

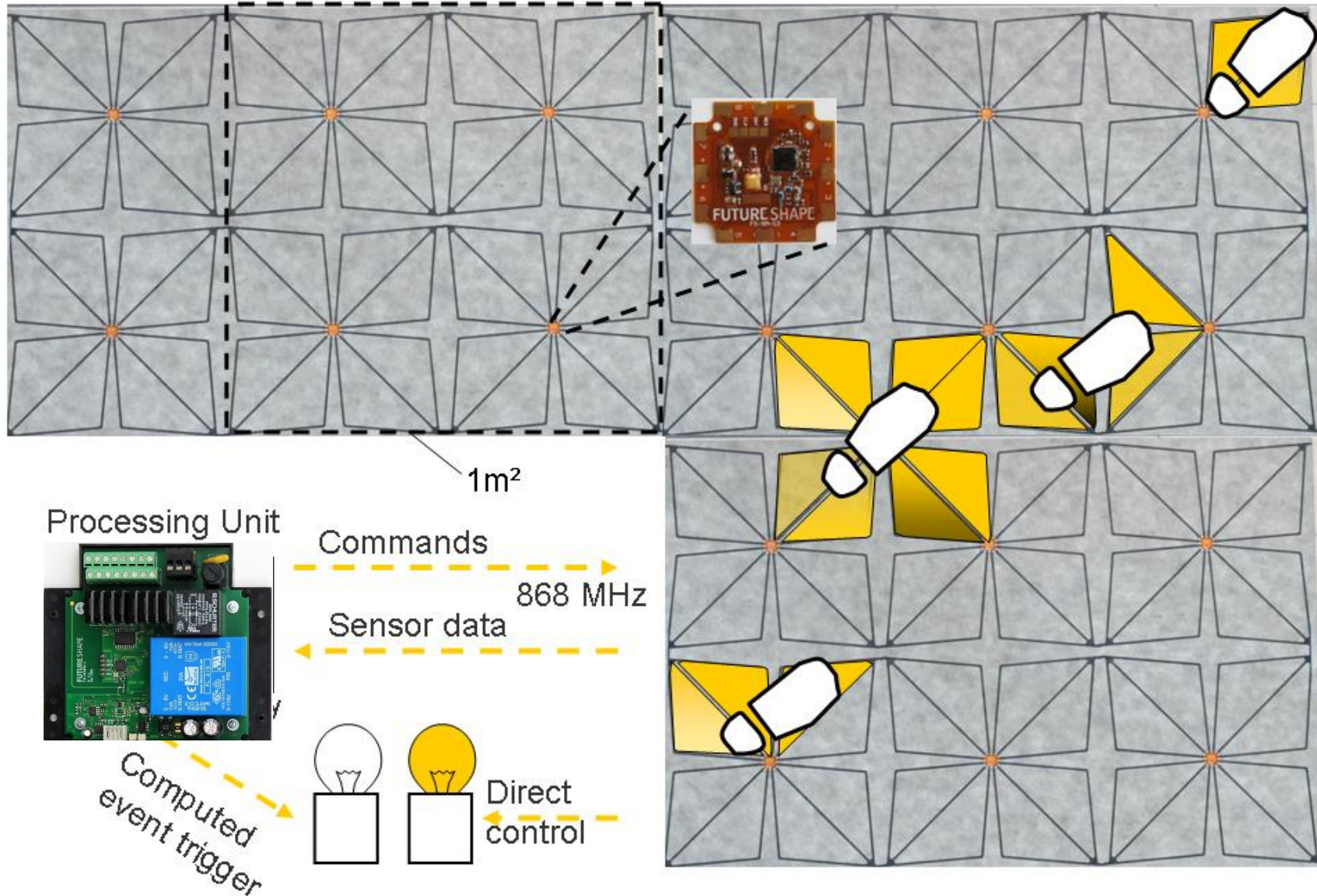
# FUTURE SHAPE

## Sensorfußboden für Gebäudeautomation und Sicherheit

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Future-Shape GmbH, Germany

# SensFloor® - A Sensing Underlay Beneath the Floor

Capacitive proximity sensors and wireless data transmission



## SensFloor®

### Underlay installation underneath flooring

- Underlay based on a large-area Smart Textile, base material Polyester, thickness 2mm, width 1000 mm, reel length up to 50 m
- Grid 500 mm, with 4 radio modules and 32 sensor areas per m<sup>2</sup> or 4 radio modules and 16 sensor areas per m<sup>2</sup>
- Power supply 9-12 V
- Installable beneath carpet, PVC or laminate



The development of the SensFloor System is supported by the German Federal Ministry of Education and Research (BMBF) under FKZ 16SV3936 German Ambient Assisted Living Funding Project



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# SensFloor®

## Installation at K&S Residenz Oberneuland Bremen



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# SensFloor®



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## Installation at K&S Residenz Oberneuland Bremen

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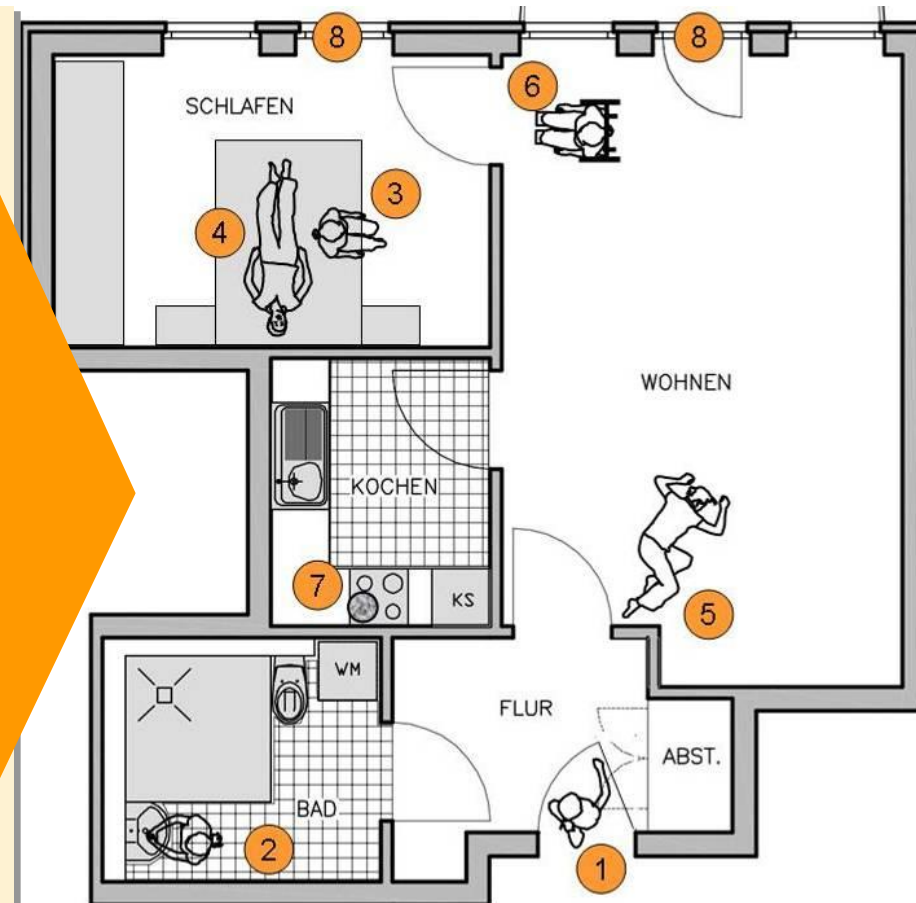


## SensFloor® Applications

Intelligent room surveillance - Smart Home - AAL

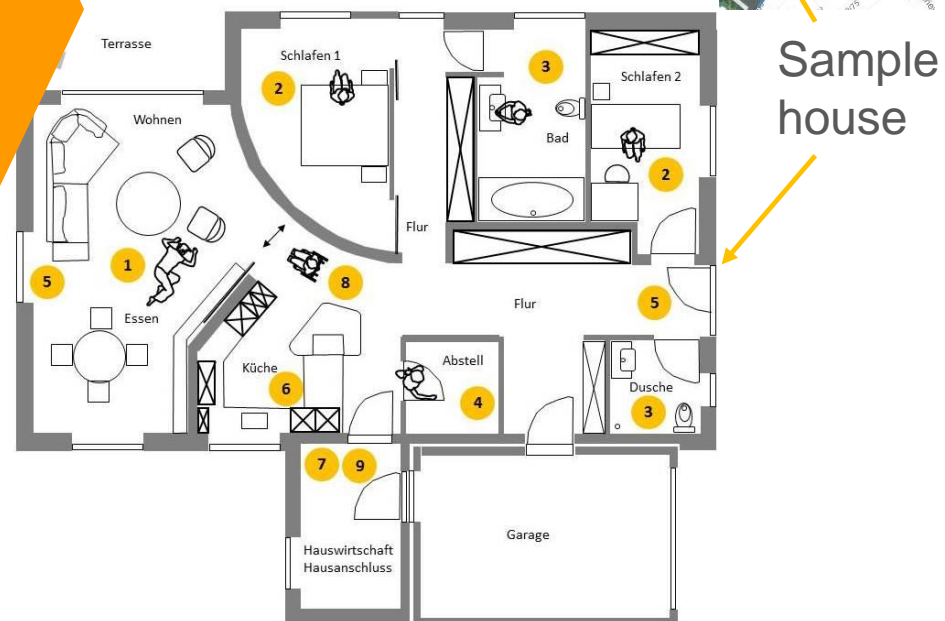
- Access control (1)
- Activity monitoring (2)
- Orientation lights (3)
- Sleep movements (4)
- Fall detection (5)
- Operating of automatic doors (6)
- Switch-off at leave (7)
- Intrusion alarm (8)
- Energy saving by presence detection
- Quality control facility management

Further developments: reduced energy consumption: LCAtoGo, BESST



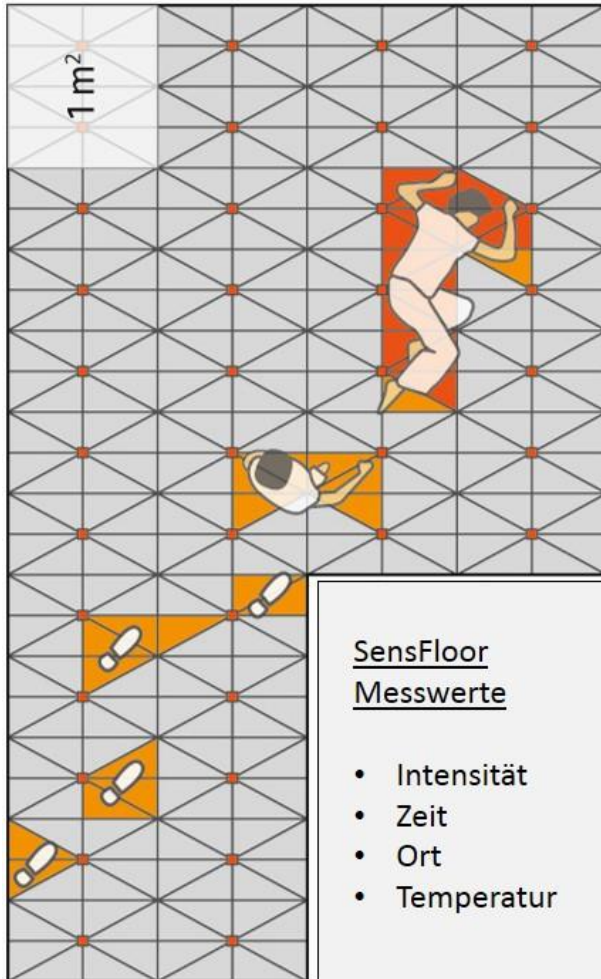
## SensFloor® in \*\*\*\*Senior Residence, Bad Griesbach New Assisted Living Concept

- Location with high recreational value (thermal bath, golf, nordic walking center)
- Completion of sample house autumn 2013
- 69 barrier-free bungalows and 30 apartments
- SensFloor for activity monitoring, fall detection, orientation light, localization of intruders, control of automatic doors, energy saving functions
- Lounge in Club house as service center for e.g. ordering food and reacting to in-coming emergency calls



## SensFloor® Applications

### SensFloor Applications and Telemedicine



SensFloor Empfänger  
(für den Einbau in den Schalt-schrank)



SensFloor Grundfunktionen

- Präsenz
- Abwesenheit
- Gehrichtung
- Geschwindigkeit
- Person liegt am Boden
- Anzahl der Personen
- Temperaturverteilung
- Schlafbewegungen
- Sitzbelegung
- Fernwartung
- Selbsttest

SensFloor Assistenzfunktionen

Sicherheit:

- Sturzalarm
- Aktivitätsmonitoring
- Einbruchalarm
- Orientierungslicht
- Zutrittskontrolle
- Notausgangsstrategie

Komfort:

- Automatische Türen
- Energiesparen
- Komfort Lichtsteuerung

Multimedia/Marketing:

- Kundenströme
- Interaktive Umgebungen

Telemedizin

(verschlüsselte Daten):

- Änderung des Langzeitverhaltens
- Gehgeschwindigkeit

Notruf

Gebäudeautomation

Datennetzwerk



## SensFloor® Nursery Home in France

### First reference project

- SensFloor installation in 70 rooms, Sept. 2012
- SensFloor tranceiver indicates via LED signals:
  - *movement on floor*
  - *occupation of bathroom*
  - *fall detected*
  - *system switched off*
- Alarm triggered via indoor call system:
  - *fall detected*
- Orientation light switched on as soon as movement is detected on the floor



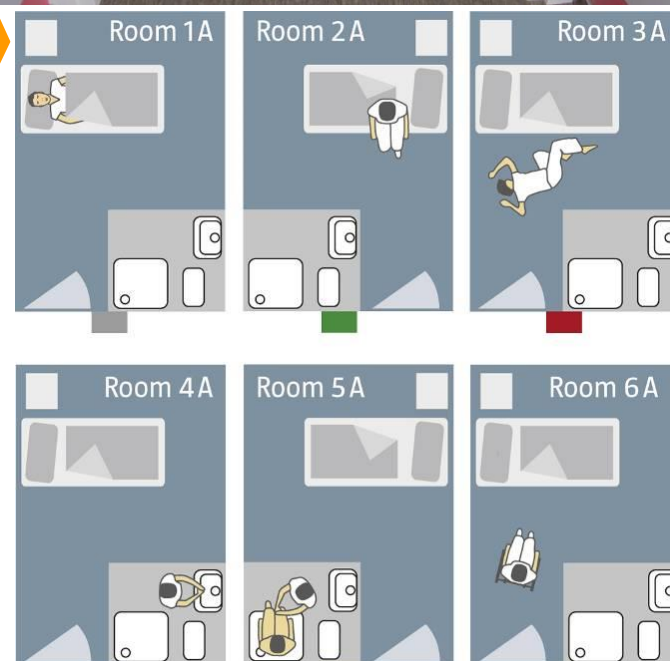
## SensFloor® Nursery Home in France

### Institutional health care support

Active support in caring for patients suffering from dementia or in risk of falling

Reduction of workload and costs through fast reaction to critical situations

- Orientation light
- If a person falls and does not get up again, an emergency call is triggered via indoor call system
- Emergency call set for patients in risk of falling, when getting out of bed
- Presence detection and activity monitoring of people



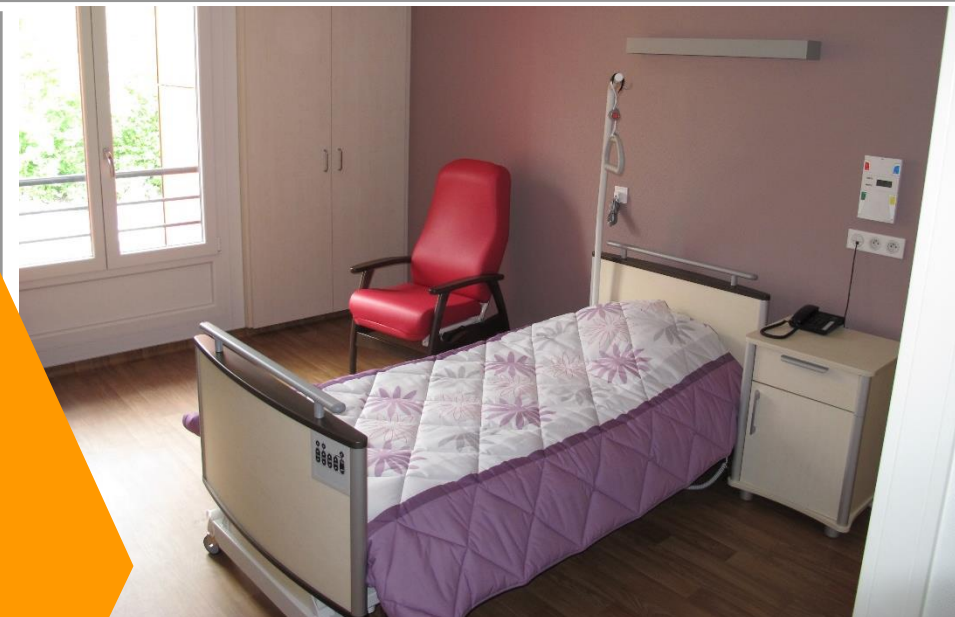
# SensFloor® Nursery Home in France

## First results

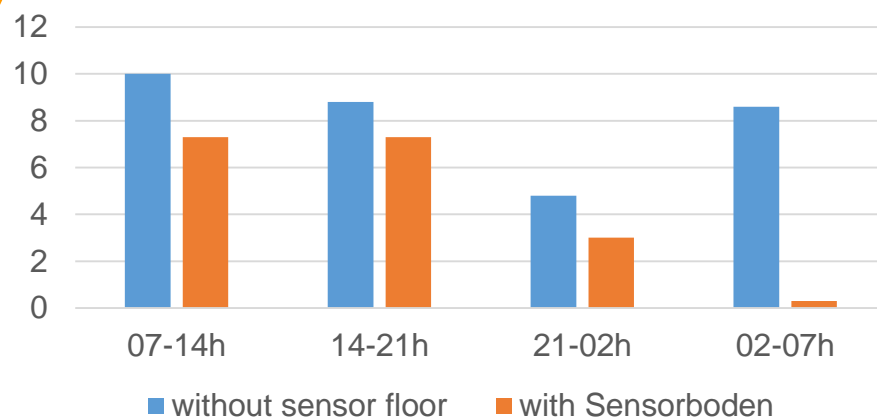
- 70 rooms in Pfaffenhoffen with SensFloor for activity monitoring (room/bathroom) and orientation light, fall detection -> alarm is set via indoor call system

- 28 falls detected within first 3 months

- Diagram: Fall prevention results from ELSI® sensor floor installation Kustaankartano Hospital in Helsinki, Finland, published at ISG-ISARC (2012)



Average monthly falls before and after Installation of sensor floor



Thank you for your attention!  
Future-Shape Team

