

Stretchable Electronics & Al end-to-end solutions to digitize the physical world in a non-intrusive way



Pitch Information Deck

July 2023

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Sensing Tex, S.L.

Sensing Tex is a deep tech company with a strong team of experienced profiles providing Large Area Stretchable Electronics and AI analytics

Agenda

- > 01 Company overview
- > 02 Technology
- > 03 Applications
- > 04 Market opportunity
- > 05 Competition
- > 06 Team
- > 07 Investment highlights
- > Appendix

COMPANY OVERVIEW The purpose

The company's aim is to democratize the use of Soft Stretchable Electronics to collect raw data processed by Artificial Intelligence (AI) Software that will help unleash the potential of the Internet of Things (IoT)



Large Area Stretchable Circuits



Strechable Printed Devices



IoT Sensor Platform & Hubs



Data Analytics



Artificial Intelligence



Software Platforms

IoT Sensors & AI data analysis based on Stretchable Electronics Technology

At a glance



Barcelona & Toronto



Founded in 2010



Stretchable Electronics and Al IoT Technology



Existing Client base & long-term partnerships



1 of the top 10 most innovative companies by W2NYC Global Industry Challenge



Intellectual property portfolio (Patents, trademarks, designs, Industrial Secrets,...)

Solutions

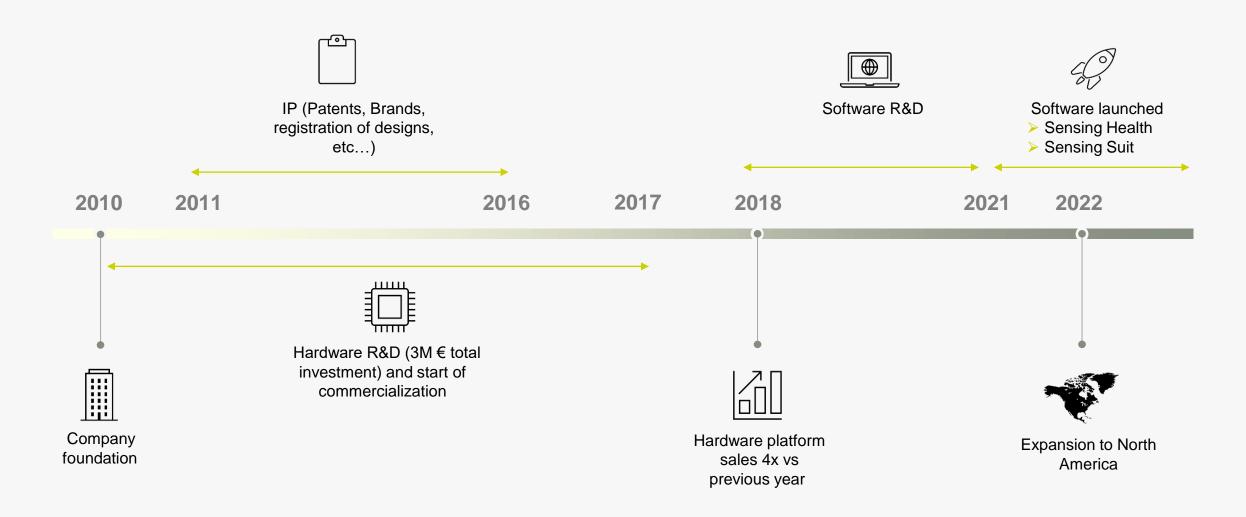
- Sensing Mat (HW)
- Sensing Wear (HW)
- Sensing Health (SW)
- Sensing Suit (SW)

Main applications

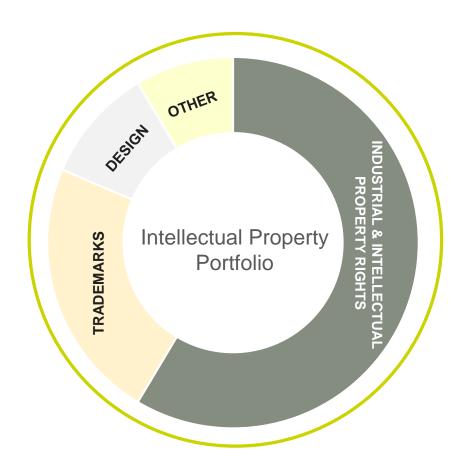
- Hospital Care: Pressure Injury & Fall prevention
- Home care: Fall & Wander prevention
- Podiatry and Rehabilitation
- Automotive Seats
- People Mobility in Spaces



History timeline



Intellectual Property Portfolio



Patent 01: A large area extensible pressure sensor for textile surfaces



- > Status: Granted in 2013
- > Registered: Europe and United States

Patent 02: Piezoresistive textile sensor and system for detecting the heart and/or respiratory rate



- > Status: Granted in 2014
- > Registered: Europe and United States

3 previous patents issued and a portfolio of other 10+ patentable inventions



Copyright:

> Intellectual Property Rights for each Software Package

Patents:

> 2 software patentable inventions linked to our hardware for healthcare

Trade secrets



Trademarks

- > Brands: Sensing Tex, Sensing Health
- Registered: Europe, United States & Canada. International trademarks with potential for an extension



Design

Design Registration of the Product Sheets by Post Legal Certification & Content Time Stamp International Legal software

Other



- > Domains, manufacturing agreements, supplier agreements..
- > There is a possibility to activate a Patent Box regime that offers a reduced tax rate on income generated from patents

HARDWARE

SENSING TEX

SENSING TEX SOFTWARE

Recognition & Awards

Technology





Platform





















Commercial Traction

Proven customer success with leading players across Health and Mobility segments



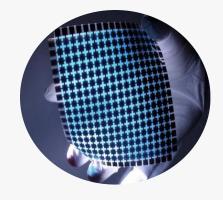
TECHNOLOGY Value Chain

From Stretchable Electronics to Artificial Intelligence



Stretchable Circuits

Emerging technology that allows to create devices with the ability to conform to nonplanar and deformable dynamic surfaces



Fully Printed Devices

A flexible, stretchable and elastic device such as pressure sensing, moisture sensing, etc...is obtained



IoT Hardware Platforms

A powerful platform that collects sensor data transforming products into IoT enabled devices



Software & Al

The software leverages sensor data and applies Al techniques to analyse the data

Stretchable Electronics & Al



The patented technology based on Large Area Printed Electronics, allows Sensing Tex to customize devices up to 3x2 meters in Rapport Printing mode and increase by R2R (roll to roll) or S2S (sheet to sheet) modular configurations



Stretchable Circuits technology allows to create double side, multi-layer circuits, fully printed devices and/or footprints for cold soldering



Any device can be built on stretchable substrate to allow the development of a wide range of solutions requiring flexibility



The manufacturing methodology applied by Sensing Tex reduces the impact in cost in later stages

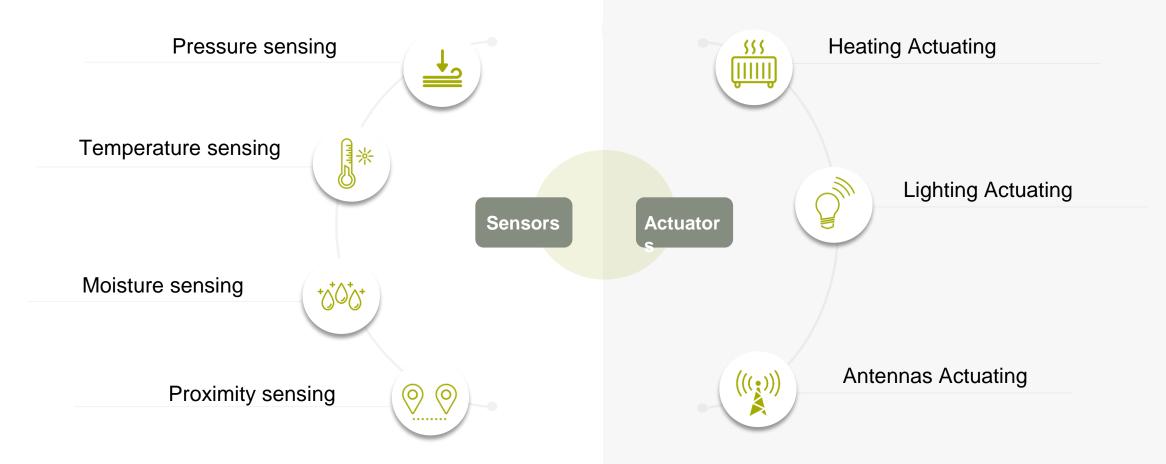


The technology has been approved by DNSH (EU sustainability principle) as it is based on Advanced Additive Manufacturing (Technology 5.0)



Fully Printed Devices

Sensing tex creates sensors and actuators based on Stretchable Electronics technology to integrate them in products enabling IoT



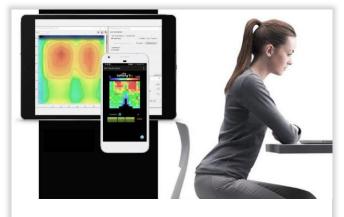
IoT Hardware platforms – Sensing Mat

The platforms allow the user to measure pressure from different stand points: Movement analysis, postural detection and biosignals Tracking among other magnitudes



Bedding Mats

Large Full Bed Area or partial areas specially designed to track different bed-based activities. It includes Mattress mat and Sleep mat products



Seating Mats

Performed by a textile matrix sensor that gathers the pressure maps of users when seating or pressing on it

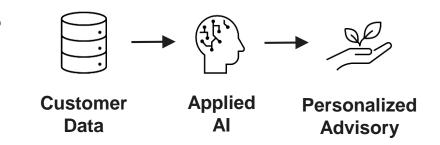


Flooring Mats

Developed to take advantage of the collected pressure mapping on the floor, either stand-alone carpets or tiles-based solutions for permanent flooring

Software & Al

Edge And Cloud computing software solution based on the latest algorithms developed thanks to the raw data provided by sensors IoT and using latest IT technologies of Computer Vision, machine learning and Al





01.

Data is collected from IoT sensors that measure the distribution of pressure exerted by an individual's body on a surface

02.

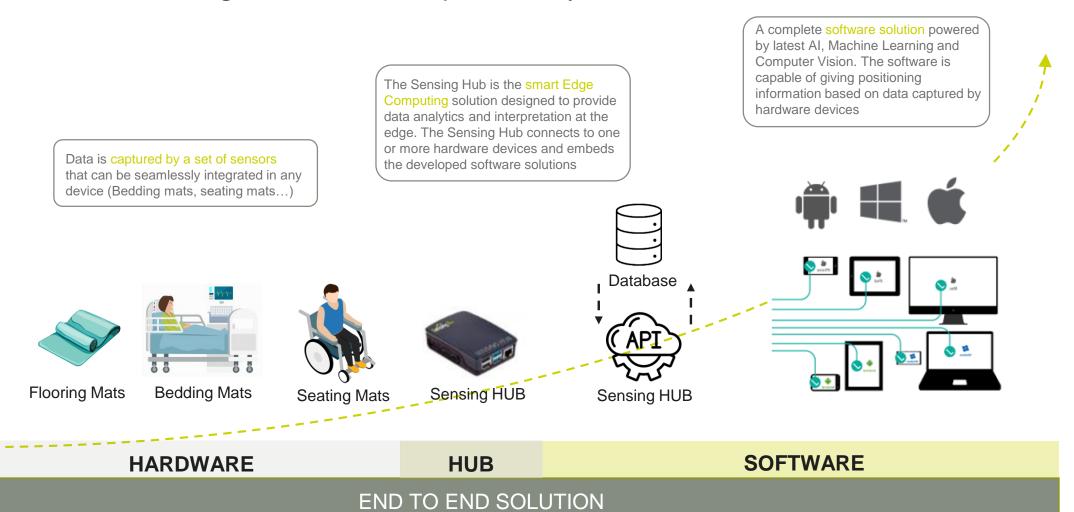
The Al algorithms analyse the collected pressure mapping sensor data to identify patterns, trends, and specific characteristics related to the user's posture, pressure distribution, and comfort levels

03.

Once the data analysis is complete, the software provides personalized advisory recommendations based on the insights gained

TECHNOLOGY Architecture

Sensing tex solutions are powered by 3 main elements



03 APPLICATIONS

- 03.1 Sensing Health (Hospital, Wheelchair, Home Care)
- 03.2 Sensing Mobility (Automotive, People)
- 03.3 Other applications

APPLICATIONS | SENSING HEALTH

The Problem

Low mobility patients are subject to pressure injuries, falls and wandering



7 M patients per year suffer pressure injuries globally¹



Pressure injuries
treatments represent
a huge cost for
hospitals
(\$6,1 billion² market
in 2022)



2% of hospitalized patients fall at least once during their stay³



60%
wheelchair
patients suffer
from pressure
injuries in their
lifetime4



Increasing AGEING POPULATION

More prone to accidents and hazards

Sensing Health at Hospital

¹ Source: Padula WV, Pronovost PJ, Makic MBF, Wald HL, Moran D, Mishra MK, Meltzer DO. Value of hospital resources for effective pressure injury prevention: a cost-effectiveness analysis

³ Source: Skyquest

Sensing Health Wheelchair

Sensing Health at Home

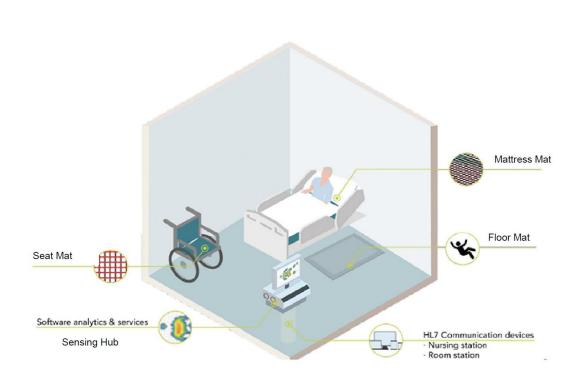
² Source: National Library of Medicine

⁴ Source: Stockton and Parker study

APPLICATIONS | SENSING HEALTH AT HOSPITAL

The Solution

Proactive and non-invasive solution to monitor patients, detect problems and alert healthcare practitioners providing insightful information





Monitors numerous beds in real time non-invasively

- Postural tracking
- ✓ Actigraphy micro & macro
- Breathing rate
- ✓ Pressure distribution and hot spots



Alerts nurses when required

- Repositioning
- √ Movement analysis



Improves human decision by relying on machine learning to detect problems



Integrates with any system in place from complex hospital or care homes software

APPLICATIONS | SENSING HEALTH AT HOSPITAL Value proposition

The solution offers significant cost savings for customers and a better life for patients

Number of patient falls

REDUCED by

47%

Number of pressure ulcers

REDUCED by

75%

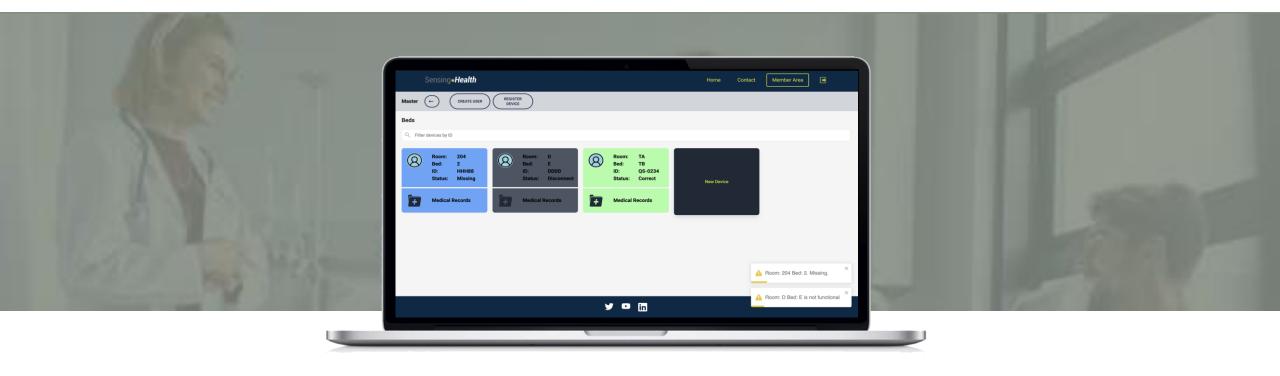
Yearly cost per hospital bed

REDUCED by

75%

APPLICATIONS | SENSING HEALTH AT HOSPITAL

Sensing Health Software



 Simple web-based interface displaying the status of every patient bed and sending alerts to healthcare practitioners

 Proactive contact-free monitoring solution designed to help businesses provide a better data-driven care Customization services to fit operational policies and needs of every hospital or healthcare center

APPLICATIONS | SENSING HEALTH AT WHEELCHAIR

Wheelchair Solution and APP interface

Seating Mat hardware

- ✓ Pressure Sensing
- ✓ Customizable sensors



Integration on wheelchair

- ✓ Data logger: ADC, I2C, BLE
- Customizable Data logger
- Customizable integration of hardware





Interface at

the edge

Set the parameters and thresholds



Visualize pressure maps



Get recommendations to correct sitting postures



Customizable interface to fit different requirements



Proactive solution that monitors seating, detects hotspots and informs patients or caregivers locally and remotely

APPLICATIONS | SENSING HEALTH AT HOME

Edge & Cloud solution using non-invasive smart textiles & activity trackers



- Sensing Health at Home is aimed at the home care & assisted living industry
- It is a € 4.81 billion market ¹ (2021) and is projected to reach €11.22 billion by 2031, growing at a CAGR of 8.8% from 2022 to 2031
- Future growth fuelled by increasing ageing population, shortage of in-home caregiving and a rising demand for personalized healthcare in developed countries
- Product architecture is similar to the Sensing Health at Hospital solution
- Latest Computer Vision, AI and Machine Learning applied to pressure maps on textiles sensors for new services
- Open platform solution that allows to integrate more sensors/services from third parties

Sensing Mate Sensing Health

Sensing Hub

¹ Source: Allied Market Research

03 APPLICATIONS

- 03.1 Sensing Health (Hospital, Wheelchair, Home Care)
- 03.2 Sensing Mobility (Automotive, People)
- 03.3 Other applications

APPLICATIONS | SENSING MOBILITY The Problem

Sensing Tex mobility solutions aim to cover the need for non-intrusive monitoring that respects individuals' privacy



SAFETY

Sensors can be integrated into car seats, seatbelts, and other parts of the vehicle to provide real-time monitoring of a driver's vital signs and alertness level



COMFORT

Pressure sensors can be used to assess the distribution of pressure points on seats, allowing for the optimization of seat design and cushioning



CROWD MANAGEMENT

In crowded areas such as airports, stations, or event venues, pressure floor mats can provide valuable insights into crowd density and flow. This information can be used to optimize space utilization or implement crowd control measures



TRAFFIC ANALYTICS

Pressure sensor-equipped floor mats can collect data on foot traffic patterns, dwell times, and movement trends. This information can be analysed to gain valuable insights into customer behaviour or optimize space layout

APPLICATIONS | SENSING MOBILITY

Automotive Seating Solution

Seating Mat hardware

- ✓ Pressure Sensing (TRL-9)
- ✓ Customizable sensors





Integration on automobile seat



PRESSURE MAPS >> RAW DATA >> DATA ANALYTICS >> INFORMATION







BIOSIGNALS TRACKING

POSTURAL DETECTION

MOVEMENT ANALYSIS

Features



Seating analysis

Analyses pressure distribution for assessing seating posture and comfort



Breath analysis

Detects breath patterns through pressure changes to provide insights into respiration rate



Sleep detection

Determines if the occupant is in a sleeping state, potentially alerting the driver or triggering safety measures



User identification

Identifies and recognizes individual users of the seat, allowing for personalized settings and features based on each user's preferences



Occupant detection

Detects the presence and position of occupants for safety and convenience features



Anonymous ID Recognition

Assigns anonymous IDs to occupants for individual tracking and analysis while preserving their privacy

APPLICATIONS | SENSING MOBILITY

People Traffic Solution

Traffic Mat hardware



01.

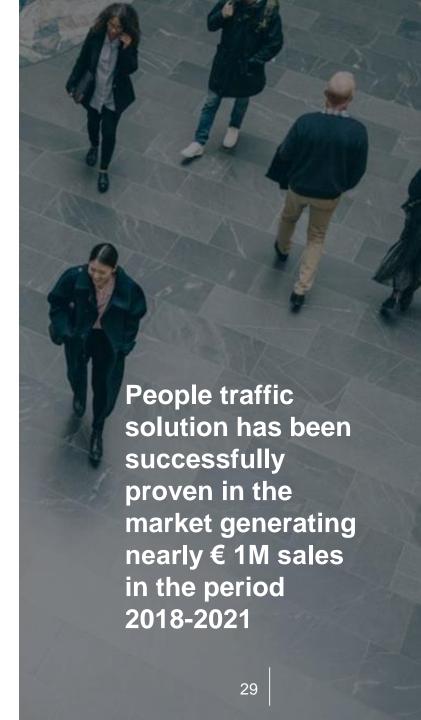
The Traffic Mat, based on the Sensing Mat Platform by Sensing Tex, is developed to leverage the collected pressure mapping on the floor and apply latest AI to recognize patterns such as step counting, gait analysis, people traffic counting among other magnitudes relevant for space management

Sensing Suit software



02.

This relevant information is then displayed in the Software provided. The customer may use insights to take the most appropriate decisions to enable or improve their facility, store, event or public transport space use. The system may be integrated with any other software at the Edge or at the Cloud Level



03 APPLICATIONS

- 03.1 Sensing Health (Hospital, Wheelchair, Home Care)
- 03.2 Sensing Mobility (Automotive, People)
- 03.3 Other applications

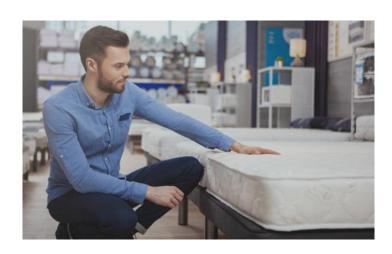
APPLICATIONS | OTHER

Other potential applications

Additionally to Health and Mobility, Sensing Tex solutions have potential applications in other attractive industries







SPORTS WELLNESS RETAIL

Perfect timing to adopt Stretchable Electronics & Al

The global market for smart textiles is expected to grow significantly over the next few years, driven by increasing interest in wearable technology and advancements in sensor technology



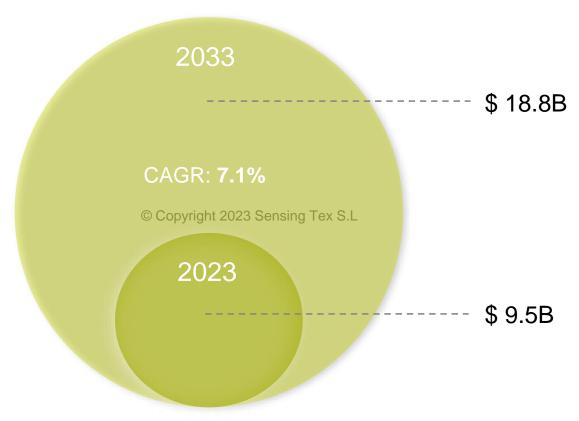
Opportunity of being a first mover to become reference point in a rising industry

The development of new sensors and other wearable technologies has made it possible to collect more accurate and comprehensive data on a people's health and mobility

Technology advancements

Printed & Flexible Sensors market size

TAM (Printed & Flexible Sensors)¹



KEY GROWTH DRIVERS



Increasing adoption of Internet of Things

As IoT technology continues to expand through various industries, the demand for sensors that can seamlessly integrate into IoT devices is rising



Digitalization of the Healthcare Industry

The introduction of agile procedures, seamless techniques, and digital technologies in the Healthcare sector has forced industry players to shift their focus towards advanced and smart sensor technology



Artificial Intelligence

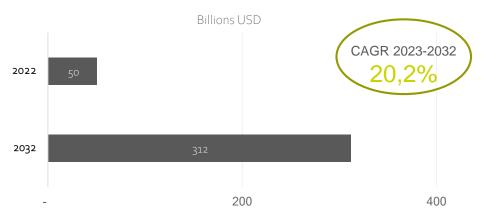
The rising demand for printed and flexible sensors can be attributed to their data collection capabilities, high sensitivity, adaptability to different form factors, and cost-effectiveness. These features make them an excellent option for integrating Al-driven technologies into various industries and applications

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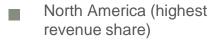
¹ Source: Future Market Insights

Health & Automotive market size

Health Sensors Market Size 2022-2032¹

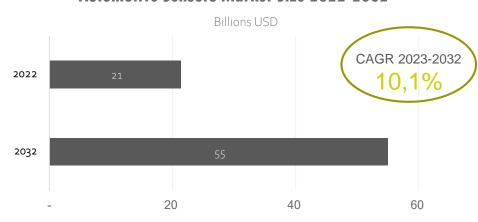






Asia (highest growth)







APAC 48.6%
Revenue Share

[■] Europe 24.4% Revenue Share

¹ Source: Acumen research and consulting

² Source: GlobeNewswire

05 COMPETITION SENSING MAT & SENSING HEALTH

COMPETITION

Competitive advantage vs other key players

	Sensing Tex	Tekscan [*]	odiTrak2	BeBop	XSENSOR
Deep Tech Hardware		×		×	\bigcirc
Open Hardware to plug other sensors	⊘	⊘	8		×
Patented Hardware technology	⊘	⊘	⊘	⊘	⊘
Stretchable electronics technology 3.0		×		×	⊘
Al applied	⊘	×	×	×	×
Software solution	⊘	⊘	⊘	×	×



TEAM

Experienced team with deep expertise in textile engineering, stretchable electronics & IoT



Miguel Ridao
Co-founder & CEO

- Co-founder of three companies in the field of engineering
- 17 years' experience in Textile and Electronic technology



Luis Gomez
Co-founder & CTO

- CTO Punto Roma Group (2005-2010)
- >20 years' experience in Textile and Electronic technology



Jose Manuel Abel Chief Strategy Officer



Francisco Rivas
Hardware Director



Martín Piqueras Software Director

07 INVESTMENT HIGHLIGHTS

INVESTMENT HIGHLIGHTS

The Company is looking for a new partner owner to support commercial expansion and help accelerate future growth

Transaction background

- The Company has developed soft stretchable electronic solutions to collect and process relevant data for mitigating major challenges within healthcare and mobility industries, among others
- Significant traction has been achieved to date with little marketing investment or sales capabilities which demonstrates future potential
- Main shareholders and founders have decided to explore the opportunity of partnering with A STRATEGIC COMPANY that can leverage the solutions and contribute to commercial deployment and further accelerate growth globally
- The founders are highly experienced and motivated to bring the Company to the next level and contribute to the scale of the business

Scope of transaction

The transaction perimeter includes the Company as a whole, although licensing agreements for some certain solutions might be considered according to the buyer's business strategy fit.



Disruptive technology with many potential applications

The platform and its configuration allows to develop new product applications based on pressure measurements



End-to-end solution

It offers a hardware & software solution based on each client's needs and requirements. It is possible to integrate hardware platforms with third party software or with third party sensors



Latest AI & ML applied

By applying machine learning algorithms, the Company is able to provide data that will reduce health issues like falls and pressure injuries



Presence in Europe and North America

The company recently started operations in Toronto (CA) and is now strategically positioned in the market to capture full growth potential



Competitive advantage vs other key players

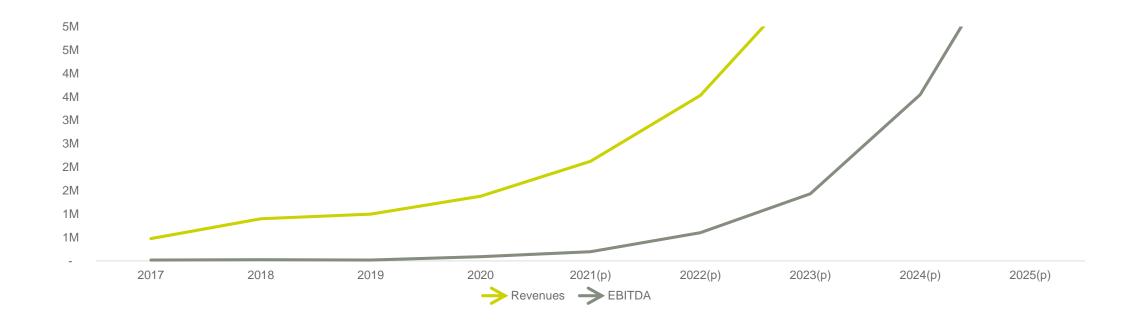
The company has the ability to print six different layers, defect-free, over the entire area (2m x 3m) at a high resolution of 1mm. The deployment of extensible pressure sensors in large textile areas is patent protected

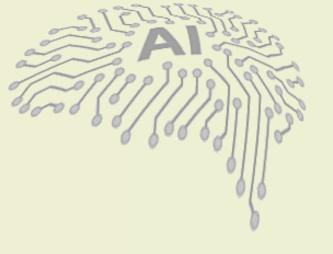


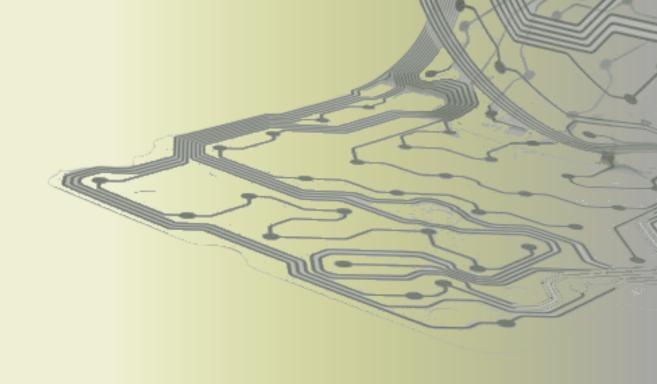
Already invoiced key international players

The company has built relationships with some of the main players within Health and Mobility industries

PROJECTIONS







sensingtex.com/

Avinguda de Cerdanyola, 75, 08172 Sant Cugat del Vallès, Barcelona, SPAIN

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APPENDIX: SENSING HEALTH HOSPITAL PLATFORM

TWO OF THE PROBLEMS

€40Bn+
Problem
only US



67% DUE TO PRESSURE INJURIES



33% DUE TO HOSPITAL FALLS



HOSPITALS



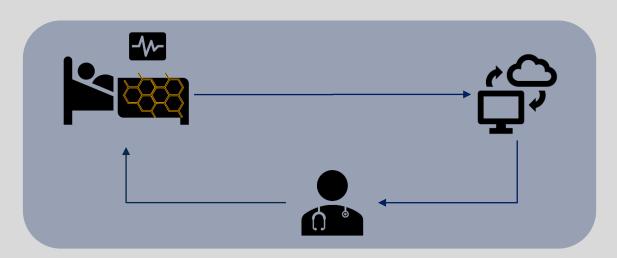
INSURANCE PROVIDERS

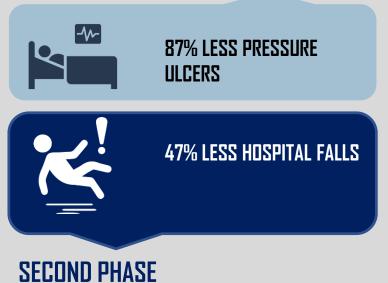


- I UNGER HUSPITAL STAYS
- REPLITATION DAMAGE
- DRAIN OF RESOURCES
- REDUCED LIFE QUALITY/ LIFESPAN
- +17,000 LAWSUITS YEARLY
- AND MORE INDIRECT COSTS.

THE SOLUTION

FIRST PHASE





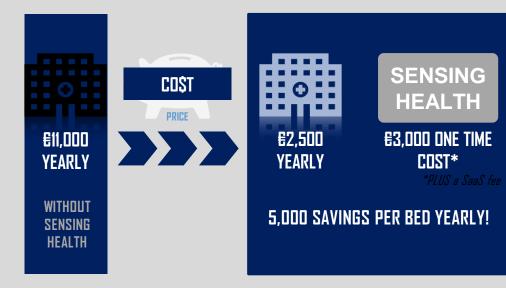


A PROACTIVE SOLUTION THAT MONITOR PATIENTS, DETECT PROBLEMS & INFORM HEALTHCARE PRACTITIONERS

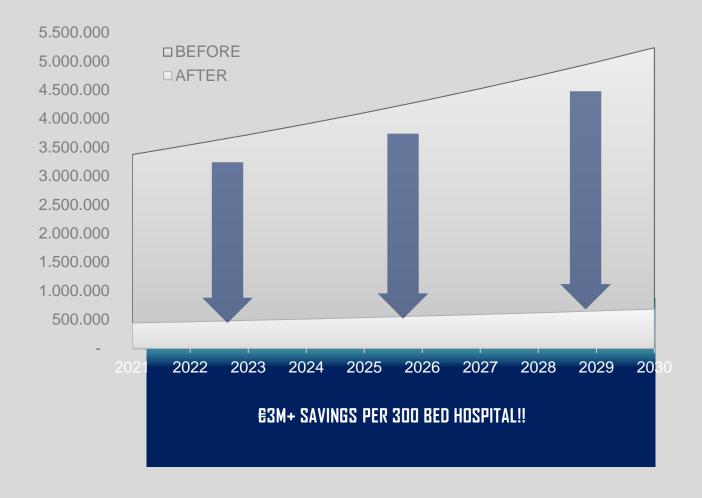
VALUE PROPOSITION – CASE STUDY

YEAR COST PER BED

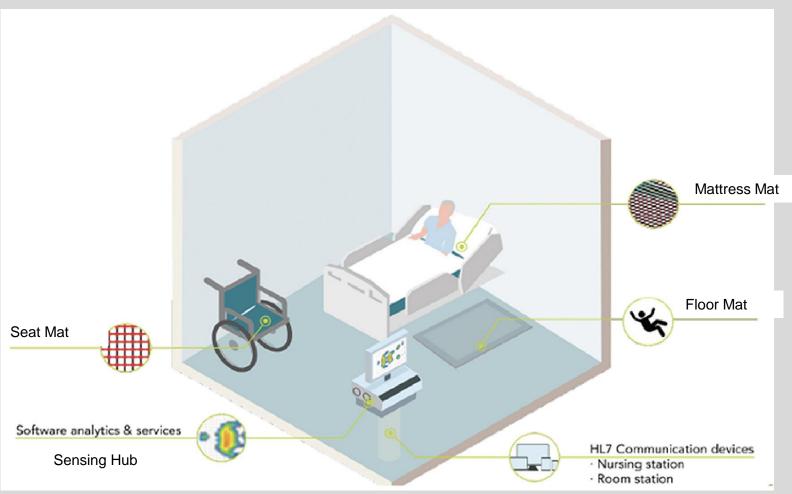
PRESSURE INJURIES COST HOSPITALS #11k/BED YEARLY (EU AVERAGE)
EXCLUDING INDIRECT COSTS. SENSING HEALTH CAN REDUCE THESE
COSTS BY 75%!



YEARLY COST PER 300 BED HOSPITAL



THE PRODUCT & SERVICE



MONITORS MANY BEDS IN REAL TIME NON INVASIVELY

- POSTURAL TRACKING (NOW)
- UPDINTS (PRESSURE DISTRIBUTION & HOT SPOTS, BONE AREA

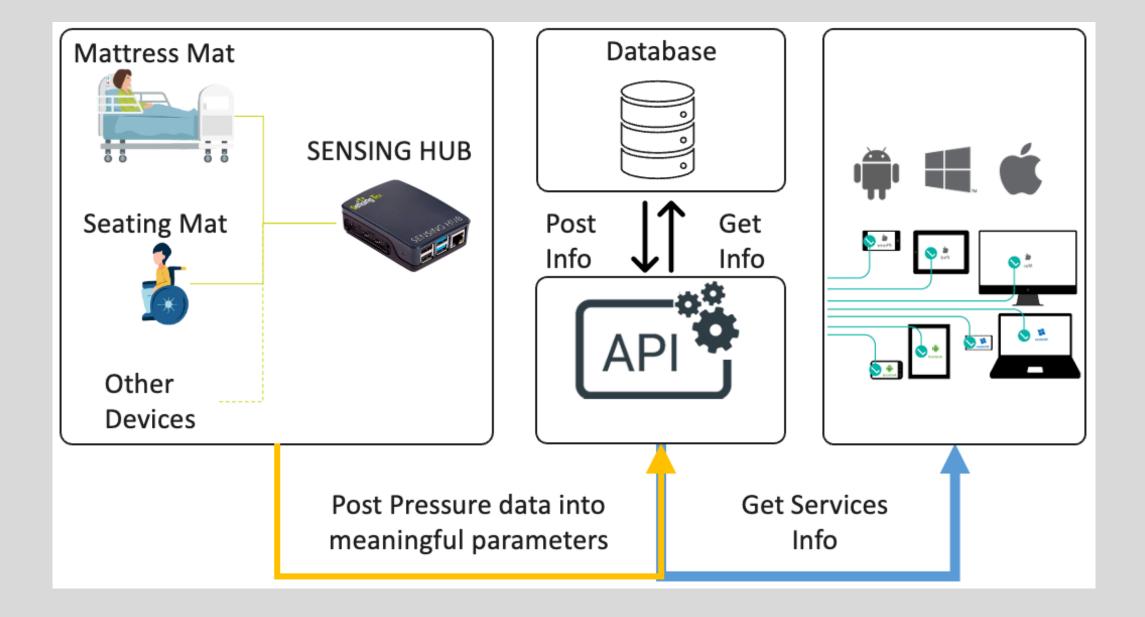
 DETECTION) future updates
- ACTIGRAPHY MICRO & MACRO SLEEP Future updates
- RESPIRATORY RATE future updates
- OTHER SENSORS

ALERTS NURSES WHEN REQUIRED (REPOSITIONING REMVOE PRESSURE, MOVEMENT ANALYSIS)

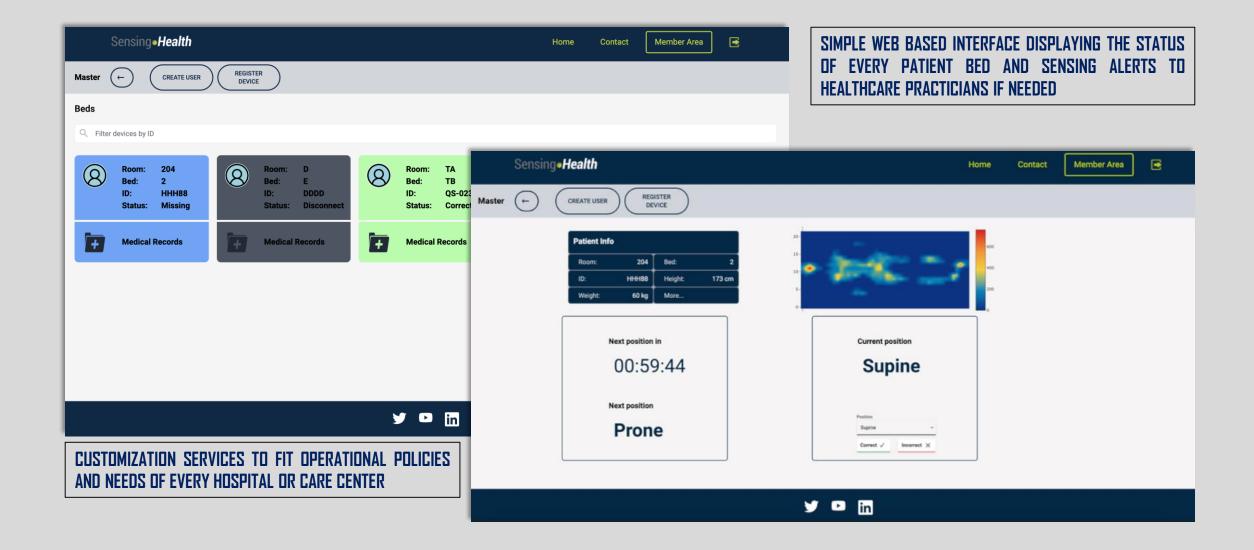
IMPROVES HUMAN DECITION BY RELYING ON MACHINE LEARNING TO DETECT PROBLEMS

INTEGRATES WITH ANY SYSTEM IN PLACE FROM COMPLEX HOSPITAL SOFTWARES TO CARE HOMES

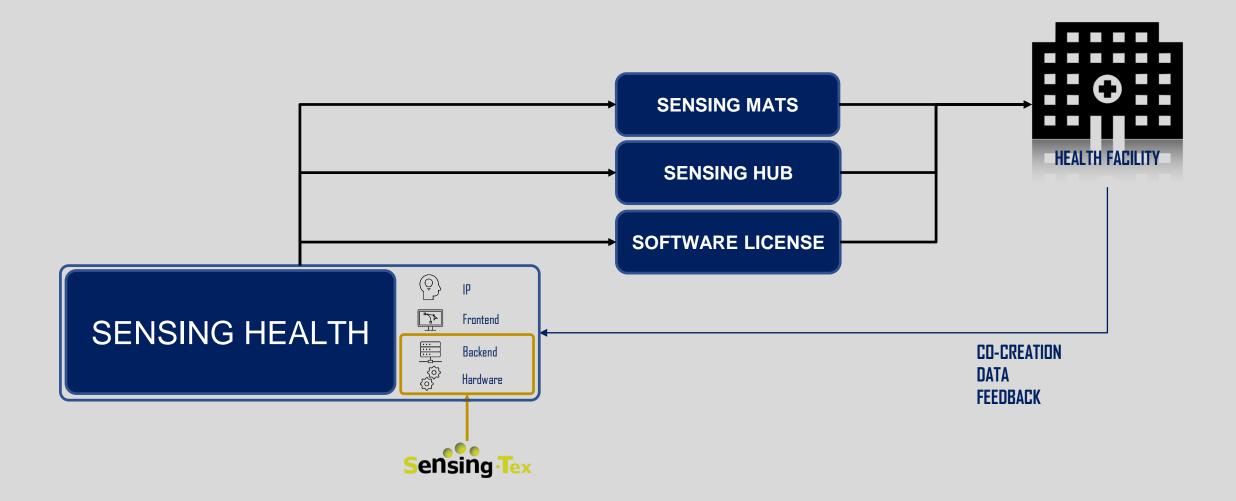
THE ARCHITECTURE



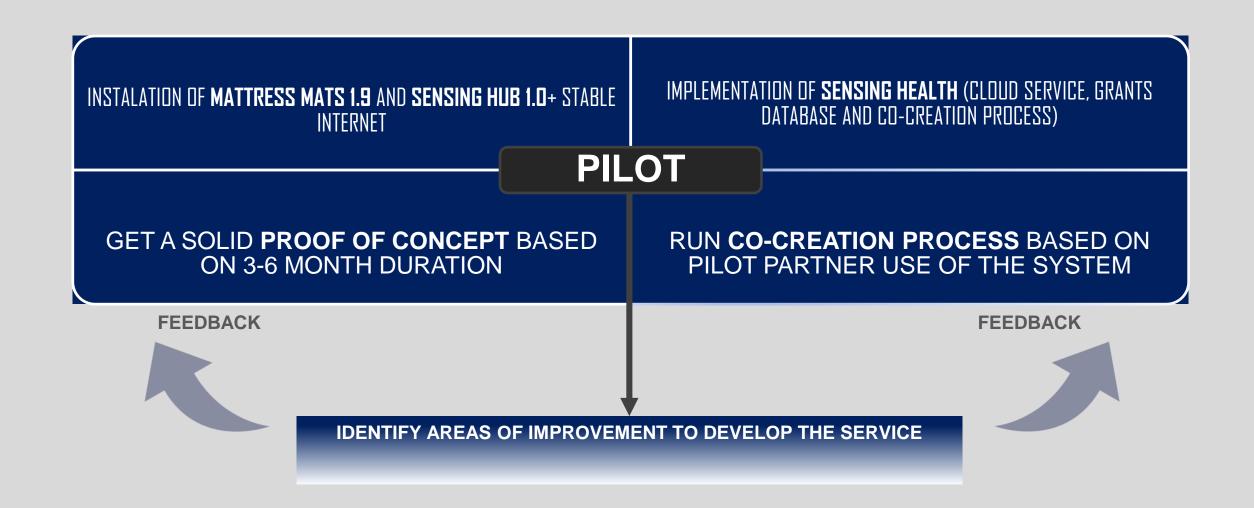
THE INTERFACE



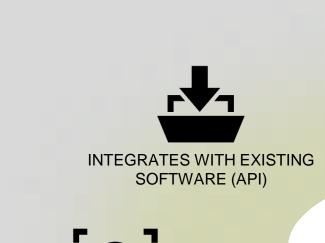
PILOT SENSING HEALTH DEV KIT



PILOTS



BUILT WITH OPEN INNOVATION IN MIND



GDPR COMPLIANT (FULLY NONINTRUSIVE)





AUTOMATED COMMUNICATION (ALERT SYSTEM)





INTEGRATES OTHER DEVICES
THROUGH HUB



CONSTANTLY IMPROVING THROUGH ML



DISPLAY ON ANY DEVICE (HANDHELD TO FIXED)