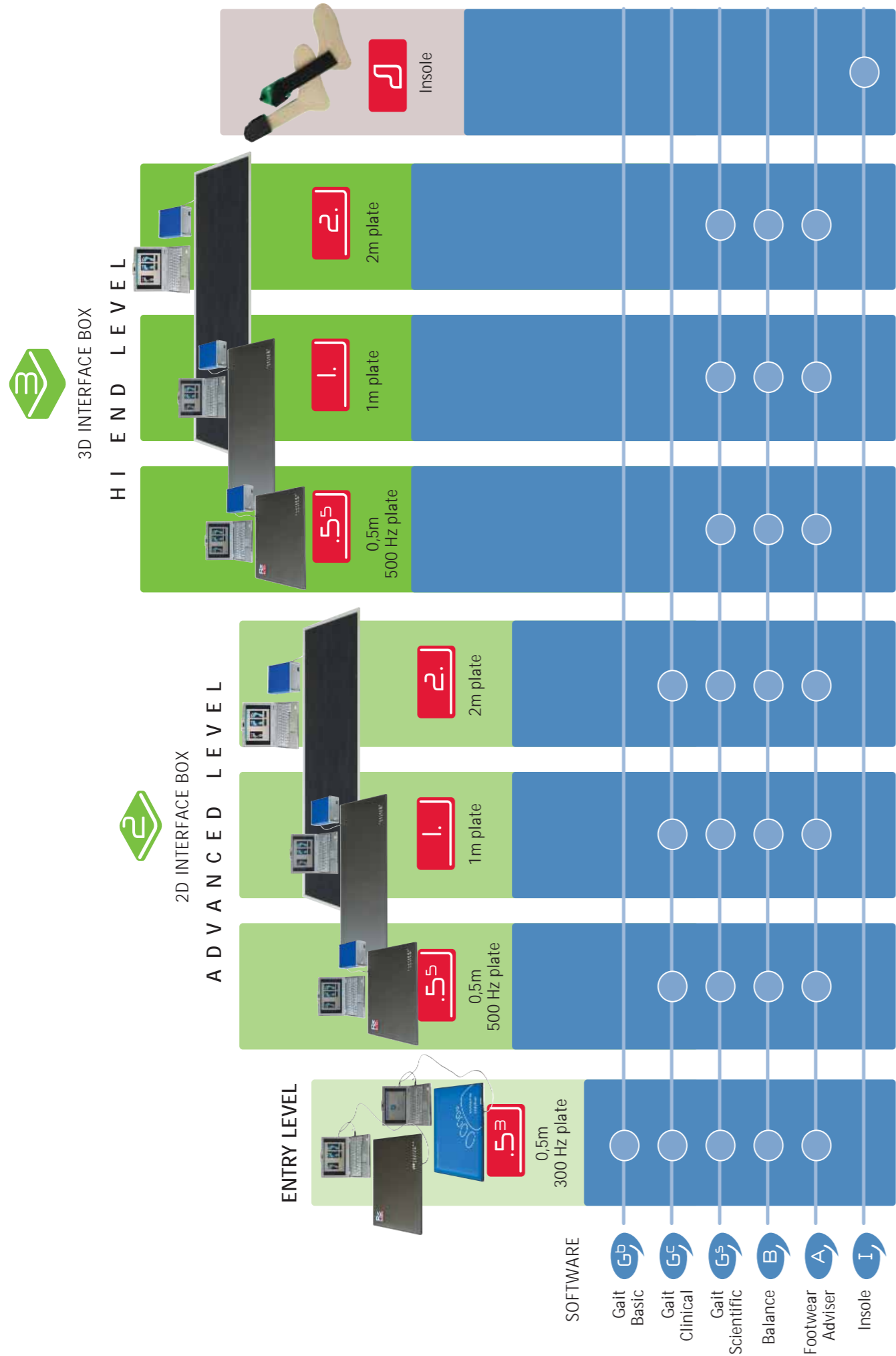
The feet contain 25% of the bones in the body, there are 66 joints, 214 ligaments and 38 muscles and tendons. In biomechanic terms, the feet are impressive structures.

Shouldn't we look after them?

We can help.



making an impression



RSscan International provides a wide range of dynamic pressure measurement systems for Scientific, Clinical and Adviser use.

scientific

Pressure footscan® data will impress you by its accuracy and reliability and by its use in your research in gait and balance analysis. Upgrade your lab to the highest level of synchronization and enjoy the high quality of footscan®.

clinical

footscan® state of the art technology, together with your professionalism, will impress your network of colleagues, insurance institutes, referring doctors and above all, your patient. You will convince him of your treatment with controlled pre and post treatment analyses, which leads to better results.

adviser

footscan® data is your partner in shoe advise for the beginning and well trained runner. It guides you through the gait pattern of your customer and gives you reliable parameters to analyze your customer. An opportunity to impress yourself and your customer.

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# intro

## RSscan International, the company

RSscan International has been operating since 1998 in Olen, Belgium, where the footscan® products are developed, produced and distributed all over the World.

RSscan International offers the customer affordable, professional solutions for highly accurate dynamic pressure measurements in various configurations, with the best specifications to obtain an accurate result, combined with the clearest and easiest user interface.

Through the years, RSscan International has provided professionals in the world of sports and biomechanics with state of the art pressure measuring equipment for highly accurate gait analysis resulting in a worldwide acceptance as one of the most accurate pressure measuring systems in its field.

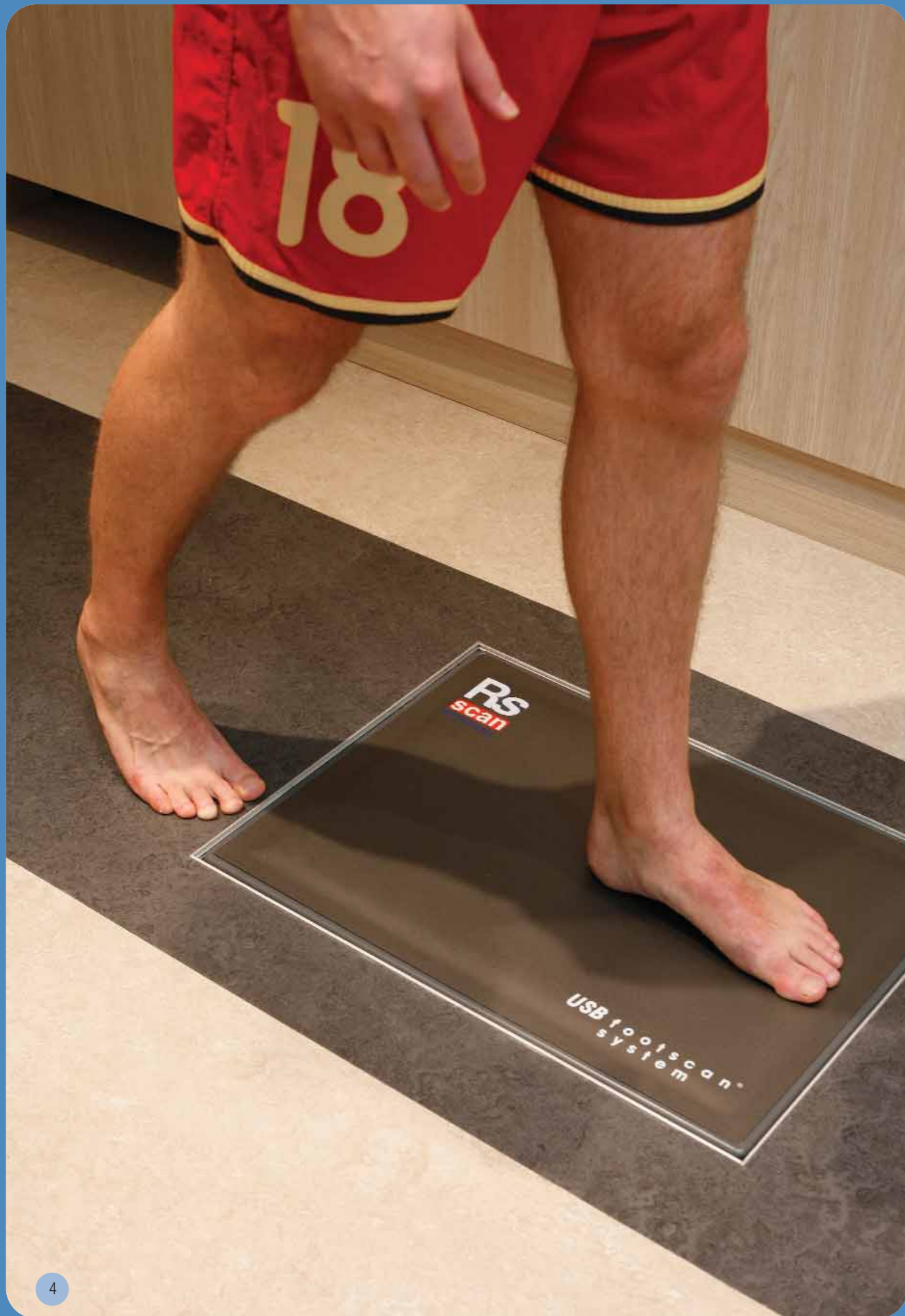
As a member of the Inventive Engineering group, RSscan International is backed by a strong team of experienced engineers for the continuing development of advanced state of the art pressure measuring equipment.

Have a look throughout this catalog to discover the wide range of applications of our footscan® hardware and software. Any questions? Please contact us at [sales@rscan.com](mailto:sales@rscan.com) to find the ideal solution for your requirements. Our worldwide distributor network is available for project guidance, installation and testing, user training, after sales service, etc.

## History

Passionate about his sport, athletics, Jean Pierre Wilssens founded in 1980 the company Runners Service in Beveren, Belgium. Runners Service's mission is to provide the best services in the field of shoes and sports wear for the high profile runner. To improve services and shoe recommendation, Jean Pierre Wilssens started with gait analysis of the runner by use of a treadmill and a video camera. The need for a high speed measuring device, to quantify the complex movement of the foot, rose. The idea of the footscan® was born.

In 1994 Jean Pierre Wilssens teamed up with Intersoft Electronics n.v., a company working in the field of time measurements since 1983. This cooperation resulted in the founding of RSscan International. Since 1998, RSscan International is specialized in developing, designing, producing, commercializing, providing training and support for footscan® pressure measurement systems.



## General technical profile of RSscan footscan® systems

RSscan International has selected resistive sensor technology in order to meet the technical requirements involved in measuring high speed dynamic movements. Thanks to our proprietary resistive sensors with their low level of hysteresis, we are capable of measuring at speeds up to 500Hz (500 frames per second).

The matrix of sensors, combined with our patented electronic technology, offers great solutions to recognize objects, simultaneously placed on the footscan® pressure measurement systems. The rigidity of the resistive sensor technology makes it possible to increase the maximum mechanical load onto the sensor surface, compared to other pressure technologies. Horses, cows ... but also industrial heavy moving objects can be measured.

Every RSscan footscan® system is calibrated during manufacturing, guaranteeing accurate and reliable pressure measurement.

For clinical use, field calibration is possible by following a recalibration procedure, provided by the footscan® software.

For research, RSscan International recommends to synchronize the footscan® pressure measurement system with a force measurement system. A frame by frame calibration (at 500Hz) is possible by synchronizing the footscan® plate and footscan® 3D interface box with a force plate.

Our footscan® 3D interface box enables external triggering and synchronization with third party equipment.

## User groups

RSscan International offers a wide range of pressure measurement systems. In this catalog we would like to guide you to the footscan® system that best suits your needs. You can also check the 'auto-configurator' on our website, to find out which system fits your requirements ([www.rsscan.com](http://www.rsscan.com) > Products > auto-configurator).

RSscan  
INTERNATIONAL

<p>Research</p> <p><b>scientific</b></p> <p>recommended system: footscan® 0.5<sup>5</sup>, 1 or 2m plate</p> <p><i>User: Dr. Mark Lake and Dr. Jos Vanrenterghem Institute: Liverpool John Moores University page 8</i></p>		footscan® 3D box	footscan® Gait Scientific & Balance software
<p>Health Care Private practice</p> <p><b>clinical</b></p> <p>recommended system: footscan® 0.5<sup>3</sup>, 0.5<sup>5</sup>, 1m or 2m plate</p> <p><i>User: Paul Borgions MSc Pod page 12</i></p>		footscan® 2D box	footscan® Gait Clinical software
<p>Health care Hospital / Rehab. center</p> <p>recommended system: footscan® 1 or 2m plate</p> <p><i>User: Christophe Maes Institute: Mensana page 16</i></p>		footscan® 2D box	footscan® Gait Clinical & Balance software
<p>Health care Gait analysis lab</p> <p>recommended system: footscan® 0.5<sup>5</sup>, 1 or 2m plate</p> <p><i>User: Martine Bruylands Institute: Cebra page 20</i></p>		footscan® 3D box	footscan® Gait Scientific software
<p>Shoe recommendation Shoe retail</p> <p><b>adviser</b></p> <p>recommended system: footscan® 0.5<sup>3</sup>, 1 or 2m plate</p> <p><i>User: Marc Coninx Institute: Top Running page 24</i></p>		footscan® 2D box	footscan® Footwear Adviser software

# user groups

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# Research Case

User: Dr. Mark Lake and Dr. Jos Vanrenterghem  
Institute: Liverpool John Moores University

**User ID:** Dr. Mark Lake gained his undergraduate degree at Loughborough University before going on to do his Master's in Human locomotion studies at Penn State University, U.S.A (1990) and then completed his doctorate in Biophysics at the University of Guelph, Canada in 1995. He also worked for one year as a Sports Biomechanist with the United States Olympic Committee. Mark is currently Reader in Biomechanics.

Dr. Jos Vanrenterghem graduated in Physical Education at Ghent University, Belgium (1998), and achieved a PhD in Biomechanics in 2004. Since October 2004, Jos moved to Liverpool to conduct research focusing on postural balance related issues, where he is now Lecturer in Biomechanics of Posture and Balance.

**Institute ID:** Mark and Jos have used RScan® pressure measurement systems since the early days. Nowadays, both conduct research at the Research Institute for Sports and Exercise Sciences (RISES) at Liverpool John Moores University, UK. RISES has received the highest rating for the UK in the previous evaluation of its research activities, which is evident through highly innovative international scientific output. Much of that output relates to enhancing sport performance and reducing sport injuries. For example, pressure patterns in the shoe during cutting manoeuvres in football have proven vital in the design of high performance and simultaneously safe sport shoes. Such, the foot-shoe and shoe-surface interface are a critical aspect while studying the effect of movements of the athlete during dynamic sports movements. Therefore, research activities typically involve pressure measurements together with other biomechanical techniques like kinematics, kinetics, accelerometry or electromyography (small picture). Most recently, a six-degree-of-freedom movable support surface has become available, allowing the investigation of the effect of moving support surface on the athlete (large picture). This makes the facilities at RISES unique for conducting research that challenges established knowledge with the application of highly innovative techniques.

Conducting innovative research means exploring new pathways for applying scientific techniques. Very often this involves stretching the measuring capabilities of systems to the limit, and also beyond. The advantage of working with RScan® International is that there is a constant drive towards improving the equipment to the need of the user. For example, to study aspects of dynamic sports movements, it has often been found crucial to capture pressure data at both high spatial resolution and high frequency (temporal resolution). The RScan® pressure measuring devices currently permit both of those resolution aspects to be adequate for most dynamic sports research. Applications may range from finding short-duration pressure points in the shoe to establishing a critical point in time for maintaining or losing balance during the movement. With respect to posture and balance, the new software has been a welcome new approach to pressure measuring devices. Again, research applications demand a high flexibility for usage of the system, and this is where working with RScan® International has proven beneficial and will continue to do so in the years to come.

The longstanding tradition of studying the foot-shoe and shoe-surface interaction in dynamic movements is one application in which the footscan® devices have proven useful in the past. Currently, a new application of testing posture and balance during dynamic activities is being developed. This is a new field of research, specifically when focusing on the role of foot-surface interaction in aspects of balance during dynamic activities.

## footscan® system

Due to the necessity to integrate the pressure measuring device with many other measuring devices, it is advised to use the 3D box. Also, as dynamic movements are often hard to constrain within a small space, it has proven valuable to work with the 1m plate. We currently use the 1mplate on top of a large force platform (small picture) which allows some degree of dynamic calibration of the pressure data. More recently, we have utilised the footscan® 1m plate on top of the moving platform (large picture).

Example setup of  
footscan® 1m 3D system integrated with six-degree-of-freedom movable support surface and 3D kinematics (reflective markers).

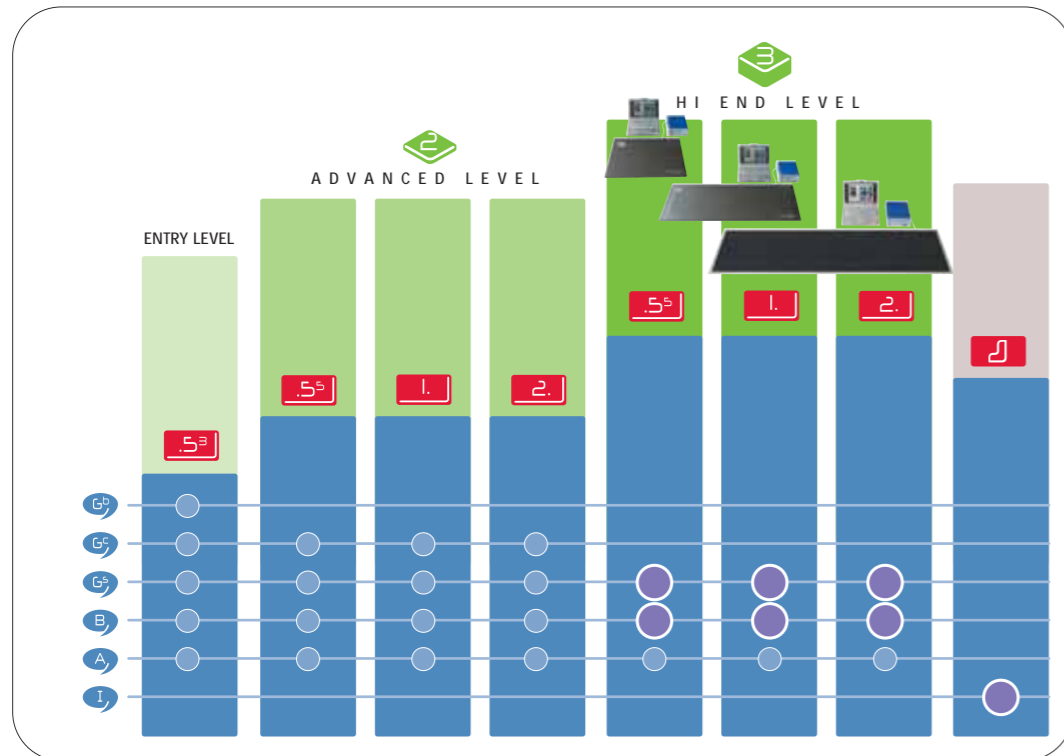
small picture:  
Example setup of footscan® 1m 3D system integrated with force platforms embedded in the floor as well as high speed 3D kinematics.

scientific



## Recommended footscan® systems

Pressure footscan® data will impress you by its accuracy and reliability and by its use in your research in gait and balance analysis. Upgrade your lab to the highest level of synchronization and enjoy the high quality of footscan®.



### footscan® 0.55, 1, 2m - 3D - Gait Scientific system

Dynamic pressure data during barefoot or shod, walking or running trials are registered at a maximum frequency of 500Hz. Data as the gaitline, pressure/time curve, in-toeing and out-toeing angles, impulse ... are obtained for each separate foot. Automatic detecting and masking of the foot into 10 anatomical zones, as well as averaging different trials, is provided with in the footscan® Gait software. To increase the usability of the pressure data, the footscan® Gait Scientific software allows raw data exports in Excell or ASCII format.

A footscan® 3D box is recommended to synchronize the footscan® system with other measurement tools, like force plates, IR cameras ... (see page 34 for more information).

The longer the footscan® plate, the higher the rate of success of the performed trials. Further more, registering subsequent steps, offers additional spatial and temporal information (step length, stride length, walking velocity ...).



### footscan® 0.55, 1, 2m - 3D - Balance system

A footscan® Balance system offers the great opportunity to combine the registration of dynamic pressure data and the calculation of the center of pressure of the total body. Body weight distribution can be examined at a maximum of 500 Hz, during a user-defined time period. This footscan® system is recommended for stability tests as well as for sports specific movement like a golf swing or tennis service. To increase the usability of the pressure data, the footscan® Balance software allows raw data exports in Excell or ASCII format.

A footscan® 3D box is recommended to synchronize the footscan® system with other measurement tool, like force plates, IR cameras ... (see page 34 for more information).

The footscan® 1m plate, with its 8192 sensors, offers the ideal platform to perform balance tests.





## Case

User: Paul Borgions MSc Pod, Master in de Podologie, Vice-president Belgische Vereniging der Podologen  
Institute: private practice

Torenstraat 89  
3110 Rotselaar  
Belgium

**User ID:** Paul Borgions MSc Pod graduated originally as teacher in gymnastics and sports, which stimulated his interest in gait and gait analysis. He became his degree of Master of Science in Podiatry at the University of Brighton UK. He was teacher for several years in the bachelor program for Belgian Podiatrists at Arteveldehogeschool Ghent and he also was one of the starting medical staff of the diabetic foot clinic at the Brussels University Hospital.

**Institute ID:** For the moment Paul Borgions focuses on (professional) sports adults and children. He is working for the Belgian football club KRC Genk and other national and international football players, runners, ... As innovation is very important to Paul, he tries to analyse each problem with the best equipment available.

Next to this Paul is managing Partner of BorgInsole which is a new Belgian firm, designing functional foot orthotics for podiatrist as a result of a high qualitative biomechanical examination. Therefore the BorgInsole Lab uses a digital 3D scan, high-tech software and Cad Cam. The typical BorgInsole Functional Foot Orthotic is a result of 25 years of experience in the Podiatry field.

### Application of the RSscan Gait Clinical system (in a Health Care Gait Lab)

Paul Borgions MSc Pod has more than 15 years experience in different foot pressure systems. Important to know is that after each high sophisticated examination there is situated a human being. Each result of analysis is just some information to interpret. This means that the more information we have from a client or patient, the more accurate can be our treatment or advice. In that context Paul Borgions MSc Pod uses the footscan® Gait Clinical software, next to the video Biomechanical gait analysis, next to the anamnesis, a battery of functional tests, biomechanical screenings, 'shoe-reading' and shoe behaviour. Each part of the examination gives new information or confirms other findings. Sure that the RSscan analyses are very important because they can give so much more information as outcome of a very high resolution of measuring, up to 300 and 500Hz.

Important for each equipment is the use of a well designed protocol. Having the smallest variations and variability's is important to know what you are looking for. Analysis information can be important on the moment itself, but can also become important to compare two situations (before and after treatment, with and without insoles, before and after revalidation). Paul Borgions MSc Pod uses the RSscan system also as a screening test as part of the yearly medical tests for KRC Genk football players. In this way Paul Borgions MSc Pod can use this information at each time he needs it to compare with a changing situation during the competition, or during the next screening. Also important in a screening is to compare the RSscan results with the injury history.

This is easy to show in a case of an international football player who had low back pain and a history of inversion injury's on a regular base.

By seeing the RSscan gait analysis and comparing it with the video Biomechanical software we can see on a repetitive base a subtalar joint inversion moment during the heel contact phase of gait.

### footscan® system

As podiatrist in his setting Paul Borgions MSc Pod recommend the RSscan Gait Clinical software and the Balance software with a 50 x 40cm sensor plate.

### Advantages for clinical use:

High accuracy, repeatability, validity, reliability and resolution, ease of use and interpretation, quick and uncomplicated, patient friendly, facilitation of change in health behaviour, aid to communication (patients, medical staff,..), relevant, not that expensive, aid to therapeutic decision making, patient education, portable if needed, easy to synchronize with video Gait Analysing software and Cad Cam software.

### Disadvantages for this system:

Multiple steps cannot be collected, no measurement possibility between foot and insole itself.

Summarizing all these, we have to know that motion analysis systems are to complement and not to replace trained human eyes (Blake and Ferguson 1993), but sure, computers have improved motion analysis by quantitative data (Cavanagh and Henley 1993).

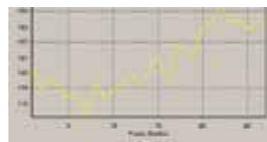
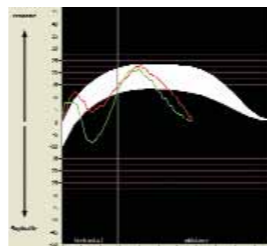
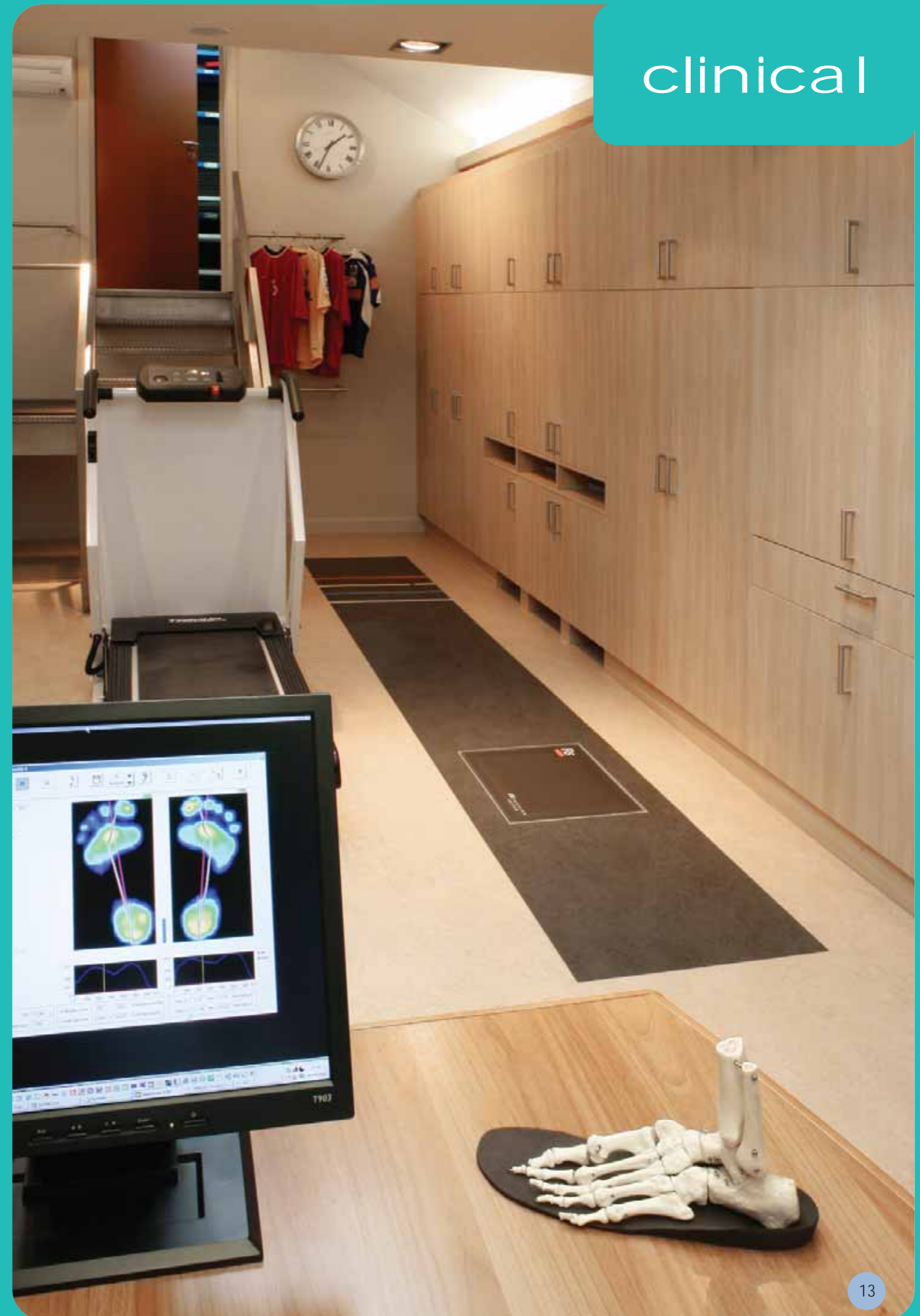


Fig. 1: footscan®  
Fig. 2: biomechanical gait analysis

Both analysing graphics show the same biomechanical problem for a different step, which means that these same outcomes make it more accurate to understand the injury history. (Synchronisation of both systems for the same step is also possible).

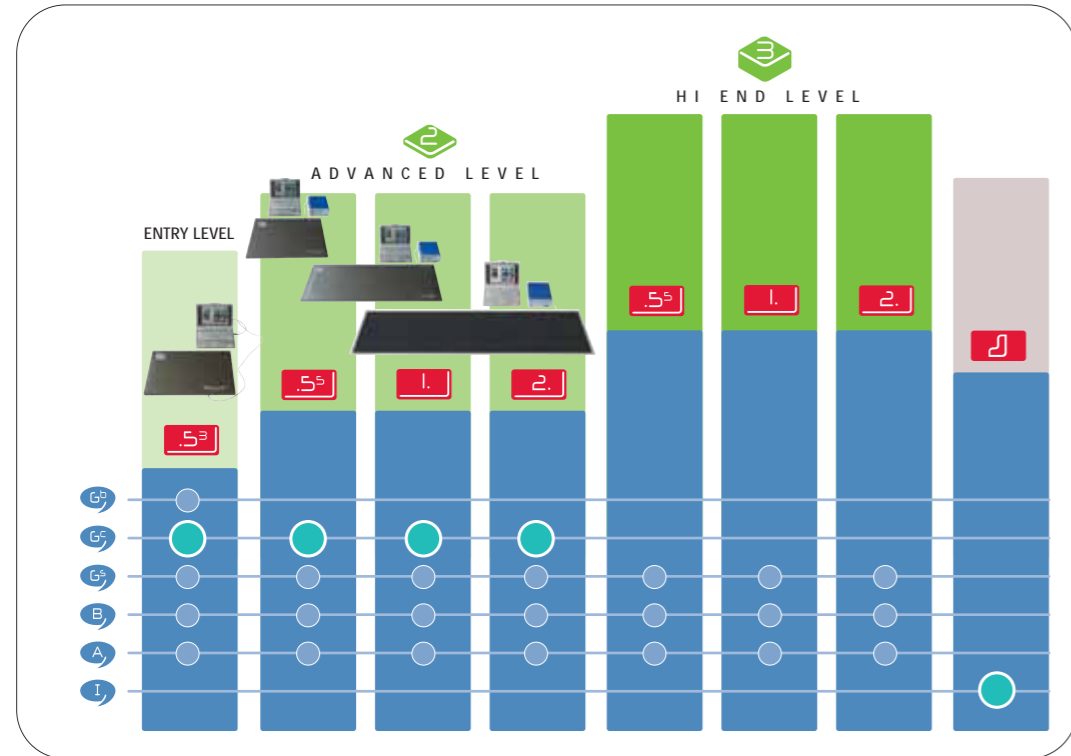
clinical



# Health Care - Private practice

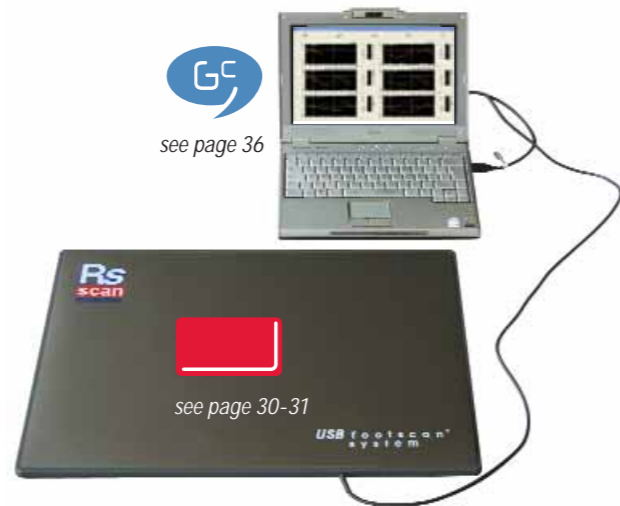
## Recommended footscan® systems

footscan® state of the art technology, together with your professionalism, will impress your network of colleagues, insurance institutes, referring doctors and above all, your patient. You will convince him of your treatment with controlled pre and post treatment analyses, which leads to better results.



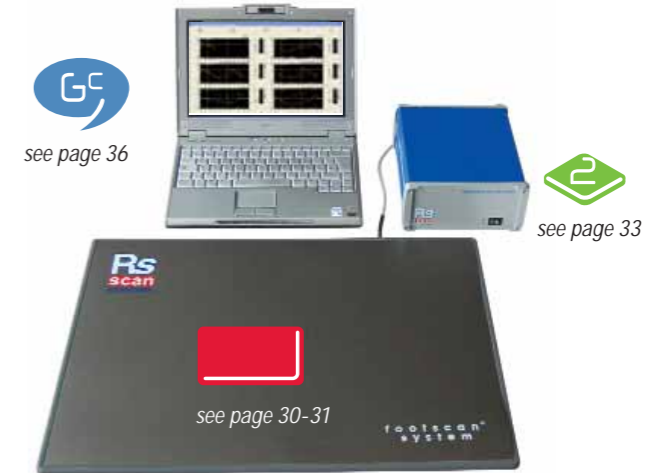
### footscan® 0.53m - Gait Clinical system

A footscan® plug and play system, easy to transport, without losing its accuracy and added value to each clinician's diagnosis and treatment: overused pressure spots under the foot, indications of supination and pronation during the roll off of each foot ... Static and dynamic measurements at a frequency of 300Hz can be captured. 300Hz, or 300 images per second are sufficient to examine a measurement at walking or running speed.



### footscan® 0.55m - 2D - Gait Clinical system

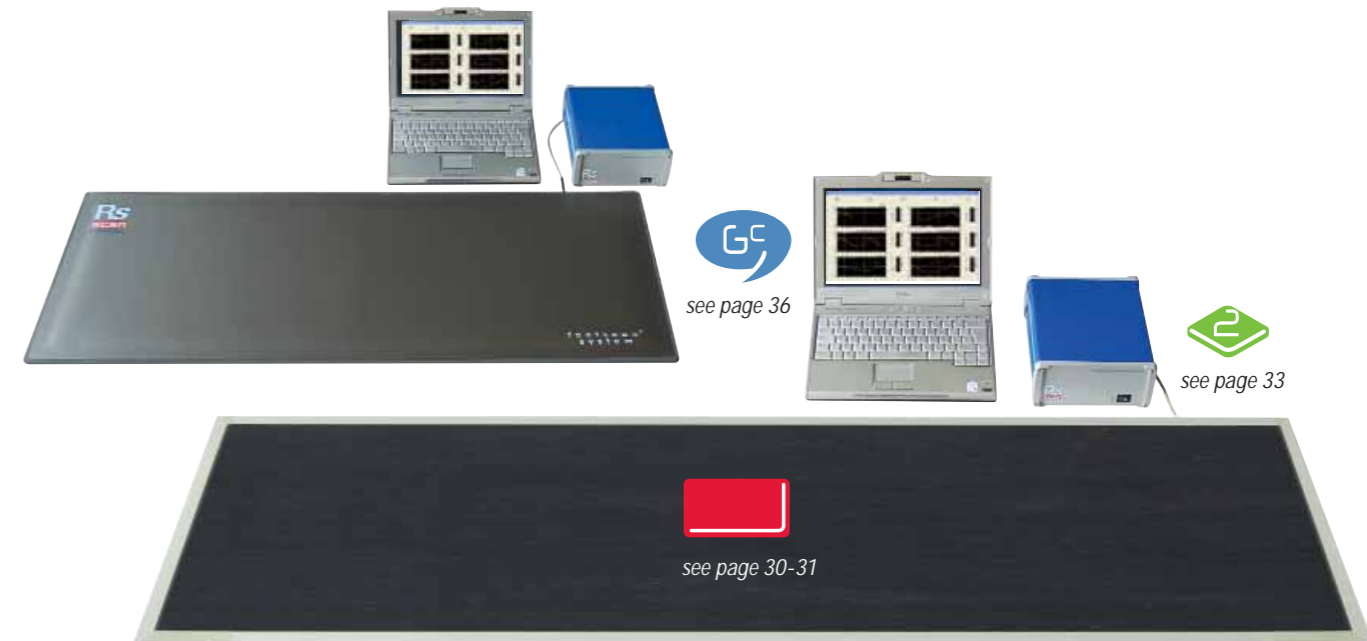
Additional to the footscan® 0.53m-Gait Clinical system, this footscan® system allows the user to measure at 500Hz, instead of 300Hz. The higher the frequency of data acquisition, the more detailed the pressure data. Very small and quick disturbances in the gait pattern can be recognized and interpreted: shortened heel contact, fast rear foot pronation, high peak pressures ... Investing in a footscan® 0.55m-2D-Gait system implements the possibility to upgrade later on to a footscan® 1m or 2m plate and footscan® 3D box.



### footscan® 1m - 2D - Gait Clinical system

### footscan® 2m - 2D - Gait Clinical system

In comparison to the above mentioned systems, the footscan® 1m-2D-Gait Clinical system and footscan® 2m-2D-Gait Clinical system are distinguished by their extended measurement surface of respectively 1m by 0.4m and 2m by 0.4m. Less transportable but very useful to obtain a representative gait pattern of your customer. When a child walks over a footscan® 2m plate, all steps can be differentiated!



## Case

User: Christophe Maes  
Institute: Mensana

Gentsesteenweg 132  
8340 Sijsele – Damme  
Belgium

**Institute ID:** Founded 2001, at Mensana we go beyond traditional strategies for assessing the body health of a wide spectrum of individuals: with our dedicated and experienced medical team and the use of the best clinical technologies currently available, we offer a multi-disciplinary approach towards Sports Medicine, Obesity, Rheumatology and Public health awareness and evaluation. Our biomechanical analysis is one module of our screening program and aims to check whether underlying biomechanical abnormalities could be the primary cause of remaining and chronic sports medical complaints.

Description of screening phases:

### Foot and running analysis

Based on a dynamic pressure measurement analysis, the barefoot roll off is examined. In a second stage, control pressure measurements are used to check the biomechanical effect of shoes. With the outcome of these testings our team prescribes a therapeutic plan with shoe advice and if necessary, correcting orthopedic inserts.

### Cycling analyses

The footscan® insole system, in combination with a bike fitting system, is used to fine tune the position of the biker. Pressure data gives an increased insight view in the biomechanical loading of feet and lower limbs. Corrections will prevent overuse injuries or can cure sports related chronic malfunctions.

### Balance testings

The footscan® Balance software enables us to check and follow up the stability of sports people. More and more, we see that an improvement of the stability of person will increase its performance, in all kind of recreative and professional sports activities. Parameters as Total Travelled Way and Ellips Area are used to follow up the stability, in healthy sports professionals or during a rehabilitation program after a traumatic accident or overuse injury.

### footscan® systems

The footscan® 2m-2D-Gait Clinical & Balance system offers the best available specifications to obtain dynamic pressure data in the world of sports medicine. Data captured at 500Hz enables the clinician to receive a detailed insight view of foot movement (pronation, supination) and overloaded foot structures (first meta tarsal ray, fifth meta tarsal ray ...), which is in relation with upper laying structures and possible injuries like shin splints, achilles tendonitis, medial knee pain ...

### OTHER FIELDS OF APPLICATIONS IN A HOSPITAL ENVIRONMENT:

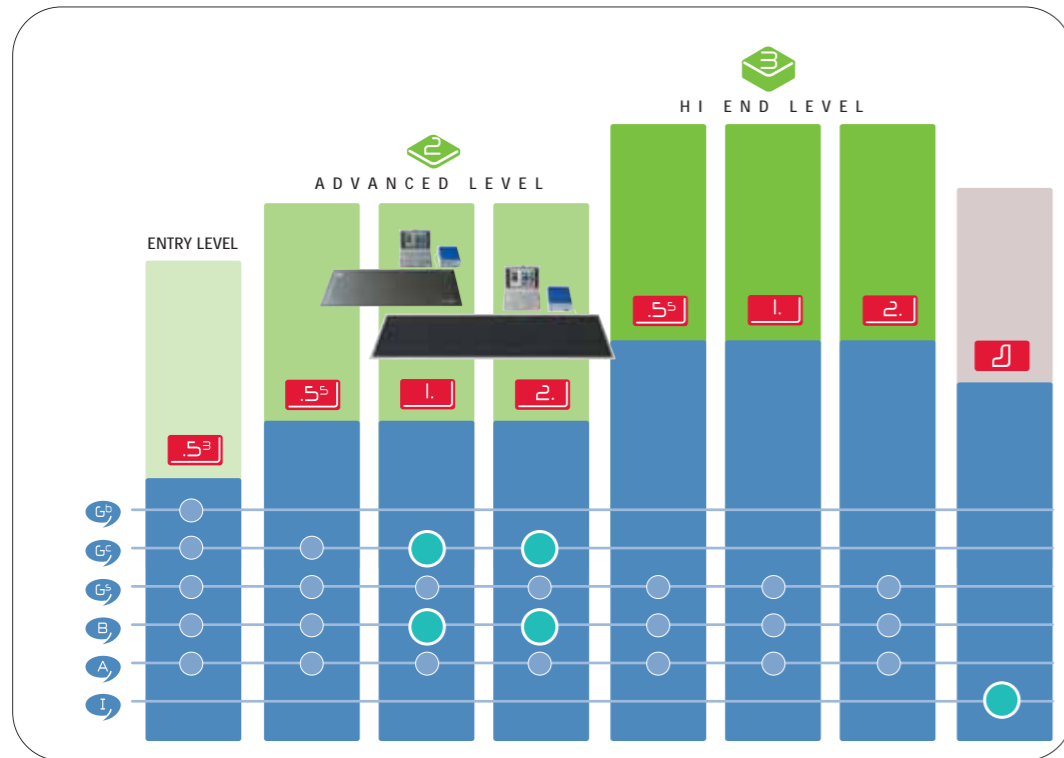
- diabetic and wound care
- orthopedic medicine
- neurological medicine

clinical



# Health care - Hospital / Rehab. center

## Recommended footscan® systems



## footscan® 1m - 2D - Gait Clinical & Balance system

## footscan® 2m - 2D - Gait Clinical & Balance system

In the field of Health care, and especially in a hospital environment or rehabilitation center, the footscan® system is a diagnostic tool for sports medicine, orthopedic medicine, wound and diabetic care and neurological medicine. The functionality of the footscan® Gait Clinical & Balance software allows the user to perform walking, running and stability tests. When combining parameters of both software packages, a total pressure screening of the patient can be examined. The database of the footscan® software can be placed on an intranet server. This enhances the communication of measurements and data between colleagues, pressure data will be accessible on various locations in the hospital or rehabilitation center.



## Case

User: Martine Bruylandts – Master in physiotherapy  
Institute: CePRA - St Jozef

Galjoenstraat 2  
2000 Antwerpen  
Belgium

**User ID:** Cepra (Cerebral Palsy Reference Center Antwerp) is established to serve patients with Cerebral Palsy beginning in the first stages of the disease. This neurological disease is mainly characterized by motor-control problems, which in these days can be handled quite well, assumed that the right treatment is given. The main goal of Cepra is to centralize the know-how of Cerebral Palsy of a multi disciplinary team of doctors, physiotherapists, ergo therapists, speech therapists and nurses.

One of the services of Cepra is a specialized gait lab in the Sint Jozef Institute in Antwerp. A thorough gait analysis is necessary to receive a precise image of the gait problems and motor-control problems of the lower limbs.

The results of the gait analysis are discussed with the whole team, to prescribe the most appropriate treatment with a personalized time schedule and goal for each patient. The time schedule and treatment can be adjusted, based on the outcome of regular control measurements.

The gait lab of Cepra is equipped with a 1m force plate, a motion capture system existing of 6 Infra Red cameras, and a footscan® 1m-3D-Gait Scientific system. The footscan® 3D box is in charge of the synchronization of the 3 different measurement devices: 1 touch on the button and all 3 systems start registering. This facilitates the interpretation of the different parameters afterwards. It was preferable to choose for a force plate and footscan® plate with the same dimensions. The combination of a 1m force plate and 1m footscan® plate ensures the accuracy of force data and provides a sufficient large measurement surface. With a population of patients with motor-control problems, a large measurement surface is desirable. The footscan® Gait scientific software enables us to save data based on own numbering system of patients, and to share pressure data with the whole multi disciplinary team. Averaging several measurements increases the reliability of the dynamic pressure and timing data.

A specific use of the footscan® system can be found in pre- and post treatment analysis of Botox (botuline-toxine) injections. Children with Cerebral Palsy suffer from severe muscle spasm which obliges them to walk on their toes. Botox injections in those muscles have a relaxing effect, which enables a normal muscle control and a correct gait pattern can be adopted. The footscan® system is the ideal tool to check the effect of this kind of treatment with following parameters:

- amount of heel pressure
- duration of heel contact
- pronation or supination
- in-toeing or out-toeing angle

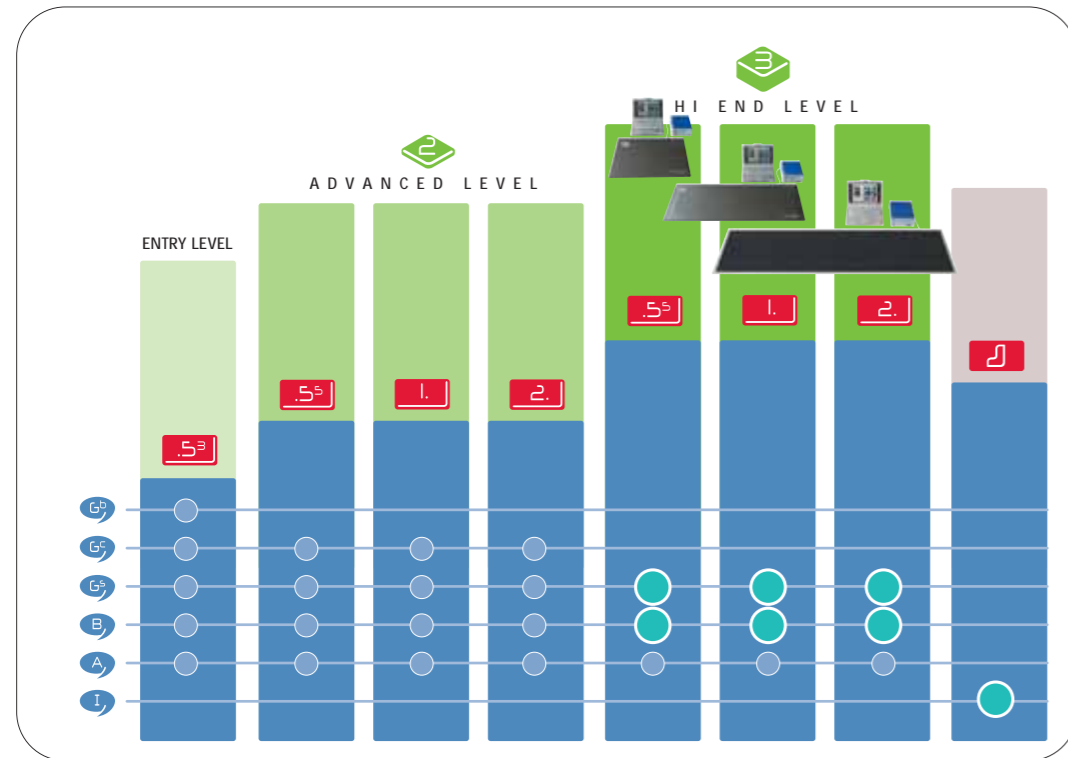
for barefoot measurements or shod measurements, even with or without orthopedic corrections or Ankle and Foot orthoses (AFOs).

### footscan® system

To answer the specific wishes of high technological equipped gait labs, *RScan International* offers the footscan® Hi End systems. The footscan® 3D box is developed, based on the industrial standards, which enables a synchronization or triggering signal for most of the existing force plates, IR cameras, EMG systems.

clinical





### footscan® 0.5m - 3D - Gait Scientific & Balance system

Most gait labs are equipped with force plates, EMG systems, IR cameras ... This is the place where a footscan® 3D system comes to its right: a frequency of data acquisition of 500 Hz and the possibility to synchronize with other measurement equipment. Next to force data, the distribution of this force onto the surface of the foot (i.e. pressure in N/cm<sup>2</sup>) creates an added value to the diagnosis and control measurements of the patient.

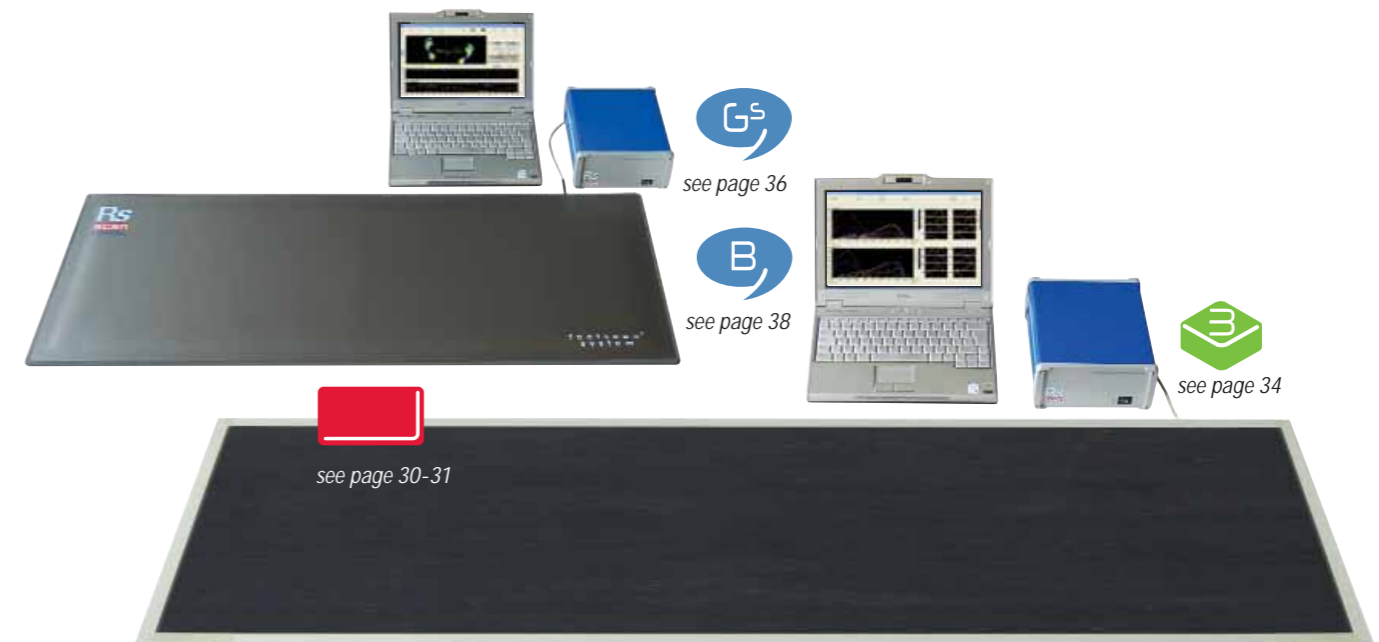
In this field of application the population of patients exists mostly of Cerebral Palsy children and patients with neurological disturbed gait patterns. Clinicians can benefit from pressure data and bio-mechanical outputs, like peak and average pressures, overloaded foot regions, abnormal temporal parameters of heel contact, mid foot contact and propulsion to diagnose the patient and to control the treatment of Botox injections and Ankle - Foot orthoses (AFOs).



### footscan® 1m - 3D - Gait Scientific & Balance system

### footscan® 2m - 3D - Gait Scientific & Balance system

Clinicians working with patients with neurological disturbed gait patterns can benefit from using a longer footscan® plate. The rate of success of a trial will increase together with the surface of the measurement area.



# Shoe recommendation - Shoe retail

## Case

User: Marc Coninx  
Institute: Top Running

Bredabaan 317  
2990 Wuustwezel  
Belgium

**User ID:** Being a triathlon athlete at competition level, the interest in sports guided Marc Coninx also in his professional life. In 1993 he opened his specialized running shop Top Running. The main focus was to provide high active sports people with good functional sport shoes, and if necessary, with a small correction. Simultaneously, Marc followed a 4 year course in the Netherlands, to become an orthopedic shoe technician. Courses on biomechanics, inserts and shoe design, use of grinders ... are highlighted in Marc's agenda. As one of the pioneers in his field, he is involved in several international projects, especially to design inserts and last by using a CadCam software package and grinders.

Today, people visit Top Running for their know how of sport shoes, and secondly to find good functional shoes for daily life, with or without orthopedic corrections or inserts. Helped by a well educated staff of 5, children, adults and elderly people find their choice in a wide range of shoes and are guided by the outcome of several measurements, with a footscan® as main measurement for the gait analysis. A 2D and 3D scan of the foot, together with a video file complete the set of measurements.

Top Running's concept succeeded due to its cooperation and networking activities with sports doctors, orthopedic surgeons, physiotherapists ... Biomechanics and shoe recommendation involves the whole body: feet, legs, hip, back ... In case the customer is suffering from an injury, he will be referred within the network to the right professional. By combining the know how of several professions into a network, the success of treatment grows with a happy patient and customer as result.

Since the early days of *RSscan International*, the footscan® 2m plate has a central place in the shop. The large measurement surface of the footscan®, together with the possibility to recess the footscan® plate into the floor, ensure:

- a spontaneous walk of the customer without focusing on the footscan®
- no height difference between the floor and the footscan® plate
- a maximum time efficient use due to the high rate of success of a measurement trial

Sports people are measured at their preferred running speed, which allows Marc to investigate the specific gait pattern of each customer. Marc and his colleagues have the perfect data and the customer is pleased by the personal approach to his problem. This is possible due to the high frequency of data acquisition of the footscan® 2D interface.

Through the years Top Running has followed and tested the footscan® gait software for his specific applications. Latest, the footscan® Footwear Adviser software package was successfully introduced to recommend a type of sport shoe, based on the dynamic gait pattern, running speed and weight of the customer.

### footscan® system

The footscan® Footwear Adviser software is especially developed for this field of application. Customer information and measurements can easily be saved, and later on compared with newly captured footscan® measurements. The software package differentiates beginning and advanced runners and is an additional tool to prevent injuries or facilitate the rehabilitation by advising the right type of shoe.

To be time efficient, *RSscan International* recommends the footscan® 1 or 2m plate. A footscan® 2D interface box ensures a high frequency of data acquisition.

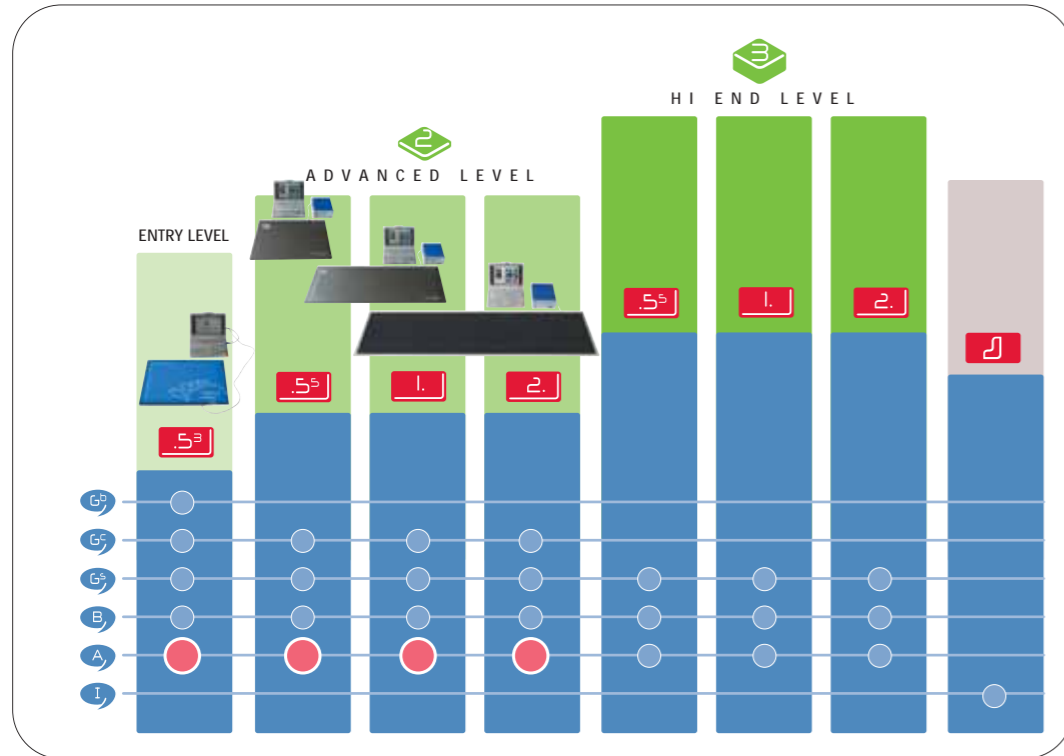
adviser



# Shoe recommendation - Shoe retail

## Recommended footscan® systems

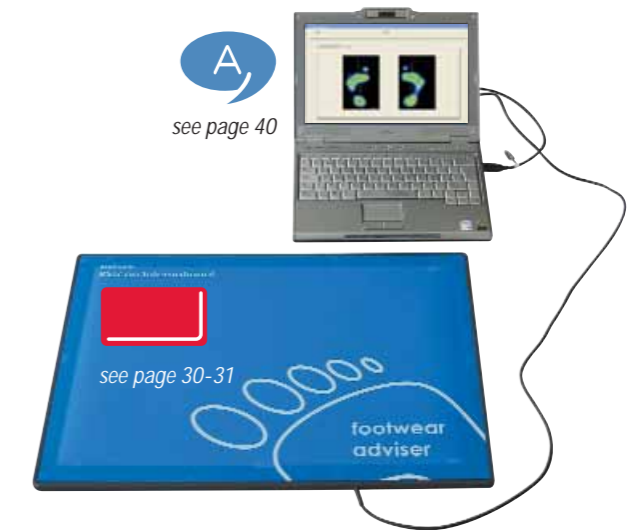
footscan® data is your partner in shoe advice for the beginning and well trained runner. It guides you through the gait pattern of your customer and gives you reliable parameters to analyze your customer. An opportunity to impress yourself and your customer.



## footscan® 0.5<sup>3</sup> - Footwear Adviser

footscan® data is your partner in shoe advice for the beginning and well trained runner. It guides you through the gait pattern of your customer and gives you reliable parameters to analyze your customer. An opportunity to impress yourself and your customer.

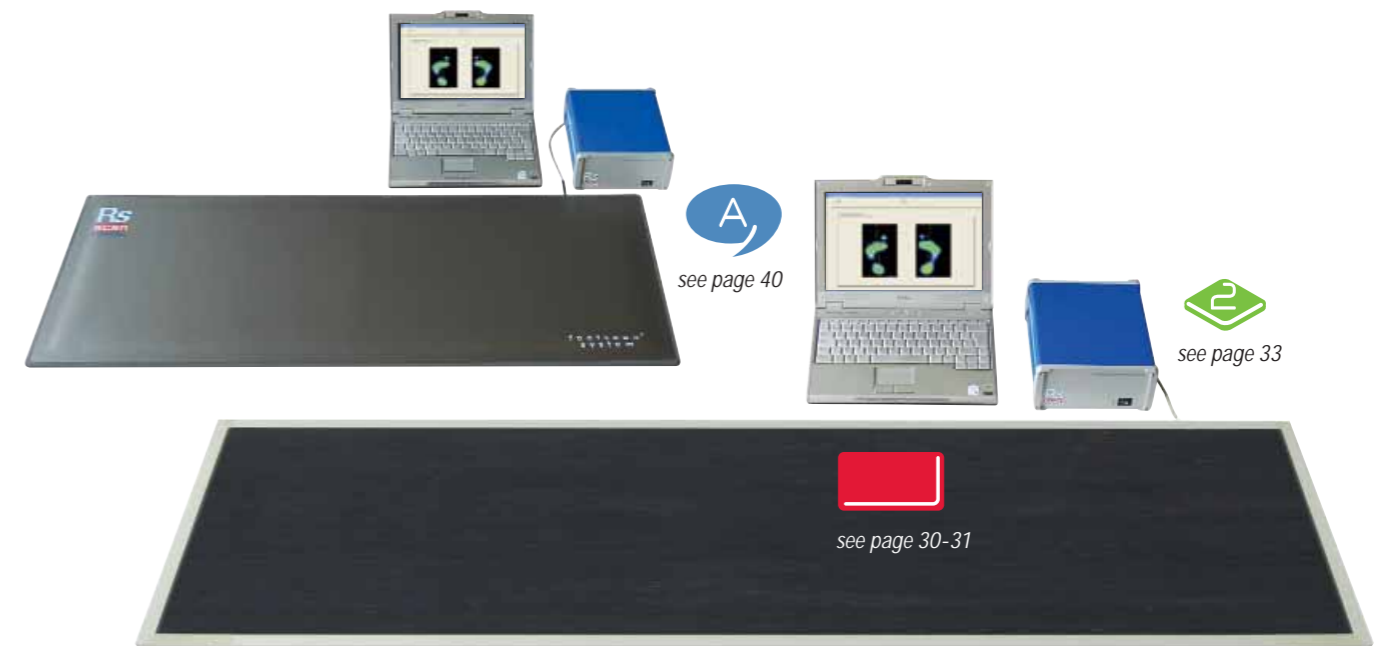
A footscan® plug and play system, easy to transport and to travel from sports event to sports event. A frequency of data acquisition of 300 Hz allows the user to measure walking and running sports people, to optimize your shoe recommendation. Averaging different measurements will increase the quality and reliability of your recommendation. The display features of the footscan® Footwear Adviser software will increase the awareness of the customer of the importance of prevention of overuse injuries by the choice of good sports shoes.



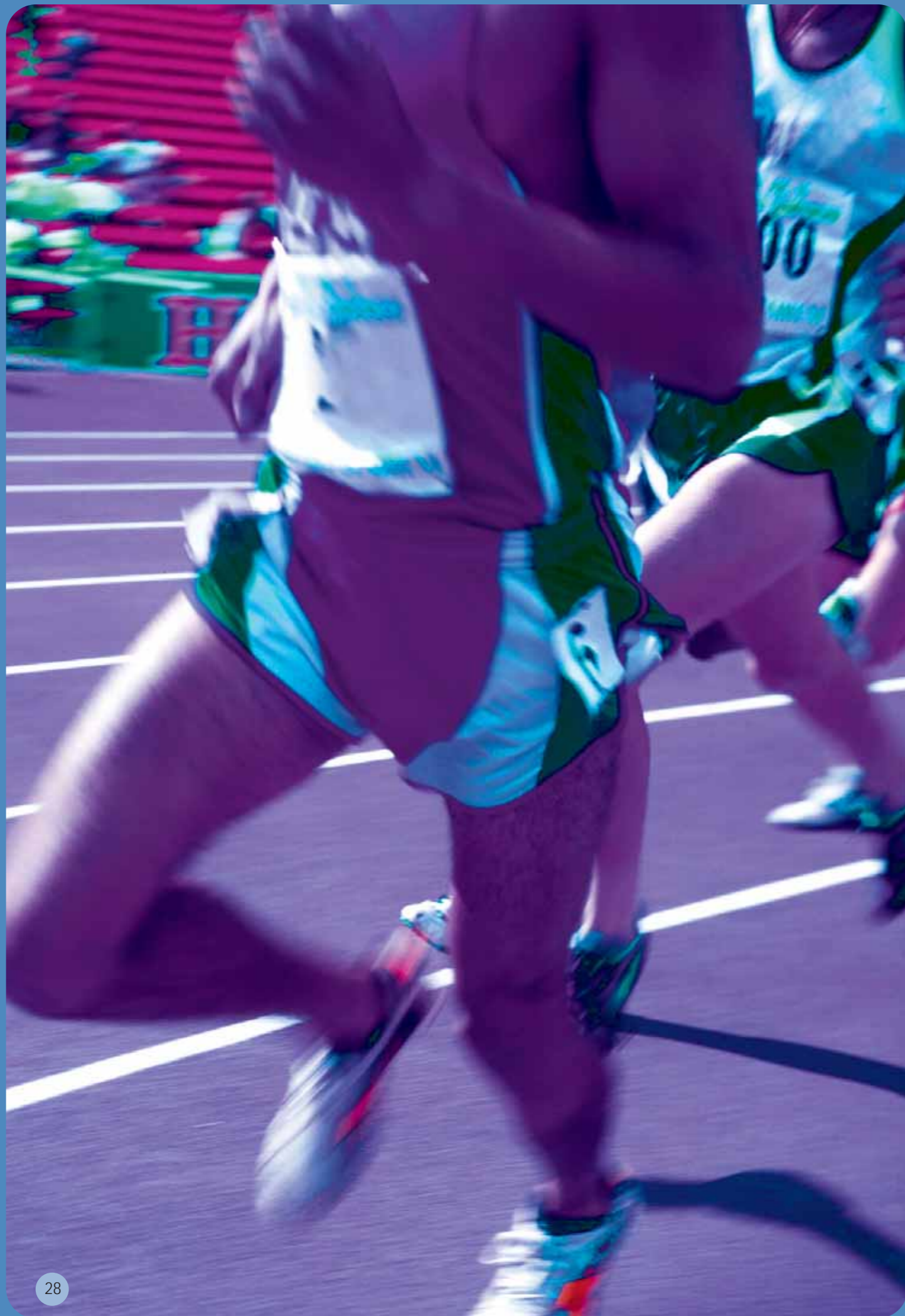
## footscan® 1m - 2D - Footwear Adviser

## footscan® 2m - 2D - Footwear Adviser




Difficulties to obtain a good measurement in the short time period that you have with your customer? A footscan® 1 or 2m plate will facilitate your job by having 2 to 3 steps during one footscan® trial.







# product groups

	page	
<u>HARDWARE</u>		
0,5 <sup>3</sup> plate (300Hz)	30	
0,5 <sup>5</sup> , 1 and 2m plates (500Hz)	31	
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footscan® pressure measurement systems are combinations of footscan® hardware, software and interface.

ENTRY LEVEL

footscan® 0,53m / 300Hz plate

.5<sup>3</sup>

dimensions (L x W x H, mm): 578 x 418 x 12  
 Number of sensors: 4096  
 Sensor dimensions: 5.08mm x 7.62mm  
 Weight: 4.2kg  
 Sensor technology: resistive  
 Data acquisition frequency: 150Hz (Basic software)  
 300Hz (Scientific / Clinical software)  
 Pressure range: 0 - 200N/cm<sup>2</sup>  
 Operating temperate range: +15°C to +30°C  
 Storage temperate range: +10°C to +40°C  
 Relative humidity: 20% to 80% non-condensing  
 Connection type to PC: USB2.0  
 Cable length to PC: 4300mm ±50mm (integrated cable)  
 Resolution: 8 bit



art.nr. 20010000



art.nr. 20020000



Different packaging options are available for the whole range of footscan® systems, see chapter 5, page 54-57.

ADVANCED and HI END LEVEL

hardware

footscan® 0,55m / 500Hz plate

.5<sup>5</sup>

Dimensions (L x W x H, mm): 578 x 418 x 12  
 Number of sensors: 4096  
 Sensor dimensions: 5.08mm x 7.62mm  
 Sensor technology: resistive  
 Weight: 4.2kg  
 Data acquisition frequency: 500Hz  
 Pressure range: 0 - 200N/cm<sup>2</sup>  
 Operating temperate range: +15°C to +30°C  
 Storage temperate range: +10°C to +40°C  
 Relative humidity: 20% to 80% non-condensing  
 Connection to footscan® box: footscan® connector  
 Cable length to footscan® box: 6000mm

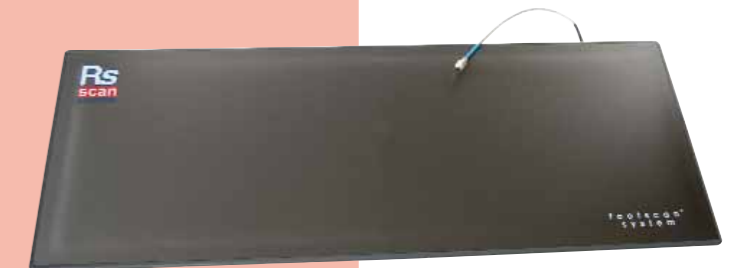


art.nr. 20090000

footscan® 1 m / 500Hz plate

1.

Dimensions (L x W x H, mm): 1068 x 418 x 12  
 Number of sensors: 8192  
 Sensor dimensions: 5.08mm x 7.62mm  
 Sensor technology: resistive  
 Weight: 7.65kg  
 Data acquisition frequency: 500Hz  
 Pressure range: 0 - 200N/cm<sup>2</sup>  
 Operating temperate range: +15°C to +30°C  
 Storage temperate range: +10°C to +40°C  
 Relative humidity: 20% to 80% non-condensing  
 Connection to footscan® box: footscan® connector  
 Cable length to footscan® box: 6000mm



art.nr. 20110000

footscan® 2 m / 500Hz plate

2.

Dimensions (L x W x H, mm): 2096 x 472 x 18  
 Number of sensors: 16384  
 Sensor dimensions: 5.08mm x 7.62mm  
 Sensor technology: resistive  
 Weight: 28.8kg  
 Data acquisition frequency: 500Hz  
 Pressure range: 0 - 200N/cm<sup>2</sup>  
 Operating temperate range: +15°C to +30°C  
 Storage temperate range: +10°C to +40°C  
 Relative humidity: 20% to 80% non-condensing  
 Connection to footscan® box: footscan® connector  
 Cable length to footscan® box: 6000mm

art.nr. 20120000



## System requirements

The footscan® hardware and software is designed for use on personal computers running Microsoft Windows XP (Home Edition or Professional, 32bit with Service Pack 2) or Microsoft Windows Vista (Home Basic, Home Premium, Business or Ultimate, 32bit).

### MINIMUM SYSTEM REQUIREMENTS:

Memory: 512MB of RAM memory (1GB recommended for Windows Vista).

Ports: 1 available USB2.0 port, fully compliant with the USB2.0 specifications.

Screen: a minimum display screen resolution of 1024 by 768 pixels, 16bit color quality.

Hard drive storage: 100MB of space for the footscan® software and additional space for the measurements database. Approximate 0.5MB of additional space is required per measurement. For example, a database of 250 patients with 3 measurements per patient requires 375MB additional hard drive space.

## Technical information

### ADVANCED LEVEL

## interface 2D box

### footscan® 2D box

Dimensions (L x W x H, mm): 220 x 190 x 90  
Weight: 2.2kg  
Data acquisition frequency: 500Hz  
Maximum number of frames per measurement: 1000  
Operating temperate range: +15 °C to +30 °C  
Storage temperate range: +10 °C to +40 °C  
Relative humidity: 20% to 80% non-condensing  
Connection type to PC: USB2.0  
Cable length to PC: 5m  
Power supply: 12V 4.16A (external)  
Resolution: 8bit



art.nr. 21000100  
inc. all cables

HI END LEVEL

footscan® 3D box



Dimensions (L x W x H, mm): 230 x 190 x 90  
 Weight: 2.4 kg  
 Data acquisition frequency: 500Hz  
 Maximum number of frames per measurement: 1000  
 Operating temperate range: +15 °C to +30 °C  
 Storage temperate range: +10 °C to +40 °C  
 Relative humidity: 20% to 80% non-condensing  
 Connection type to PC: USB2.0  
 Cable length to PC: 5m  
 Analog channels: 16  
 Voltage range analog channels: -5V to +5V  
 Sync / Trigger IO options  
 Sync in  
 Sync out  
 Inverted sync out  
 Trigger out  
 Trigger in  
 Inverted trigger out  
 Voltage range Sync / Trigger IO: TTL level  
 Power supply: 12V 4.16A (external)  
 Resolution: 8bit



art.nr. 21000200  
incl. all cables

for spare cables see chapter 5, page 57

interface  
3D box

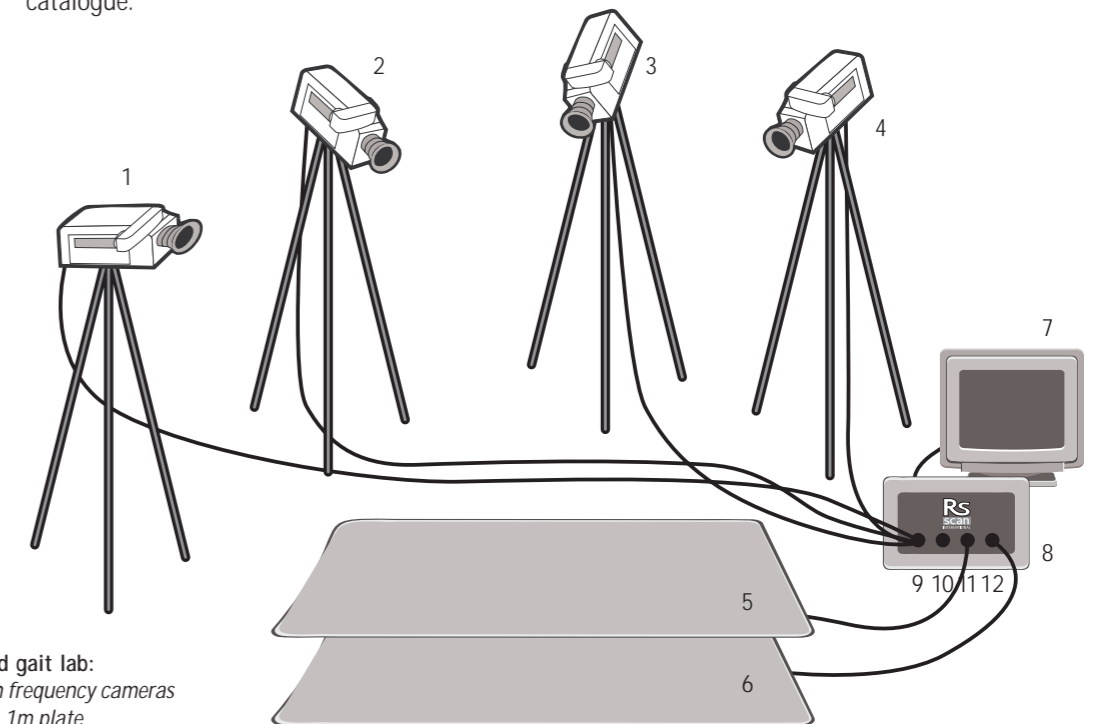
footscan® 3D box: Synchronize your gait-lab

Dynamic pressure measurement systems, EMG equipment, force plates, video capturing systems or high speed infra red cameras... separately useful pieces of technology, each with its own value.

Years of research have shown that no measurement device on itself, can give a total perception into gait analysis. Neither only the footscan® system, nor only high-frequency infra-red cameras, nor only a force plate can give you a total 3D picture of the gait-pattern of your patient. By synchronizing all these high tech devices, you create a new dimension to your gait-lab, enhancing the value of each measurement device. The researcher as well as the clinician has his interest in integrating these measurements devices in one network, which gives the possibility to capture the total picture of the patient.

To realize this new dimension, *RSscan International* offers the footscan® 3D box. The first application of the footscan® 3D box is to synchronize your footscan® system with a force plate. Frame by frame, the total pressure is corrected by the signal of the force plate. In this way you obtain dynamic pressure data (N/cm<sup>2</sup>), nearest to absolute data. X, Y and Z forces are shown together with the dynamic pressure data in the footscan® software. Further more, a footscan® system, force plate, low and high frequency (infra-red) cameras, EMG device... can be triggered by a TTL or RF signal, produced by the footscan® 3D box. The footscan® 3D box can act as slave or master, and can supply a TTL with a rising or falling edge. As a result you have on each moment of the gait-cycle the combined data to your disposition.

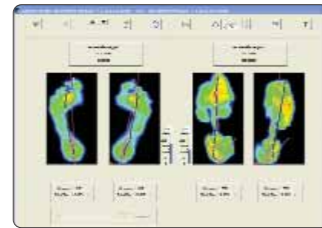
To check the ability of synchronization of your measurement equipment with the footscan® 3D box, contact your distributor or *RSscan International*. Contact addresses can be found at the end of this catalogue.



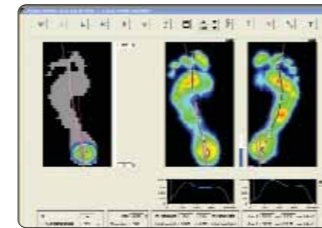
- Set up of a synchronized gait lab:  
 1 - 4: infra red high frequency cameras  
 5: footscan® 1m plate  
 6: 1m force plate  
 7: PC  
 8: footscan® 3D box  
 9 - 12: connections at the back of a footscan® 3D box



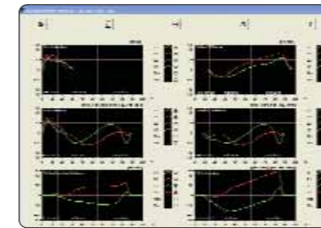
database screen



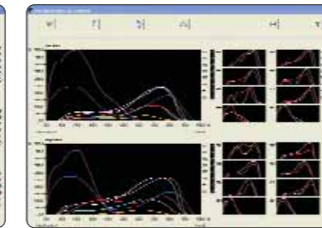
compare screen



typical Gait Basic screen



typical Gait Clinical screen



typical Gait Scientific screen



Software	GAIT BASIC			GAIT CLINICAL			GAIT SCIENTIFIC		
Interface	-	-	2D box	3D box	-	2D box	3D box		
Hardware	0.5 <sup>3</sup>	0.5 <sup>3</sup>	0.5 <sup>5</sup> - 2m	0.5 <sup>5</sup> - 2m	0.5 <sup>3</sup>	0.5 <sup>5</sup> - 2m	0.5 <sup>5</sup> m		

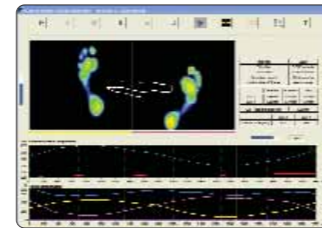
	ENTRY LEVEL	ENTRY LEVEL	ADV. LEVEL	HI END LEVEL	ENTRY LEVEL	ADV. LEVEL	HI END LEVEL
<b>Database</b>							
Save patient information	X	X	X	X	X	X	X
Export patient information in excel format	X	X	X	X	X	X	X
Link to other administrative programs*	X	X	X	X	X	X	X
Save measurement	X	X	X	X	X	X	X
Export measurements to communicate with other footscan® users	X	X	X	X	X	X	X
Remark field	X	X	X	X	X	X	X
Backup database	X	X	X	X	X	X	X
Database on local PC or server	X	X	X	X	X	X	X
<b>Languages</b>							
English - Dutch - Spanish - German - French - Catalans	X	X	X	X	X	X	X
<b>Print features</b>							
Patient information and gait lab information	X	X	X	X	X	X	X
Up to 15 different printouts of pressure data	X	X	X	X	X	X	X
<b>Export features</b>							
Export of pressure data to import in Cadcam software / video software*	X	X	X	X	X	X	X
Export of pressure picture (bitmap format)	X	X	X	X	X	X	X
Raw data export	-	-	-	-	X	X	X
<b>Static measurement mode</b>							
Display of max pressures over 1 second	X	X	X	X	X	X	X
Repartition of body weight in 4 quadrants (%)	X	X	X	X	X	X	X
8 cursors to look for detailed pressure data	X	X	X	X	X	X	X
<b>Dynamic measurement mode</b>							
Dynamic measurement: walking, running, jumping ... (max. 1000 frames)	X	X	X	X	X	X	X
Barefoot and shod measurement mode, in 2 directions of gait	X	X	X	X	X	X	X
Automatic detection of several left and right feet	X	X	X	X	X	X	X
Display of dynamic pressures and Centre Of Pressure line (COP line)	X	X	X	X	X	X	X
Display mode: 2D, 3D, synchronized, Impulse	X	X	X	X	X	X	X
Display mode: roll off	-	-	X	X	X	X	X
Frequency of data acquisition 150 Hz	X	-	-	X	-	-	X
Frequency of data acquisition 300 Hz	-	X	-	X	X	-	X
Frequency of data acquisition 500 Hz	-	-	X	X	-	X	X
Frequency of data acquisition 1 - 500 Hz (adjustable)	-	-	-	X	-	-	X
Trigger and Synchronization options to other equipment (force plates, EMG, high speed (infra-red) cameras)	-	-	-	-	-	-	X
<b>Analyzing tools</b>							
Quantative values of COP (COPx max, COPx min, COPy max, COPy min, delta COPx ...)	X	X	X	X	X	X	X
Automatic calculation of 10 anatomical zones of the foot	X	X	X	X	X	X	X
Manual correction of automatic zone calculation	-	X	X	X	X	X	X
Pressure/Time graph for each foot zone	X	X	X	X	X	X	X
Force/Time graph for each foot zone	X	X	X	X	X	X	X
Calculation of foot dimension (length and width)	X	X	X	X	X	X	X
Comparing impulse and amount of contact for rear - mid - and forefoot to evaluate foot type	-	X	X	X	X	X	X
Foot axes	-	X	X	X	X	X	X
Timing values (total contact time, heel strike, pre-midstance, midstance ...)	-	X	X	X	X	X	X
Comparison of impulse and timing parameters to normal values	-	X	X	X	X	X	X
Temporal and spatial parameters	-	X	X	X	X	X	X
Comparing 2 measurements	X	X	X	X	X	X	X
<i>Movement analysis based on 2 measurements:</i>							
Heel rotation, foot balance, medial forefoot balance, forefoot rotation, forefoot balance, meta loading ...	-	X	X	X	X	X	X
Dynamic 3 Dimension insert proposal based on 2 measurements	X	X	X	X	X	X	X
Averaging an unlimited amount of measurements	-	-	-	-	X	X	X
<i>Movement analysis based on the average of several measurements:</i>							
Heel rotation, foot balance, medial forefoot balance, forefoot rotation, forefoot balance, meta loading ...	-	-	-	-	X	X	X
Dynamic 3 Dimension insert proposal based on the average of several measurements	-	-	-	-	X	X	X



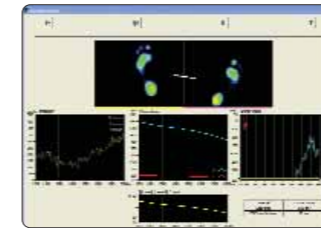
frontpage



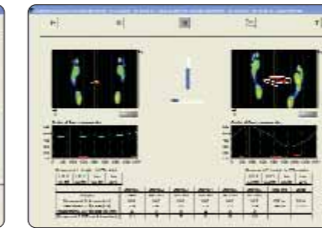
database screen



typical 1m Balance screen



detail screen



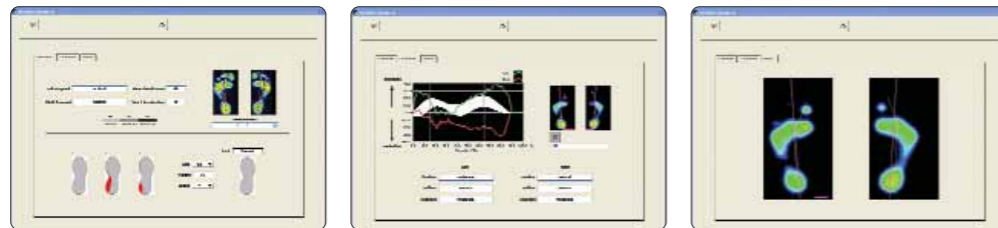
compare screen



Software	BALANCE		
Interface	-	2D box	3D box
Hardware	0,5 <sup>3</sup>	0.5 <sup>5</sup> - 2m	0.5 <sup>5</sup> - 2m

	ENTRY LEVEL	ADV. LEVEL	HI END LEVEL
<b>Database</b>			
Save patient information	X	X	X
Export patient information in excel format	X	X	X
Link to other administrative programs*	X	X	X
Save measurement	X	X	X
Export measurements to communicate with other footscan® users	X	X	X
Remark field	X	X	X
Backup database	X	X	X
Database on local PC or server	X	X	X
<b>Languages</b>			
English, Dutch	X	X	X
<b>Print features</b>			
Patient information and gait lab information	X	X	X
Printouts of stability data	X	X	X
<b>Export features</b>			
Raw data export	X	X	X
<b>Stability measurement mode</b>			
Stability measurement: uni-pedal, bi-pedal, static or movement (golf swing, tennis service ...) (max. 1000 frames)	X	X	X
Barefoot and shod measurements	X	X	X
Display of dynamic pressures and Centre Of Pressure line (COP line)	X	X	X
Display of maximum pressures	X	X	X
Frequency of data acquisition 1 - 300 Hz (adjustable)	X	-	-
Frequency of data acquisition 1 - 500 Hz (adjustable)	-	X	X
Trigger and Synchronization options to other equipment (force plates, EMG, high speed (infra-red) cameras)	-	-	X
<b>Analyzing tools</b>			
Quantative values of COP ( Total traveled way, COPx max, COPx min, COPy max, COPy min, delta COPx ...)	X	X	X
Repartition of body weight in 2 (left -right / front - back) or 4 quadrants	X	X	X
Display of % of amount of pressure in each quadrant	X	X	X
Possibility to split the COP for the different quadrants	X	X	X
Graph X and Y component of the COP over time	X	X	X
Graph of amount of pressure in each quadrant over time	X	X	X
Divide your measurement time in up to 6 intervals	X	X	X
Quantitive evaluation of stability in up to 6 intervals (ellipse area)	X	X	X
Velocity of COP, sway rate, and X and Y component of the COP for each interval	X	X	X
Comparing qualitative and quantitative data of 2 stability measurements	X	X	X
<b>Training mode</b>			
Create and save exercises	X	X	X

\* Check for partners of rscan international



typical Footwear Adviser screens



Software FOOTWEAR ADVISER

Interface integrated 2D box 3D box

Hardware 0,5<sup>3</sup> 0.5<sup>5</sup> - 2m 0.5<sup>5</sup> - 2m

	ENTRY LEVEL	ADV. LEVEL	HI END LEVEL
<b>Database</b>			
Save patient information	X	X	X
Export patient information in excel format	X	X	X
Link to other administrative programs*	X	X	X
Save measurement	X	X	X
Export measurements to communicate with other footscan® users	X	X	X
Remark field	X	X	X
Backup database	X	X	X
Database on local PC or server	X	X	X
<b>Languages</b>			
English, Dutch ,Spanish, German, French, Catalans	X	X	X
<b>Print features</b>			
Patient information and gait lab information	X	X	X
2 different printouts of pressure data and footwear proposal	X	X	X
<b>Export features</b>			
Export of pressure data to import in Cadcam software / video software*	X	X	X
Export of pressure picture (bitmap format)	X	X	X
Raw data export	-	-	-
<b>Dynamic measurement mode</b>			
Dynamic measurement: walking, running, jumping ... (max. 1000 frames)	X	X	X
Barefoot and shod measurement mode, in 2 directions of gait	X	X	X
Automatic detection of several left and right feet	X	X	X
Display of dynamic pressures and Centre Of Pressure line (COP line)	X	X	X
Display mode: 2D, 3D, synchronized, impulse	X	X	X
Display mode: roll off	-	X	X
Frequency of data acquisition 300 Hz	X	-	-
Frequency of data acquisition 500 Hz	-	X	X
Trigger and Synchronization options to other equipment (force plates, EMG, high speed (infra-red) cameras)	-	-	-
<b>Analyzing tools</b>			
Quantative values of COP (COPx max, COPx min, COPy max, COPy min, delta COPx ...)	X	X	X
Automatic calculation of 10 anatomical zones of the foot	X	X	X
Manual correction of automatic zone calculation	X	X	X
Proposal of shoe last based on training velocity and body weight	X	X	X
Proposal of shoe corrections based on the average of footscan® dynamic measurements	X	X	X
Pronation/supination analysis of person based on the average of different trials	X	X	X

# Runways

Footscan® plates can be installed on top of the floor or recessed in the floor.

*RScan International* offers solutions to facilitate installation, provide maximum comfort for the patient and to ensure a natural gait pattern of the patient:

## Runway

- Eliminates the height difference between the floor and the footscan® plate.
- Width and height of the runway are matched to the dimensions of the footscan® plate.

## Top cover

- Visually hides the footscan® plate for the patient, avoids focusing during the measurements.
- Provides a uniform touch and feel for the entire runway.
- Eliminates the temperature difference between the floor and the footscan® plate.
- 3mm in height with a textured non-skid surface.

The runways and covers are made of high quality lightweight EVA, supplied in easy to store and handle lengths for a combined length of approximately 6 meters.

In case you want to recess the footscan® plate in the floor or build in the footscan® plate into a customized construction in your gait lab, please contact *RScan International* or your local distributor for detailed drawings, footscan® plate dimensions, cable lengths or cable routing advice.



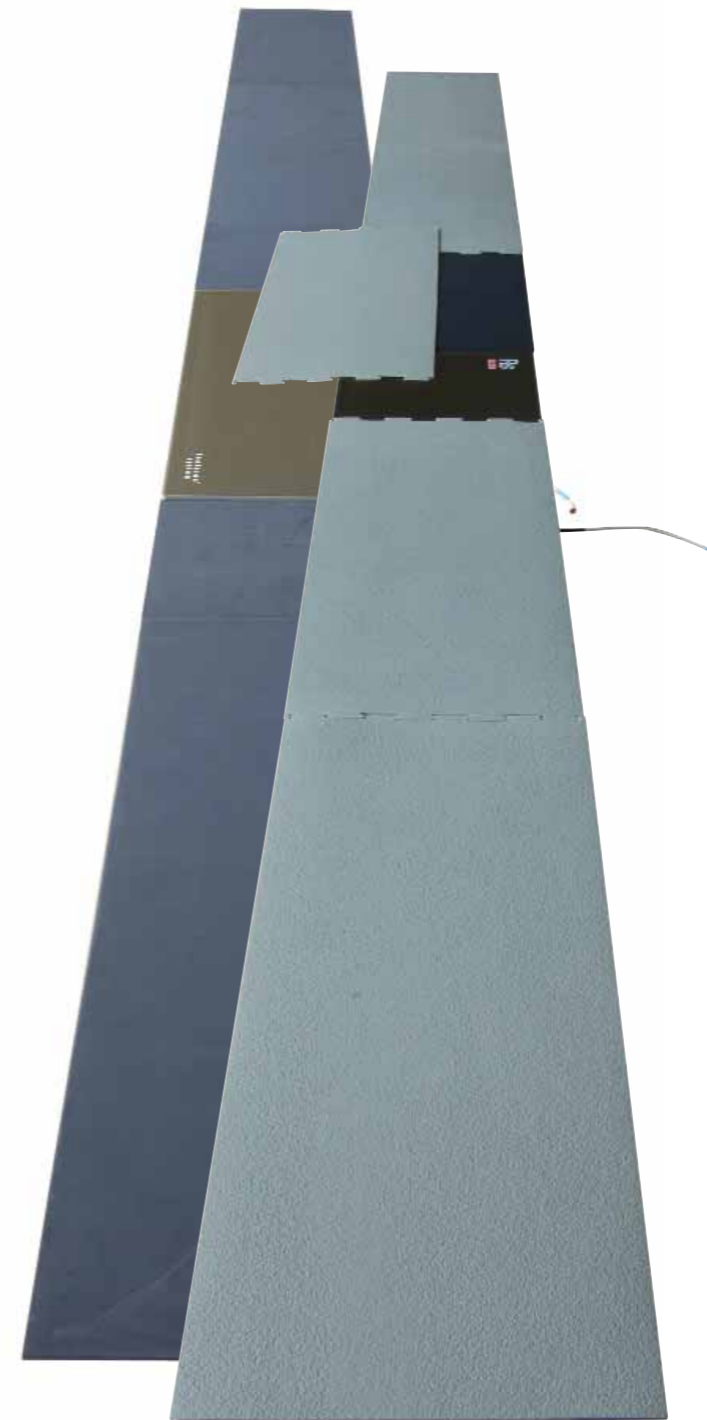
Runway for 0,5m



Runway for 0,5m - basics (front and back)  
art.nr. 60000003



Runway for 0,5m - top  
art.nr. 60000004



Runway for 1m



Runway for 1m - basics (front and back)  
art.nr. 60000012



Runway for 1m - top  
art.nr. 60000013



Runway for 2m

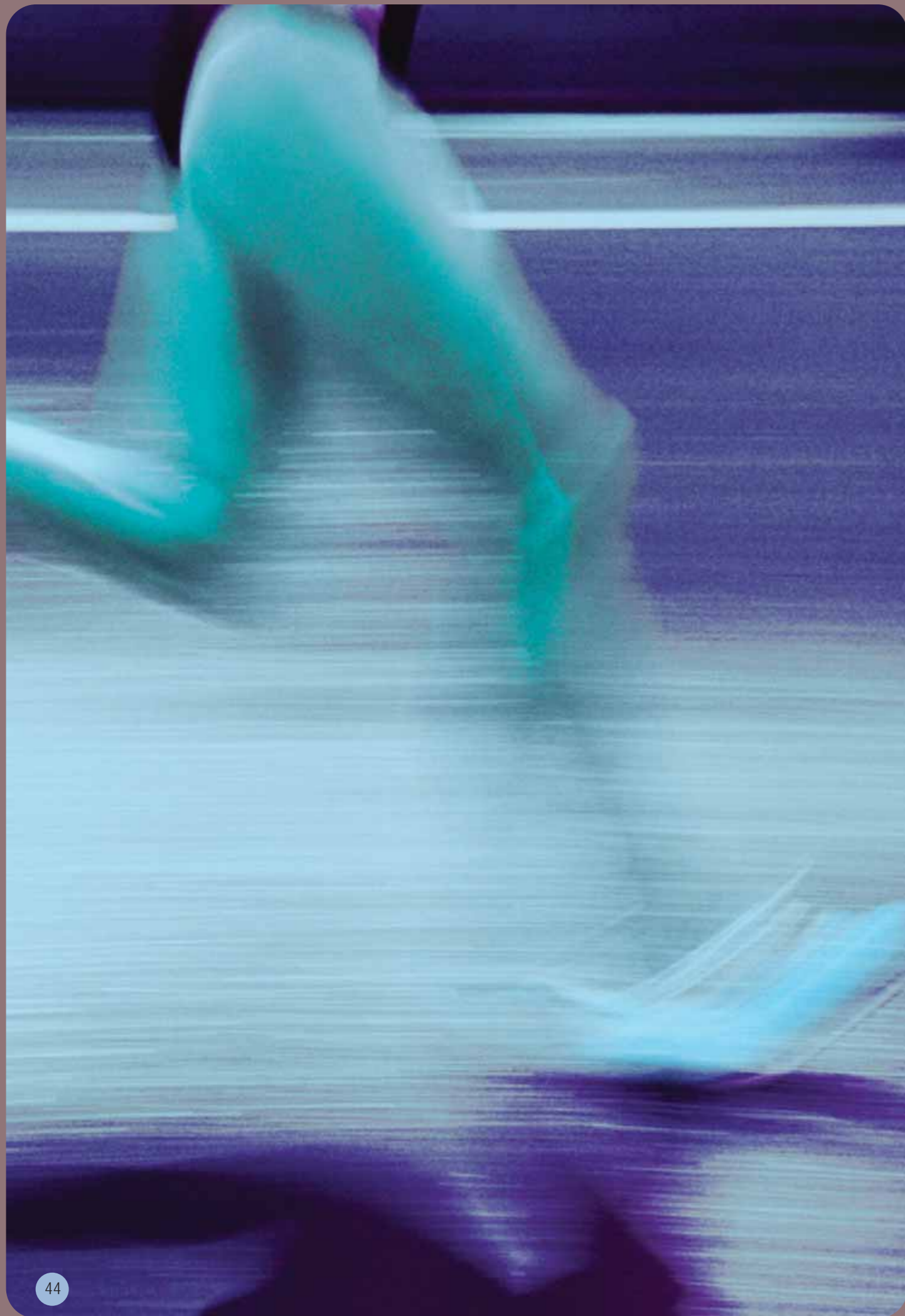


Runway for 2m, basics (front and back)  
art.nr. 60000014



Runway for 2m - top  
art.nr. 60000015





# specials

D3D® concept 46

Insoles 48

Literature 50

## D3D® concept

The patented Dynamic 3 Dimensional (D3D®) concept is an automated system based on dynamic footscan® measurements that calculates an insole proposal, with a modular construction and external added corrections. It is available in all footscan® Gait software packages.

D3D® was created in 1999 out of the need for a functional and objective tool to design insoles. In a first stage, the D3D® concept was developed to propose a preventive or curative insole for the recreative and professional athlete. Nowadays, D3D® provides insole proposals for athletes, orthopedic and diabetes patients and all people with an active day life.

The footscan® plate systems are the ideal tool to measure a patient's gait pattern. Based on the footscan® pressure and timing data, the D3D® concepts calculates, separately for the left and right foot, following items:

- foot type and arch height
- rear foot, mid foot and fore foot movement

Based on the body weight and activity level of the patient, information which has to be imported by the clinician, a proposal for the density and kind of material for the insole is calculated. One kind of material can be the perfect solution to correct the foot movement of a rugby player, while the characteristics of another material are more suitable to prevent overuse injuries for 55 years old Nordic walker. The D3D® concept helps out the clinician to decide which kind of material suits the needs of the patient.

The D3D® proposal is automatically saved into the database of the footscan® software. Modifications, notes and date of production can be saved together with the D3D® proposal.

The success of the D3D® proposal as a prevention or curative tool for the human body, can be found in [objective and detailed parameters](#), registered by a state-of-the art pressure measurement system:

- measurement frequency of 500Hz:
  - to define even the smallest and quickest foot movements.
  - to identify very accurately the 4 phases of the roll off.
- resolution of 4 sensors/cm<sup>2</sup>:
  - registers detailed peak pressures and clearly identifies the patients' or athletes' foot type.
- large dimensions of active sensor surface:
  - to decrease artifacts, caused by an unnatural gait pattern of the patient in a clinical measurement environment.

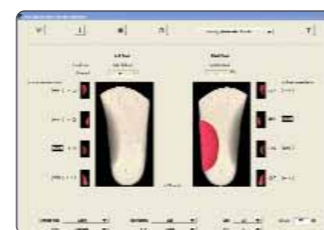
Further more it thanks its success to the [underlying calculations](#), integrated in the D3D® concept:

- calculations of the foot arch index.
- calculations of total foot balance, heel rotation, fore foot balance, normalized for body weight, foot type and time.
- a matrix of body weight, activity level and material.

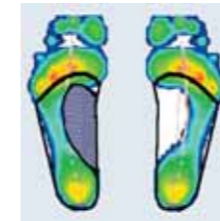
By averaging several footscan® dynamic measurements, the impact of artifacts on the D3D® proposal, due to a possible unnatural walk of the patient, are decreased.



D3D® starter package  
art.nr. 80000025



typical D3D® screen.



FOREFOOT  
ANTI-PRONATION



MIDFOOT  
SUPPORT



REARFOOT  
ANTI-PRONATION



ANTI-SUPINATION  
SUPPORT



# Insoles

Since 1998, *RSScan International* offers footscan® insoles, an inshoe pressure measurement system which allows the user to register and analyze pressure readings within the shoe. *RSScan International* advises the use of the footscan® insole system in conjunction with a footscan® plate.

Key features of the footscan® insole system:

- high speed data acquisition: 500Hz (500 frames per second)
- wireless registration of data
- large number of sensors per insole (325 sensors for a size UK8 insole)
- large range of available insole sizes
- wireless RF synchronization with other measuring equipment

For technical details of the footscan® insole system, refer to appendix 'footscan® insole system'.

## APPLICATIONS FOR THE FOOTSCAN® INSOLE SYSTEM

With a footscan® insole, you measure the pressure interaction between the shoe and the foot. With a footscan® plate, you measure the foot/ground pressure interaction. The difference in these measurement techniques has important consequences on the parameters that can be examined.

Since the footscan® plate is a rigid structure, we know which pressure is caused by the ground contact of the foot. Based on these pressure readings, the user can determine biomechanical parameters and ratios of the foot, like pronation and supination (defined as more or less pressure on the lateral/medial side of the foot).

With a footscan® insole system, the user has the advantage to discover pressure spots within the shoe, with or without orthopedic inserts. A disadvantage is that the system cannot distinguish if this pressure spot is caused by the shoe or orthopedic insert, or by the biomechanical position/unroll of the foot.

### Biomechanical measurements:

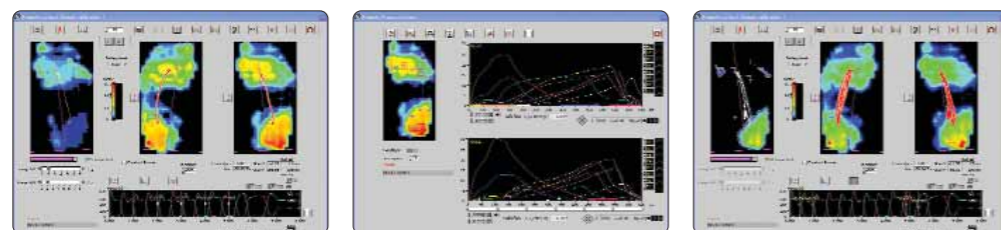
*RSScan International* advises to start the examination of the patient with a barefoot footscan® plate dynamic pressure measurement. In case you are interested in the biomechanical position of the foot and lower leg, continue testing on a footscan® plate, in barefoot and shod condition. A shod measurement on a footscan® plate system will provide important additional information on the patients alignment, on the shoe and if inserted, on the orthopedic insole. This mode can be followed for orthopedic injuries, sports injuries, overuse injuries ...

### Diabetic and wound care:

If you are mainly interested in pressure zones, especially for diabetic and wound care professionals, a footscan® insole measurement provides added value to the diagnosis.

### Sport specific measurements:

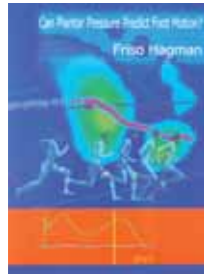
For non-standard shoes or shapes (for example ski boots, cycling shoes ...), please contact *RSScan International* for a tailored solution.



typical insole screens.



Pressure data and its interpretation is a very young science. *RSScan International* supports and encourages the research of pressure measurements, and cooperates with a large group of national and international universities and institutions. *RSScan International* herself is active in several research and development projects. As result of these, following PhD theses are published and available (see product list):



### Can Plantar Pressure Predict Foot Motion?

By Friso Hagman

Technical University of Utrecht

ISBN 90-386-0694-X

*The topic of this thesis is the analysis of foot biomechanics, and gives impulse to using a pressure plate accompanied with the proposed model as an alternative to analyze foot kinematics.*



### Intrinsic risk factors for sports injuries to the lower leg and ankle

By Tine Willems

University of Gent

*Our aim was to gain a better insight in the intrinsic risk factors for sports injuries of the lower leg and ankle. Our second aim was to gain a better insight into the intrinsic risk factors for exercise-related lower leg pain.*



### Distal limb development and effects of shoeing techniques on limb dynamics of today's equine athlete

By Meike C.V. van Heel

University of Utrecht

ISBN-10: 90-902-0168-8

ISBN-13: 97-890-9020-1689

*This thesis focuses on the variation in hoof conformation in a normal population and to study the effects of normal, conventional trimming and shoeing practices, because it is the lack of knowledge in these areas that severely hampers progress in het efforts to bring more science in the art of farriery.*



### Biomechanical determinants of normal development of bipedal gait in humans.

By Ann Halleman

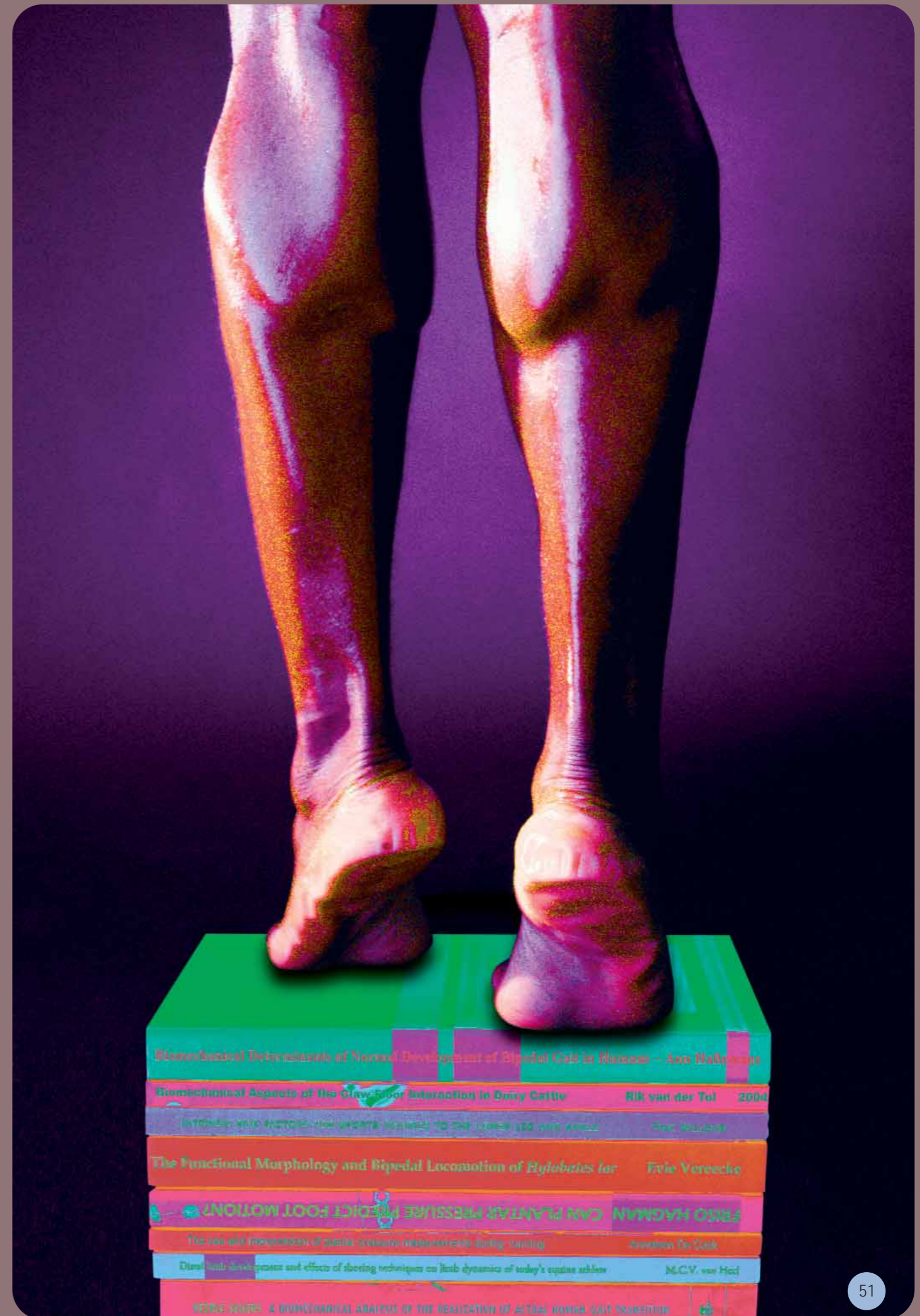
University of Antwerp

*This research project wants to identify biomechanical determinants that are important in the normal development of walking in toddlers.*

Other books:

- The use and interpretation of plantar pressure during running
- The evolution of bipedalism in the hominoidea: comparison of the kinesiology and foot morphology of Pan, Hylobates and Homo
- A biomechanical analysis of the realization of actual human gait transition
- Biomechanical aspects of the claw-Floor interaction in Dairy Cattle

See page 60 for article numbers.













# product catalogue

List of all existing RSscan articles, by Main group, Sub group, Description and Article #.

- plates, interface boxes, software (upgrades) and cables
- promotional and commercial products.








## 0,5<sup>3</sup>m (300Hz) plates



MAIN GROUP	SUB GROUP	DESCRIPTION	PAGE	ARTICLE #
0,5 <sup>3</sup> m	Plates	 footscan® plate 0,5m, RSscan®	30	20010000
0,5 <sup>3</sup> m	Plates	 footscan® plate 0,5m, Footwear Adviser	30	20020000
0,5 <sup>3</sup> m	Packaging	 Packaging 0,5m		30000001
0,5 <sup>3</sup> m	Packaging	 Flight case 0,5m		30000002
0,5 <sup>3</sup> m	Packaging	 Cover for flight case 0,5m		30000003
0,5 <sup>3</sup> m	Options	 Runway for 0,5m, basics (front and back)	42	60000003
0,5 <sup>3</sup> m	Options	 Runway for 0,5m, top	42	60000004
0,5 <sup>3</sup> m	Spare parts	 Replacement sticker RSscan for footscan® 0,5m plate		50000022

## 0,5<sup>5</sup>m (500Hz) plates



MAIN GROUP	SUB GROUP	DESCRIPTION	PAGE	ARTICLE #
0,5 <sup>5</sup> m	Kit	footscan® system 0.5m, 2D interface box		10090101
0,5 <sup>5</sup> m	Kit	footscan® system 0.5m, 3D interface box		10090202
0,5 <sup>5</sup> m	Plates	 footscan® plate 0.5m, RSscan	31	20090000
0,5 <sup>5</sup> m	Spare parts	 Replacement sticker RSscan for footscan® 0,5m plate		50000039
0,5 <sup>5</sup> m	Packaging	 Packaging 0.5m		30000005
0,5 <sup>5</sup> m	Packaging	 Flight case 0.5m		30000006
0,5 <sup>5</sup> m	Packaging	 Cover for flight case 0.5m		30000007
0,5 <sup>5</sup> m	Options	 Runway for 0,5m, basics (front and back)	42	60000003
0,5 <sup>5</sup> m	Options	 Runway for 0,5m, top	42	60000004

## 1 m (500Hz) plates



MAIN GROUP	SUB GROUP	DESCRIPTION	PAGE	ARTICLE #
1m	Kit	footscan® system 1m, 2D interface box		10110101
1m	Kit	footscan® system 1m, 3D interface box		10110202
1m	Plates	footscan® plate 1m, RSscan	31	20110000
1m	Packaging	Packaging 1m		30000008
1m	Packaging	Flight case 1m		30000009
1m	Packaging	Cover for flight case 1m		30000010
1m	Options	Runway for 1m, basics (front and back)	42	60000012
1m	Options	Runway for 1m, top	42	60000013
1m	Spare parts	Replacement sticker RSscan for footscan® 1m plate		50000046

## Interface boxes



MAIN GROUP	SUB GROUP	DESCRIPTION	ARTICLE #
Advanced level	Interface box	2D	33 21000100
Hi End level	Interface box	3D	34 21000200

## 2 m (500Hz) plates




MAIN GROUP	SUB GROUP	DESCRIPTION	PAGE	ARTICLE #
2m	Kit	footscan® system 2m, 2D interface box		10120101
2m	Kit	footscan® system 2m, 3D interface box		10120202
2m	Plates	footscan® plate 2m, RSscan	31	20120000
2m	Packaging	Packaging 2m		30000011
2m	Options	Runway for 2m, basics (front and back)	42	60000014
2m	Options	Runway for 2m, top	42	60000015
2m	Spare parts	Replacement top rubber for 2m plate		50000052

## Cables

MAIN GROUP	SUB GROUP	DESCRIPTION	ARTICLE #
1m	Options	Mains cable, Europe	60000005
1m	Options	Mains cable, UK	60000006
1m	Options	Mains cable, USA / Japan	60000007
1m	Options	Analog cable for 3D box CH9-12	60000008
1m	Options	Analog cable for 3D box CH13-16	60000009
1m	Options	footscan® analog coax cable 10,5m	60000010
1m	Options	BNC T-adaptor	60000011
1m	Options	BNC coupler	60000021

# Software



MAIN GROUP	SUB GROUP	DESCRIPTION	PAGE	ARTICLE #
				
<b>ENTRY LEVEL</b>				
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Basic	36	40000001
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Clinical	36	40000002
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Scientific	36	40000003
0,5 <sup>3</sup> m	Software	footscan® software 7.x Balance	38	40000004
0,5 <sup>3</sup> m	Software	footscan® software Footwear Adviser	40	40000005
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Basic & Balance	36, 38	40000006
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Clinical & Balance	36, 38	40000007
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Scientific & Balance	36, 38	40000008
0,5 <sup>3</sup> m	Software	footscan® software 7.x Balance & Footwear Adviser	38, 40	40000009
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Basic & Footwear Adviser	36, 40	40000010
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Clinical & Footwear Adviser	36, 40	40000011
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Scientific & Footwear Adviser	36, 40	40000012
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Basic & Balance & Footwear Adviser	36, 38, 40	40000013
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Clinical & Balance & Footwear Adviser	36, 38, 40	40000014
0,5 <sup>3</sup> m	Software	footscan® software 7.x Gait Scientific & Balance & Footwear Adviser	36, 38, 40	40000015
<b>ADVANCED and HI END LEVEL</b>				
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Clinical	36	40000017
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Scientific	36	40000018
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Balance	38	40000019
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Clinical & Balance	36, 38	40000020
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Scientific & Balance	36, 38	40000021
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software Footwear Adviser	40	40000038
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Balance & Footwear Adviser	38, 40	40000039
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Clinical & Footwear Adviser	36, 40	40000040
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Scientific & Footwear Adviser	36, 40	40000041
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Clinical & Balance & Footwear Adviser	36, 38, 40	40000042
0,5 <sup>5</sup> , 1, 2m	Software	footscan® software 7.x Gait Scientific & Balance & Footwear Adviser	36, 38, 40	40000043

# Software upgrades

MAIN GROUP	SUB GROUP	DESCRIPTION	ARTICLE #
Softw. upgr.	Softw. upgr.	Upgrade footscan® software 7.x Gait Basic > 7.x Gait Clinical	40000025
Softw. upgr.	Softw. upgr.	Upgrade footscan® software 7.x Gait Basic > 7.x Gait Scientific	40000026
Softw. upgr.	Softw. upgr.	Upgrade footscan® software 7.x Gait Clinical > 7.x Gait Scientific	40000027
Softw. upgr.	Softw. upgr.	Upgrade footscan® software 7.x Gait Clinical > 7.x Gait Scientific	40000028
Softw. upgr.	Softw. upgr.	Upgrade golf software > footscan® software 7.x Balance	40000029
Softw. upgr.	Softw. upgr.	Upgrade Romberg software > footscan® software 7.x Balance	40000030
Softw. upgr.	Softw. upgr.	Upgrade D3D® software > footscan® software 7.x Gait Clinical	40000031
Softw. upgr.	Softw. upgr.	Upgrade Analytic software > footscan® software 7.x Gait Clinical	40000032
Softw. upgr.	Softw. upgr.	Upgrade orthopodo sst/mst software > footscan® software 7.x Gait Clinical	40000033
Softw. upgr.	Softw. upgr.	Upgrade orthopodo sst/mst Romberg software > footscan® software 7.x Gait Clinical & Balance	40000034
Softw. upgr.	Softw. upgr.	Upgrade Scientific romberg software > footscan® software 7.x Gait Scientific & Balance	40000035
Softw. upgr.	Softw. upgr.	Upgrade RSscan USB > RSscan USB+	40000036
Softw. upgr.	Softw. upgr.	Upgrade RSscan USB/USB+ > footscan® software 7.x Gait Basic	40000037



# Various

MAIN GROUP SUB GROUP DESCRIPTION PAGE ARTICLE #



Others	Promo	'The Use and Interpretation of Plantar Pressure during Running', <i>Anneleen De Cock</i>	50	80000001
Others	Promo	'Can Plantar Pressure Predict Foot Motion?' <i>Friso Hagman</i>	50	80000002
Others	Promo	'Intrinsic Risk Factors for Sports Injuries to the Lower Leg and Ankle', <i>Tine Willems</i>	50	80000003
Others	Promo	'Biomechanical Determinants of Normal Development of Bipedal Gait in Humans', <i>Ann Hallemans</i>	50	80000004
Others	Promo	'The Evolution of Bipedalism in the Hominoidea: comparison of the Kinesiology and Foot Morphology of Pan, Hylobates and Homo', <i>Evie Vereecke</i>	50	80000005
Others	Promo	'Distal Limb Development and Effects of Shoeing Techniques on Limb Dynamics of Today's Equine Athlete', <i>MCV van Heel</i>	50	80000006
Others	Promo	'A Biomechanical analysis of the realization of actual human gait transition', <i>Veerle Segers</i>	50	80000007
Others	Promo	'Biomechanical Aspects of the Claw-Floor Interaction in Dairy Cattle', <i>Rik van der Tol</i>	50	80000008



Others	Promo	Banner normal foot		80000010
Others	Promo	Banner high arch foot		80000011
Others	Promo	Banner horizontal		80000012
Others	Promo	Banner flat foot		80000013



Others	Options	D3D® starter package	46	80000025
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# Notes

A large, empty, light-colored rectangular area with rounded corners, intended for taking notes.



# contact & support info

## Contact information

### PRE-SALES AND SALES INFORMATION

For pre-sales and sales information, contact your regional distributor. Consult the worldwide authorized distributors list at <http://www.rsscan.com/> to locate your regional distributor. If you cannot locate a regional distributor, contact *RSscan International* directly at [sales@rsscan.com](mailto:sales@rsscan.com).

## Support information

*RSscan International* offers following support options:

- The included documentation.
- The *RSscan International* website [www.rsscan.com](http://www.rsscan.com) (Frequently Asked Questions > Knowledge Base > footscan® school instruction video's and software updates).
- Contact your regional distributor. Consult the worldwide authorized distributors list at [www.rsscan.com](http://www.rsscan.com) to locate your regional distributor. If you cannot locate a regional distributor, contact the *RSscan International* support department at [support@rsscan.com](mailto:support@rsscan.com).

Please have the product serial numbers, system configuration, screen captures and detailed failure description at hand.

### SUPPORT BY TELEPHONE

If you have exhausted the above support options, support by telephone is available from Monday to Friday from 9:00 to 16:00 GMT+1:00.

### REPAIR

In case your product requires repair, contact your regional distributor or the *RSscan International* support department at [support@rsscan.com](mailto:support@rsscan.com) to initiate the RMA (Return Material Authorization) process.

## world wide distribution

### RSscan International head quarters

BENELUX  
RSscan International NV  
Lammerdries-Oost 27  
B-2250 Olen  
Belgium  
Voice: +32 (0)14-23 20 31  
Fax: +32 (0)14-23 53 90  
[info@rsscan.com](mailto:info@rsscan.com)  
[www.rsscan.com](http://www.rsscan.com)

### RSscan International branch offices

UNITED KINGDOM & IRELAND  
RSscan Lab Ltd.  
Mrs. Bente Smith-Rewse  
14 Pegasus , Orion Avenue  
Addison Way, Great Blakenham  
IP6 0LW Ipswich Suffolk  
UK  
Voice: +44 (0)845 11 800 20  
Fax: +44 (0)845 11 800 21  
[info@rsscan.co.uk](mailto:info@rsscan.co.uk)  
[www.rsscan.co.uk](http://www.rsscan.co.uk)

### CANADA, NORTH AMERICA & SOUTH AMERICA RSscan USA

a division of Inventive Electronics, Inc  
Jeff Reinlie  
National Sales Manager  
210-A Jonquil Ave.  
ft. Walton Beach, FL 32548  
Tel.: (850) 226-7271  
Fax.: (850) 226-7257  
[jeff.reinlie@inventiveelectronics.com](mailto:jeff.reinlie@inventiveelectronics.com)  
[www.rsscan.com](http://www.rsscan.com)

CHINA  
RSscan Beijing Ltd  
Mr. Derek Shi  
Room 102, D Nr. 10 Building  
West Road of Beijing Sport University  
Hai Dian, Beijing  
China  
Voice: 010 871 839 05  
[info@rsscan.com.cn](mailto:info@rsscan.com.cn)  
[www.rsscan.com.cn](http://www.rsscan.com.cn)

NORDIC COUNTRIES  
RSscan Nordic AsP  
29 Birkedommervej  
2400 Koebenhavn NV  
Voice: +45 2896 4896  
[bente@rsscan.co.uk](mailto:bente@rsscan.co.uk)  
[www.rsscan-nordic.com](http://www.rsscan-nordic.com)