



Deliverable No. 11.1

SENSIndoor Website

Grant Agreement No.: 604311
Deliverable No.: D11.1
Deliverable Name: **SENSIndoor** Website
Contractual Submission Date: 31/03/2014
Actual Submission Date: 04/03/2014 (website went online)
Responsible partner: P10 – Eurice

Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	



COVER AND CONTROL PAGE OF DOCUMENT	
Project Acronym:	SENSIndoor
Project Full Name:	Nanotechnology based intelligent multi-SENsor System with selective pre-concentration for Indoor air quality control
Deliverable No.:	D11.1
Document name:	SENSIndoor Website
Nature (R, P, D, O) ¹	O
Dissemination Level (PU, PP, RE, CO) ²	PU
Version:	1
Actual Submission Date:	17/04/2014
Editor: Institution: E-Mail:	Nina Lind Eurice n.lind@eurice.eu

ABSTRACT:

This deliverable describes the **SENSIndoor public website** presently available. The website has been set up to ensure smooth information and communication within the consortium as well as with the public. The features of the website contain a welcome page, an "about" section with general information on the project, information on the consortium, the advisory board and research as well as a news and publication section. The website will be constantly revised, updated and modified to adapt it to the project consortium's requirements. The website is available under www.sensindoor.eu.

KEYWORD LIST:

website, project visibility, dissemination, information

The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 604311.

The author is solely responsible for its content, it does not represent the opinion of the European Community and the Community is not responsible for any use that might be made of data appearing therein.

¹ R=Report, P=Prototype, D=Demonstrator, O=Other

² PU=Public, PP=Restricted to other programme participants (including the Commission Services), RE=Restricted to a group specified by the consortium (including the Commission Services), CO=Confidential, only for members of the consortium (including the Commission Services)

MODIFICATION CONTROL			
Version	Date	Status	Author
1.0	14/04/2014	Draft	Nina Lind, Eurice
1.1	15/04/2014	Draft	Julia Petry, Eurice
1.2	17/04/2014	Final version	Nina Lind, Eurice

List of contributors

- Nina Lind, Eurice
- Julia Petry, Eurice

Contents

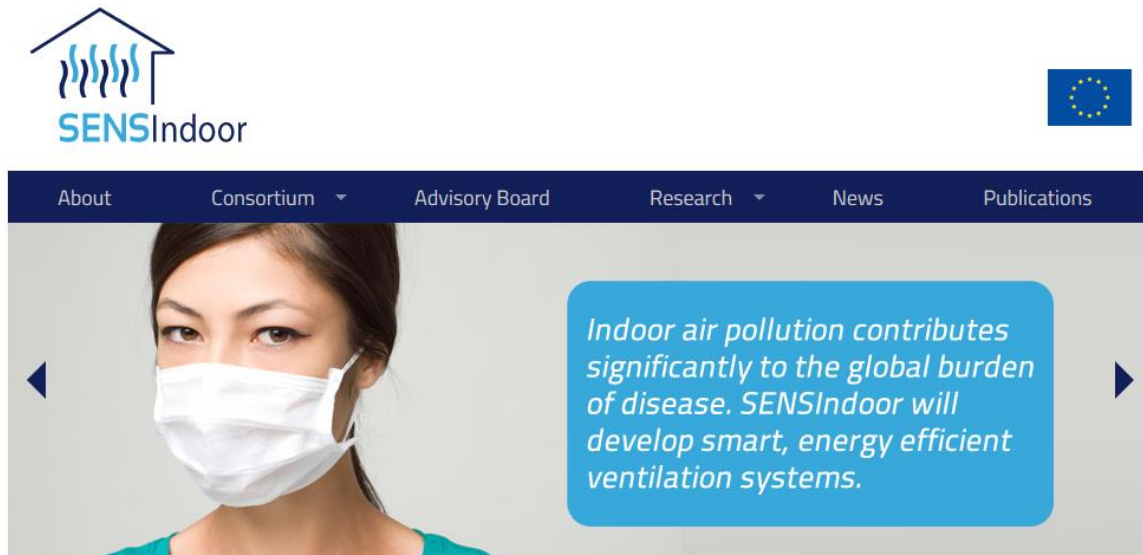
1	EXECUTIVE SUMMARY.....	5
2	INTRODUCTION	6
2.1	PURPOSE OF THIS DOCUMENT	6
3	FEATURES OF THE WEBSITE	7
3.1	WELCOME PAGE	8
3.2	ABOUT	9
3.3	CONSORTIUM	10
3.4	ADVISORY BOARD.....	12
3.5	RESEARCH	13
3.6	NEWS.....	15
3.7	PUBLICATIONS	16
4	CONCLUSION	17
5	REFERENCES	17

Figures

<i>Figure 1</i>	<i>The SENSIndoor welcome page</i>	<i>8</i>
<i>Figure 2</i>	<i>The "About" section</i>	<i>9</i>
<i>Figure 3</i>	<i>The SENSIndoor consortium</i>	<i>10</i>
<i>Figure 4</i>	<i>The SENSIndoor partners</i>	<i>11</i>
<i>Figure 5</i>	<i>SENSIndoor's advisory board</i>	<i>12</i>
<i>Figure 6</i>	<i>Research information</i>	<i>13</i>
<i>Figure 7</i>	<i>SENSIndoor work packages</i>	<i>14</i>
<i>Figure 8</i>	<i>SENSIndoor's news section</i>	<i>15</i>
<i>Figure 9</i>	<i>Publications</i>	<i>16</i>
<i>Figure 10</i>	<i>Contact information for SENSIndoor</i>	<i>17</i>

1 Executive Summary

This document describes the **SENSIndoor public website** that is presently available. The website has been set up to ensure smooth information and communication within the consortium as well as with the public. The features of the website will be constantly revised, up-dated and modified to adapt it to the project consortium's requirements. The website is available under www.sensindoor.eu.



Nanotechnology-based intelligent multi-SENsor System with selective pre-concentration for Indoor air quality control

SENSIndoor aims at the development of novel nanotechnology based intelligent sensor systems for selective monitoring of Volatile Organic Compounds (VOC) for demand controlled ventilation in indoor environments.

Greatly reduced energy consumption without adverse health effects caused by the Sick Building Syndrome requires optimized ventilation schemes adapted to specific application scenarios like offices, hospitals, schools, nurseries or private homes.

- ▶ SENSIndoor will measure the quality of indoor air.
- ▶ SENSIndoor will develop smart, energy efficient ventilation systems.
- ▶ SENSIndoor will bring forth demand controlled ventilation – the key for energy efficient buildings.
- ▶ SENSIndoor will develop novel nanotechnology-based microsensors for room specific ventilation

09/04/2014

[Hannover Messe](#)

Gassensoren spüren einzelne Schadstoff-Moleküle unter einer Milliarde Luft-Molekülen auf

04/03/2014

[Sensor system improves indoor air quality while making building ventilation more energy efficient](#)

Funding

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement No 604311.

[Contact](#) [Imprint](#) [Intranet](#)

2 Introduction

2.1 *Purpose of this document*

The **SENSIndoor** website is the project's major tool for project dissemination aiming at reaching a broad public and creating continuous awareness for the project's objectives and results.

The **SENSIndoor public website** is part of the continuous Task 11.1 "Web site". The website went online in March 2014 and will be continuously updated with information that becomes available and will continuously be adapted to the consortium's requirements. The website consists of an internal and external part. The internal part is the project management platform (ProjectAngel) and is described in Deliverable D12.1. The external part will be described in detail in this document. It has been developed by a professional communications team in line with the project's corporate identity, thus ensuring that the site is appealing, efficient and easy to use.

The site can be accessed via www.sensindoor.eu.

3 Features of the Website

In close cooperation with the project coordinator and with input from the other beneficiaries the layout and content of the site were defined. The design of the website is in line with the corporate identity for the project which was created right at project start. Thus, the project website shows the different shades of blue which are also integrated in the project logo. The latter also holds a prominent position on the website to ensure the brand recognition of the project.

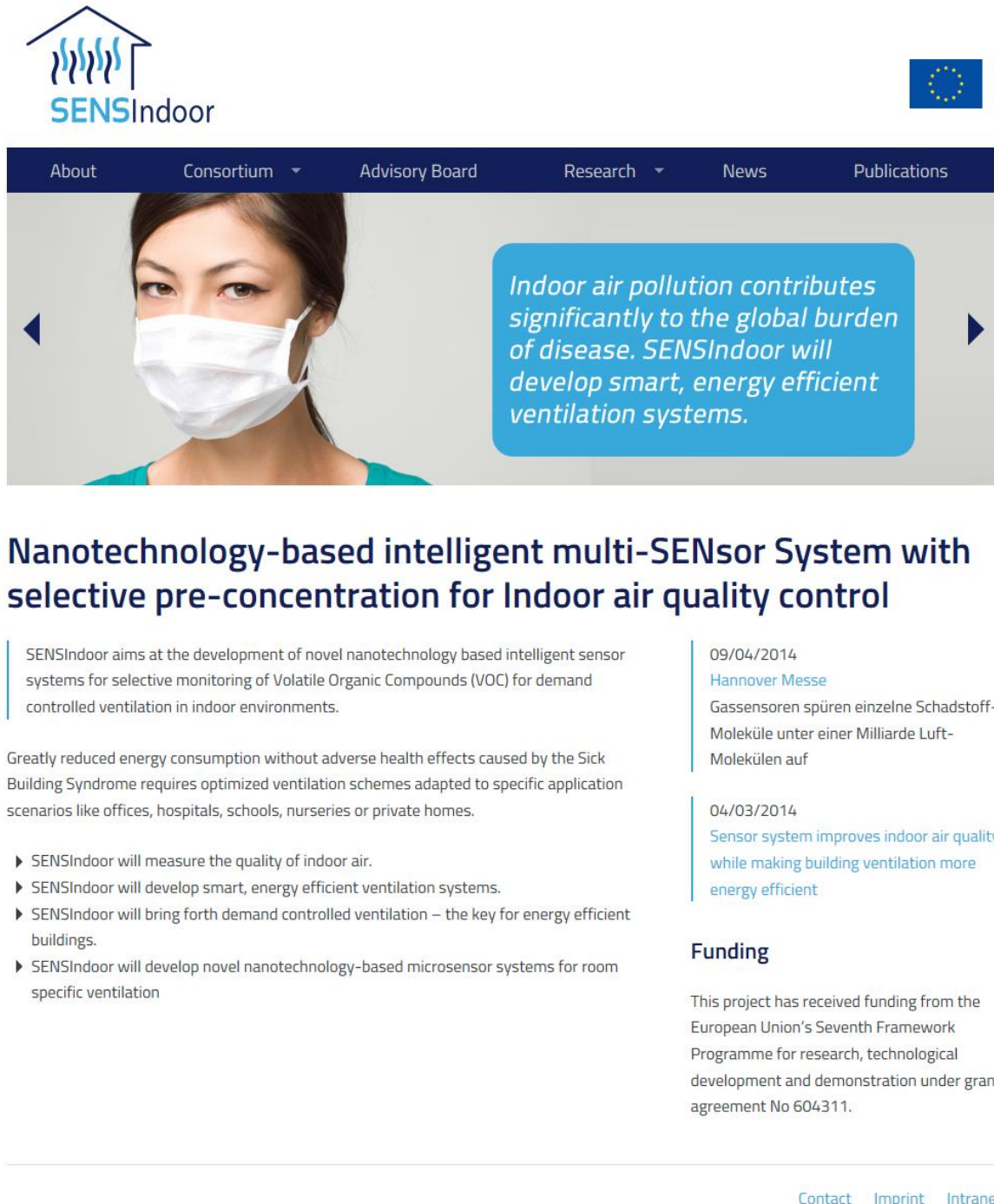
The website is directed towards the scientific community, the public at large and other stakeholders with an interest towards the project, its activities as well as outcomes, innovations und products.



This document is to be considered a snapshot only as the website will be constantly updated as the project evolves. At the time of website launch, the following sections were offered to the public:

- Welcome page
- "About" with general information on the project
- Consortium
- Advisory Board
- Research
- News
- Publications

These sections are clearly visible on the tabs in the main navigation on the upper part of the website to guide the user through the website. Both the consortium and the public are able to easily gather relevant information about the project from the website.

3.1 Welcome Page



About Consortium Advisory Board Research News Publications

Indoor air pollution contributes significantly to the global burden of disease. SENSIndoor will develop smart, energy efficient ventilation systems.

Nanotechnology-based intelligent multi-SENSOR System with selective pre-concentration for Indoor air quality control

SENSIndoor aims at the development of novel nanotechnology based intelligent sensor systems for selective monitoring of Volatile Organic Compounds (VOC) for demand controlled ventilation in indoor environments.

Greatly reduced energy consumption without adverse health effects caused by the Sick Building Syndrome requires optimized ventilation schemes adapted to specific application scenarios like offices, hospitals, schools, nurseries or private homes.

- ▶ SENSIndoor will measure the quality of indoor air.
- ▶ SENSIndoor will develop smart, energy efficient ventilation systems.
- ▶ SENSIndoor will bring forth demand controlled ventilation – the key for energy efficient buildings.
- ▶ SENSIndoor will develop novel nanotechnology-based microsensor systems for room specific ventilation

09/04/2014
[Hannover Messe](#)
Gassensoren spüren einzelne Schadstoff-Moleküle unter einer Milliarde Luft-Molekülen auf

04/03/2014
[Sensor system improves indoor air quality while making building ventilation more energy efficient](#)

Funding

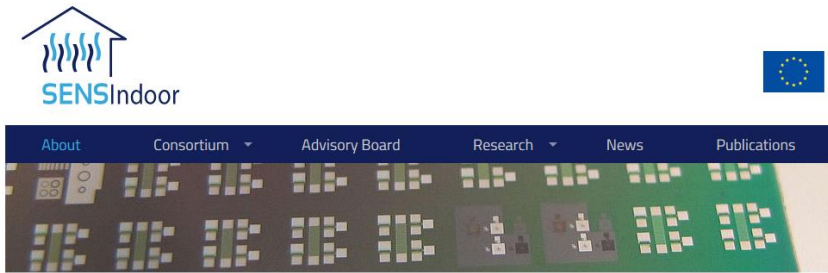
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement No 604311.

[Contact](#) [Imprint](#) [Intranet](#)

Figure 1 The SENSIndoor welcome page

The "Welcome Page" of the SENSIndoor website contains general and concise information on the overall idea of the project. It also features a teaser where project slogans and, later on, information on events are presented. Furthermore, news on the project, such as publications, press articles, etc. are shown on the right part of the site.

3.2 About



Objectives

Within the SENSIndoor project, novel sensor systems for extremely sensitive, highly selective and long-term stable operation will be studied and developed for advanced control of indoor air quality. The project shall make use of both physical and chemical nanotechnologies for sensor components, MEMS technology for component realization and system integration as well as advanced signal processing and networking to integrate sensors into building control systems.

SENSIndoor will achieve this overall aim by realizing the following specific objectives:

- Identification of priority application scenarios for demand controlled ventilation based on comprehensive indoor air quality (IAQ) assessment.
- Metal Oxide Semiconductor (MOS) and Gas-sensitive Field Effect Transistor (GasFET) sensors, containing novel nanocrystalline gas sensitive materials, will be used as complementary sensor technologies with unrivalled sensitivity for hazardous indoor air pollutants, especially volatile organic compounds (VOCs).
- Use of nanotechnology based selective preconcentrators for boosting sensitivity and selectivity by at least two orders of magnitude.
- Optimized dynamic operation of gas sensors and pre-concentrators combined with advanced data evaluation to further enhance selectivity and improve long-term stability.
- Integration of sensors and pre-concentrators in complex multi-sensor systems and demonstration of their performance in lab and field tests.



[Download the SENSIndoor project leaflet](#)

The final aim of the project is an integrated multi-sensor system tested in a field test for health and energy optimized IAQ control.

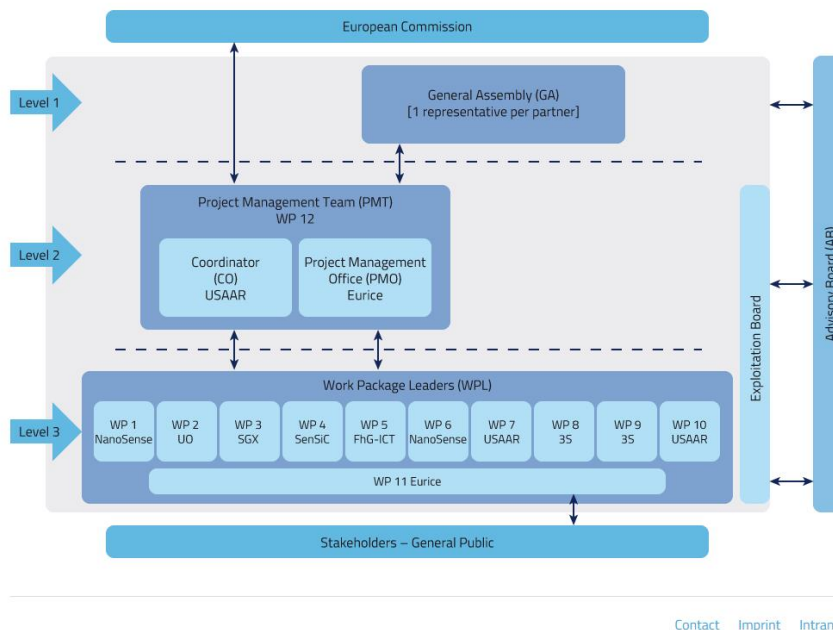
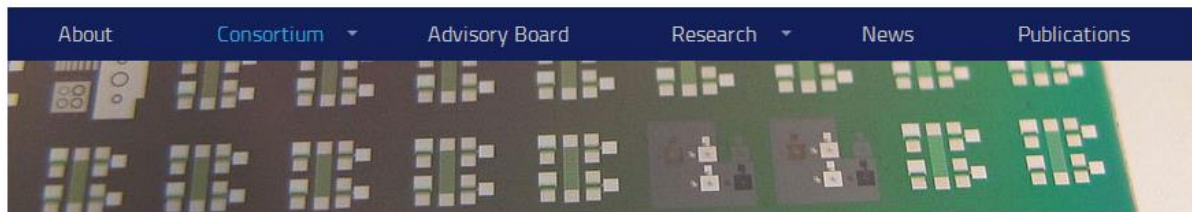


Figure 2 The "About" section

The "About" section offers users the possibility to gather more detailed information on the project's content and objectives. A short project flyer with useful information can also be downloaded here.

3.3 Consortium



Partners

- » Saarland University, Lab for Measurement Technology
- » NanoSense SARL
- » Fraunhofer Institute for Chemical Technology
- » University of Oulu | Functional Electroceramics Thin Film group
- » Linköping University | Applied Sensor Science group
- » SenSiC AB
- » SGX Sensortech S.A.
- » 3S – Sensors, Signal Processing, Systems GmbH
- » Picodeon Ltd Oy
- » European Research and Project Office GmbH

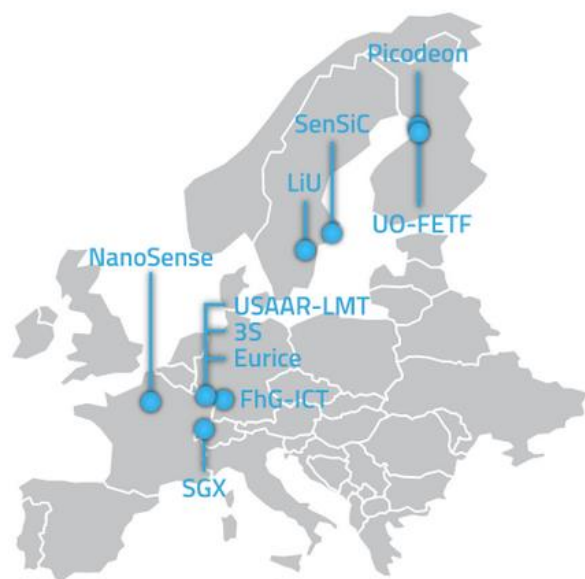
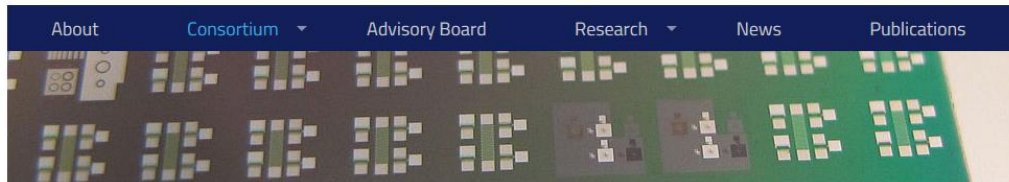


Figure 3 The SENSIndoor consortium

The "Consortium" section contains background information on the partners directly involved in the SENSIndoor project. A map shows the country of origin for each partner (Germany, France, Switzerland, Sweden and Finland). By clicking on the links with the partners' names, the user is directed to a subpage with more information on the individual partner.



Laboratory for Measurement Technology

The **Laboratory for Measurement Technology (LMT)** at Saarland University's Department of Mechatronics was established in 2000 by Prof. Andreas Schütze with special emphasis on microsensors and characterization of microstructures. LMT focuses its R&D effort on intelligent chemical measurement systems, especially for the gas phase, including the co-ordination of the MNT-ERA.NET project VOC-IDS (Volatile Organic Compound Indoor Discrimination Sensor).

USAAR-LMT contributes to SENSIndoor with its personnel's many years of experience in the development of intelligent gas measurement systems and national and EU collaborative project participation. In particular, LMT was actively involved in the development of innovative micro-nano-structured gas sensors within the EU projects NanoSensoFlex (Growth) and VOC-IDS (MNT-ERA.NET). Andreas Schütze is currently the co-ordinator of VOC-IDS and working group leader in the COST action EuNetAir (TD1105).

SENSIndoor Coordinator.



**UNIVERSITÄT
DES
SAARLANDES**

Lab for Measurement Technology
Department of Mechatronics
Saarland University
Campus A5.1
66123 Saarbrücken
Germany

[Website](#)

Team members

Prof. Andreas Schütze
Team Leader
[Email](#)



Dr. Tilman Sauerwald
Leader of WP7, WP10
[Email](#)



Christian Bur
[Email](#)



Martin Leidinger
[Email](#)



[Contact](#) [Imprint](#) [Intranet](#)

Figure 4 The SENSIndoor partners

The website holds information on each partner as well as on its role and tasks in SENSIndoor. The partner descriptions are also linked to the partners' websites and contain contact information. With adding pictures of each project member, the website gains a more personal touch.

3.4 Advisory Board



Advisers

▶ [Mats Sándor](#)

▶ [Philippe Petit](#)

▼ [Eduardo de Oliveira Fernandes](#)

Name
Prof. Eduardo de Oliveira Fernandes

Institution
[IDMEC-Faculdade de Engenharia Universidade de Porto \(IDMEC-FEUP\)](#)

IDMEC is a non-profit private Association founded by Instituto Superior Técnico - Technical University of Lisbon (IST) and Faculdade de Engenharia – Universidade do Porto (FEUP). IDMEC will merge in the near future with a brother Institute (INEGI – Institute of Science and Technology on Mechanical Engineering) also associated to FEUP and from 31st December 2014 it will become INEGI.

Contact
[Email](#)

Short CV

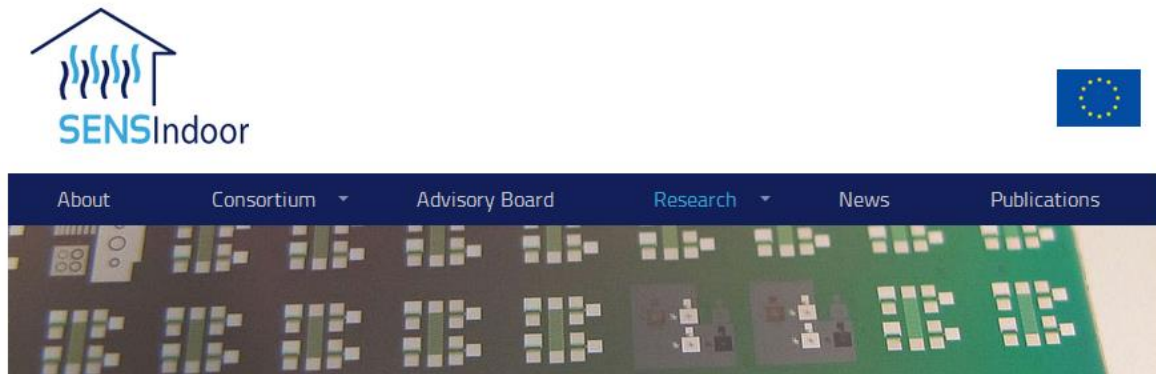
- PhD on Applied Sciences from the Federal Institute of Technology (Lausanne, Switzerland) in 1973
- Professor at the Faculty of Engineering, University of Porto, Portugal (1975-2013), he was responsible for courses (graduation, MSc and PhD) on Mechanical engineering, Building Thermal Performance, Indoor Air Quality, Climatisation (Heating, Cooling and Air Conditioning) and Energy for over 30 years
- Devoted the last 40 years of his career to teaching, research, consulting and public activities on various topics related to energy and environment. Founder of a RTD group on Building Thermal Physics with major pioneering activities in Portugal on Solar Technologies and Thermal Behaviour of Buildings, Indoor Air Quality, Energy and Environment in the Urban Space and Energy Planning at the Regional and Urban Levels
- He is currently the IDMEC's Director and the scientific coordinator of the IDMEC's Unit of R&D on Energy and Built Environment

[Contact](#) [Imprint](#) [Intranet](#)

Figure 5 SENSIndoor's advisory board

This section of the website contains information on the external advisory board members involved in the SENSIndoor project. It includes short information on the advisers' institution as well as a short CV and contact information for each advisory board member.

3.5 Research



Research

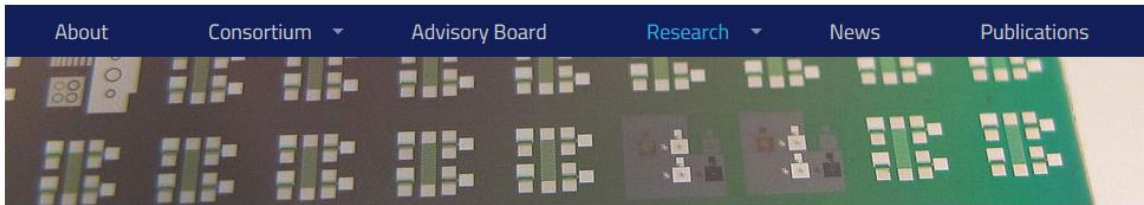
The project addresses two sensor technologies with Micro-Electro-Mechanical System (MEMS)-based metal oxide semiconductor (MOS) gas sensors and Silicon Carbide-based gas sensitive field effect transistors (SiC GasFET). Gas sensitive layers for both sensor technologies are realized by Pulsed Laser Deposition (PLD) for well-defined, stable and highly sensitive nanostructured layers. These are combined with gas pre-concentration based on MIPs (molecular imprinted polymers) and MOFs (metal-organic frameworks) to boost the sensitivity of the overall system. Dynamic operation of the gas sensor elements by temperature cycling combined with pattern recognition techniques is employed to further boost sensitivity and selectivity and expanded to optimally use the gas pre-concentration. The project thus combines physical and chemical nanotechnologies for extremely sensitive and selective gas sensing, MEMS technologies for low-power operation as well as low-cost manufacture and finally dynamic operating modes together with advanced signal processing for unrivalled system performance. Sensor elements and systems are evaluated under controlled lab conditions derived from priority application scenarios.

The final demonstration of the SENSIndoor technology will include field tests with sensor systems integrated into building control systems.

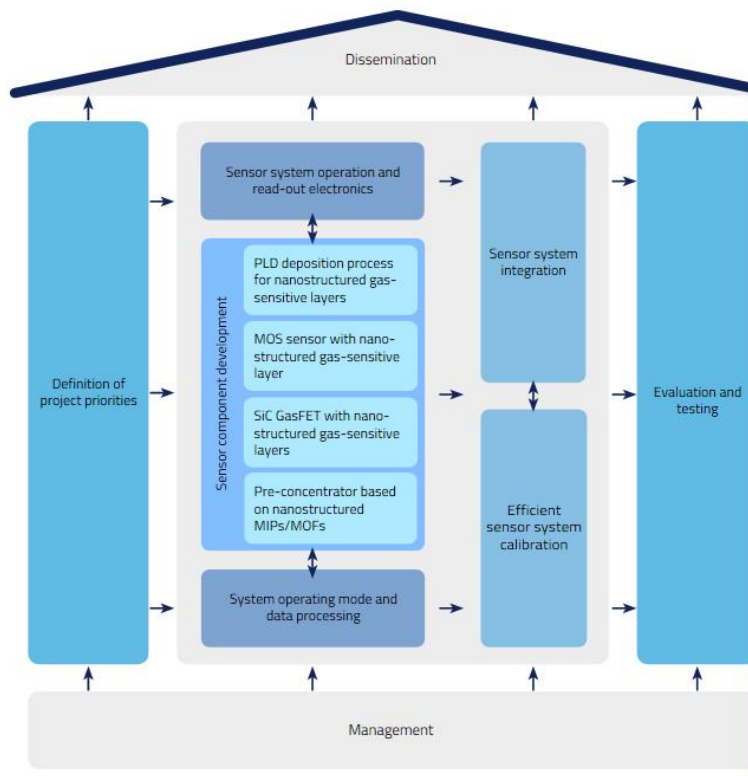
Learn more about the individual [work packages](#).

Figure 6 Research information

In the "Research" section more in-depth information on the project is provided. Beyond a short description of the project activities, the website shows the correlation and interdependency of the work packages. By clicking on a work package, the interested users receive more information on the individual work package.



SENSIndoor Work Packages

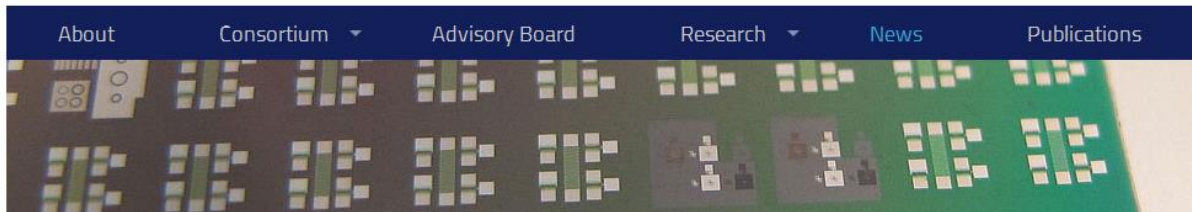


Click to learn more about the individual work package.

[Contact](#)
[Imprint](#)
[Intranet](#)

Figure 7 SENSIndoor work packages

3.6 News



News

04/03/2014

[Sensor system improves indoor air quality while making building ventilation more energy efficient](#)

14/02/2014

[Automatisch gute Luft, halber Energieverbrauch: Sensorsystem für Schadstoffe lüftet effizient \(in German\)](#)

14/02/2014

[Sensorsystem für Luftschadstoffe sorgt automatisch für frische Luft \(in German\)](#)

05/02/2014

[Intelligent ventilation for better and healthier indoor air](#)

[SENSIndoor Kick-Off Meeting in Saarbrücken, Germany](#)

Figure 8 SENSIndoor's news section

This section is the most vivid part of the website which is constantly updated. All partners are encouraged to send information on latest news, press articles, events, etc. It is intended to inform the scientific community in advance via the website about conferences, summer schools, workshops, etc. in which **SENSIndoor** partners will participate to give interested scientists the opportunity to meet the partners on the occasion of such events. Once an event is published on the website, it will also be included in the teaser on the welcome page.

3.7 Publications



Figure 9 Publications

For the time being, this section only contains previous publications relevant to the project. Once a publication will be issued within the project, information on the publication will also be published on the website. In the future, this section will also contain deliverables which do not include confidential information.

Besides these seven major categories, the website features also a "Contact" possibility and the link to the Intranet. The "Contact" sheet contains information on the project coordinator and the project management partner.



[About](#)

[Consortium](#)

[Advisory Board](#)

[Research](#)

[News](#)

[Publications](#)

Coordination

Saarland University
Laboratory for Measurement Technology (LMT)
Prof. Andreas Schütze
Campus, A 5 1
66123 Saarbrücken, Germany

Phone: +49 681 302 4663
[Email](#)

Project Management

European Research and Project Office GmbH (Eurice)
Corinna Hahn
Science Park 1
66123 Saarbrücken, Germany

Phone: +49 681 9592 3362
[Email](#)

[Contact](#) [Imprint](#) [Intranet](#)

Figure 10 Contact information for SENSIndoor

4 Conclusion

The website is online and functional and provides all relevant features to inform the interested public and scientific community about the project in a user-friendly manner. As the development of the website is a continuous task, the website as presented in this deliverable must be considered to only be a ‘snapshot’. The project’s website will be updated frequently to contain the latest information and will be adapted to the consortium’s requirements if necessary. Please see www.sensindoor.eu for any development.

5 References

- [1] www.sensindoor.eu