

# Smart Floor Brochure

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About the company Smart Floor





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## The Company

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Smart Floor (Connective Floors B.V.) is situated in Eindhoven, province Noord-Brabant, The Netherlands. The team consists of 9 people, split into a team of software developers with experience in front end, back end and embedded software. Besides them, Smart Floor has three accountmanagers with experience in human movement sciences and physiotherapy. Finally, the company is managed by experienced entrepreneurs.

Smart Floor was founded in 2016 with the goal of creating a “Smart Floor” to measure foot positions. At first, the goal was to develop this technology for the highest levels of sports. In 2018 Fall prevention came into picture. After 5 years of development and validation of the floor, sensor, and software, the first mobile Smart Floor was put into use in The Netherlands around July 2023.



## The Product (1/2)

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The Smart Floor consists of a floor with sensor foil (tags) in combination with a wearable sensor worn around the ankle. The technology makes it possible to measure foot positions while walking. From this data, various gait patterns can be derived which provide insight into mobility and fall risk. Gait parameters are analyzed and assessed by a Neural Network, developed using 5000 walking sessions validated by (geriatric) physiotherapists. The development of this Neural Network can be found on our website: <https://smartfloor.com/en/publications>.

In collaboration with different partners like healthcare institutions, physiotherapists, universities and universities of applied science, every year new data is collected. The the goal is to continuously expand and improve the Smart Floor measuring tool.

There are two variants of the Smart Floor:

- **Mobile variant** – a portable floor, 1 meter wide and 3 millimeters thick, available in lengths of 6 and 10 meters (weighing approximately 7 and 10kg respectively) (Image 1&2)



Image 1. Rolled out mobile Smart Floor



Image 2. Mobile Smart Floor in bag



## The Product (2/2)

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- **Fixed variant** – the sensor foil is mounted underneath an existing floor (Image 3&4)



Image 3. Sensor foil fixed floor



Image 4. Placing floor over sensor foil.

The production of the sensor foil and the mobile floors takes place in Oisterwijk, province Noord-Brabant, The Netherlands, where a special production machine has been developed. The hardware design is carried out by Bestronics Development (Veldhoven, province Noord-Brabant, The Netherlands). All products are CE certified and comply with European legislation on safety, health and the environment.

We provide a 1-year warranty on our hardware. If the product has been used correctly and something happens after that period, we will always try to find a solution.

With the software license, our customers can use all aspects of our application. When something is updated or new functionalities are made available, this will automatically be available for everybody with a license. The license is concluded for at least one year and a maximum of 5 years. After this time the customer can decide to extend the license or to terminate it. Without a license, you will not be able to use the Smart Floor.



# Smart Floor In The Netherlands

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The first Smart Floor was introduced in the Netherlands in July 2023. In 2026, more than 170 municipalities and organizations in the Netherlands are using the Smart Floor technology. In total, 250 to 300 Smart Floors are active nationwide. Usage ranges from small municipalities with around 20,000 inhabitants operating a single Smart Floor, to large municipalities using as many as fifteen.

In nearly all cases, the Smart Floor is used to identify older adults at risk of falling. The technology has proven to be a real attraction. Older adults experience the Smart Floor as fun and engaging, and the results are easy to understand. At the same time, it is an effective tool to identify fall risks and to start conversations about fall prevention, mobility, and vitality.

## The Smart Floor within the Dutch Fall Prevention Chain

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Falls among older adults are a major societal challenge in the Netherlands and lead to reduced independence, lower quality of life, and high healthcare costs. To address this, the national government initiated a structured fall prevention chain, aimed at identifying older adults with an increased risk of falling and offering timely preventive measures. Dutch municipalities are responsible for organizing and implementing this approach at the local level.

The Smart Floor is widely used as the first step within this fall prevention chain. Its purpose is to provide a fast, objective, and low-threshold assessment of an individual's fall risk, without the need for complex testing or clinical settings.

The Smart Floor is light of weight and easy to transport in the provided bag. When rolled out, it measures just 6 meters in length, 1 meter in width, and is only 3 millimeters thick. This allows municipalities to deploy the Smart Floor flexibly across many locations, such as vitality or health days, senior organization events, flu vaccination sessions, or informal community activities like local bingo nights.



During a measurement, an older adult walks back and forth over the Smart Floor twice. The entire procedure takes less than 20 seconds. Based on gait and movement patterns, the Smart Floor categorizes fall risk as low, increased, or high.



## **From measurement to follow-up**

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Based on the outcome, a conversation is started with the older adult about fall prevention. The result helps professionals provide tailored advice and determine appropriate follow-up steps.

- Older adults with a low fall risk are usually encouraged to remain physically active and may be referred to local sports or exercise programs.
- Those with an increased or high fall risk can be referred to targeted fall prevention interventions, specialized exercise programs, or further assessment by a local physiotherapist or other healthcare professional.

The Smart Floor measurement can also be combined with additional assessments, such as questionnaires, balance tests, dietary advice, or vision checks. Based on the combined results, municipalities can offer suitable follow-up support, such as a fall prevention training program or referrals to physiotherapists, general practitioners, or eye specialists. In this way, the Smart Floor functions as an important starting point within the local fall prevention chain.



## Who Uses the Smart Floor?

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Measurements done with the Smart Floor are carried out by first-line care and community professionals, including physiotherapists, community sports coaches, and welfare or social care workers. Because the Smart Floor is easy to use and requires minimal training, it can be deployed efficiently by different professional groups working together.

Across municipalities, the goal is always the same: to reach as many older adults as possible in accessible locations, assess fall risk at an early stage, and, where necessary, initiate appropriate fall preventive measures.

## Smart Floor In Europe

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When introduced in a new country, Smart Floor usually starts with a pilot period. When the system and its applications suit the organization or municipality, we continue with the official purchase of the Smart Floor.

At the moment there are Smart Floors in Sweden as well as Denmark. Besides this, Smart Floor is actively speaking with other parties in different European countries.



## Research And Development

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Each year, the Smart Floor is used in various research projects. These projects are carried out in collaboration with universities of applied science, physiotherapists, and healthcare institutions. The data collected in these studies is used by Smart Floor to further develop and improve the algorithm to predict fall risk. Only data collected in our research projects is used for this. Data collected by our customers is not used for research.

Smart Floor research publications can be found on our website: <https://smartfloor.com/en/publications>. A summary document with the most important results is also available there.

Recent Smart Floor research partners:

- Delft University of Technology
- Eindhoven University of Technology
- Hogeschool Saxion
- Avans+
- Archipel
- Vitalis
- De Posten
- Fysiotherapie Zuiderpark
- Medifit Oss
- De Fysioclub
- Nestor Gym Amsterdam





## Costs And Warranty

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The costs of the Smart Floor consist of a one-time purchase cost for the hardware and recurring annual costs for the software license.

- **Hardware** – This includes the Smart Floor, walking sensor, sensor strap, router, carrying case, chargers etc.
- **License costs** – The license covers unlimited use of the Smart Floor application, client creation, and secure transfer and storage of data.

Every Smart Floor customer is assigned an account manager who is always available for questions, information or support. Upon delivery of the Smart Floor, a free training session is provided to ensure users learn how to operate the Smart Floor and perform measurements correctly.

For more information or a non-binding quote, you can always contact one of our account managers!



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## Data And Privacy

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Smart Floor's applications and data are hosted on AWS infrastructure in the European Union. This ensures a high level of security for our applications. All data is fully encrypted in transit.

In accordance with GDPR regulations, it is not possible to enter names or dates of birth of individuals in our application. Clients are created as a number and cannot be directly traced back to a person.

Collected data regarding the number of measurements and their results is only shared with the respective customer and, without permission, not shared with third parties.

## Ambitions And Future

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At Smart Floor, we look beyond today. Our ambition is to support even more municipalities, healthcare institutions and professionals in the Netherlands with our technology. Through experience and research, we want to keep improving and expanding our algorithm and its applications. With this, we hope to be able to contribute to a vital future for everybody in The Netherlands and the rest of Europe. A future in which older adults can stay independent and healthy for a longer time.

Besides the Netherlands, we want to increase our impact in Europe. With more countries focusing on vitality and fall prevention, we see it as our mission to play an active role in this movement. Together with our partners, we aim to build a global shift toward prevention, health, and quality of life.