

HORIZON
2020

Flexible FE/BE Sensor Pilot Line for the Internet of Everything

Risultati

Informazioni relative al progetto

IoSense

ID dell'accordo di sovvenzione: 692480

[Sito web del progetto](#)

DOI

[10.3030/692480](https://doi.org/10.3030/692480)

Progetto chiuso

Data della firma CE

4 Maggio 2016

Data di avvio

1 Maggio 2016

Data di completamento

30 Aprile 2019

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INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies - Information and Communication Technologies (ICT)

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€ 64 237 980,13

Contributo UE

€ 14 483 029,61

Coordinato da

INFINEON TECHNOLOGIES
DRESDEN GMBH & CO KG



Germany

CORDIS fornisce collegamenti ai risultati finali pubblici e alle pubblicazioni dei progetti ORIZZONTE.

I link ai risultati e alle pubblicazioni dei progetti del 7° PQ, così come i link ad alcuni tipi di risultati specifici come dataset e software, sono recuperati dinamicamente da [OpenAIRE](#).

Risultati finali

Websites, patent filings, videos etc. (11)



[D8.6d Electronic Newsletter](#)

Newsletter will feature events, future activities, important project results, contributions and success stories. The newsletters will be created as electronic documents and spread using our different communication channels.

[D8.5c Electronic Newsletter](#)

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[D8.6f Electronic Newsletter](#)

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[D8.4 Social Media Account Setup](#)

The social media accounts as well as the initial content will be set within the first project month.

[D8.6b Electronic Newsletter](#)

Newsletter will feature events, future activities, important project results, contributions and success stories. The newsletters will be created as electronic documents and spread using our different communication channels.

[D8.2 Website](#)

The website will be setup as a content management system (CMS) before the official start of the project. The initial contents will be integrated within the first project month.

[D8.6e Electronic Newsletter](#)

Newsletter will feature events, future activities, important project results, contributions and success stories. The newsletters will be created as electronic documents and spread using our different communication channels.

[D8.8 IoSense Club](#)

For the IoSense Club, a web community will be created on a privacy-protecting networking platform (preferably WatchOurIdeas). On this platform, innovation actions can be started with a set of dedicated stakeholders.

[D8.3 Content Management System](#)

The web-blogs will be setup as a content management system (CMS) before the official start of the project. IoSense aims do have domain-specific blogs for

different interest groups. Therefore, the creation of new, or the substitution of existing blogs will be done over the whole project period.

[D8.6a Electronic Newsletter](#)

Newsletter will feature events, future activities, important project results, contributions and success stories. The newsletters will be created as electronic documents and spread using our different communication channels.

[D8.7 IoSense Network](#)

For the IoSense network, a web community will be created on a social or domain-specific networking platform, such as facebook or WatchOurIdeas.

Documents, reports (10)

[D5.4 IoSense for Smart Mobility](#)

This deliverable will summarise the applicability of the different IoSense developments for the Smart Mobility Domain and the requested customizations for it. It will also include a report of the results of those proposed customizations in the domain demonstrator. Finally this report will include a gap analysis showing the needed elements to be covered in order to guarantee the full application of IoSense to the domain.

[D8.13 Standard Compliance Report](#)

The complied standards along the entire value chain and deviations from current standards as well as reasons for deviation will be documented in a report. From the deviations suggestions for future standards will be extracted.

[D5.3 IoSense for Smart Energy](#)

This deliverable will summarise the applicability of the different IoSense developments for the Smart Energy Domain and the requested customizations for it. It will also include a report of the results of those proposed customizations in the domain demonstrator. Finally this report will include a gap analysis showing the needed elements to be covered in order to guarantee the full application of IoSense to the domain.

[D7.3.2 Risk assessment of reliability risks](#)

General assessment of thermo-mechanical reliability risks is performed, weak points are identified and design optimizations are proposed.

[D8.11a Report of Networking Initiatives](#)

The list will contain networking activity implemented during the project lifespan. The report will contain a network map of project participants and stakeholders

involved.

[D5.1 IoSense for Smart Systems Integration](#)

This deliverable will summarise the applicability of the different IoSense developments for the Smart Systems Integration Domain and the requested customizations for it. It will also include a report of the results of those proposed customizations in the domain demonstrators. Finally this report will include a gap analysis showing the needed elements to be covered in order to guarantee the full application of IoSense to the domain.

[D8.10a IoSense Workshop Report](#)

Alongside with the yearly General Assembly, the consortium plans to have IoSense Workshop once a year to invite external partners and stakeholders and present IoSense results. A summary of those workshops will be documented in a report.

[D7.2.2 Reliability- and lifetime prognosis and automation concept for reliability testing](#)

Report on reliability- and lifetime prognosis for the considered applications and automation concept of cost-effective test equipment for reliability testing.

[D5.5 IoSense for Smart Production](#)

This deliverable will summarise the applicability of the different IoSense developments for the Smart Production Domain and the requested customizations for it. It will also include a report of the results of those proposed customizations in the domain demonstrator. Finally this report will include a gap analysis showing the needed elements to be covered in order to guarantee the full application of IoSense to the domain.

[D5.2 IoSense for Smart Society and](#)

This deliverable will summarise the applicability of the different IoSense developments for the Smart Society and Health Domain and the requested customizations for it. It will also include a report of the results of those proposed customizations in the domain demonstrators. Finally this report will include a gap analysis showing the needed elements to be covered in order to guarantee the full application of IoSense to the domain.

Other (3)

[D8.9a IoSense Summer Schools](#)

IoSense will organize two summer schools, one in year 2 (TUD) and one in year 3 (Delft).

[D8.9b IoSense Summer School](#)

IoSense will organize two summer schools, one in year 2 (TUD) and one in year 3 (Delft).

[D8.1 Corporate Design Documentation](#)

The project logo, document templates (reports, letters etc.) and presentation templates will be prepared and distributed before the project start.

Publicazioni

Peer reviewed articles (15)



[COPS: Cooperative Statistical Misbehavior Mitigation in Network-Coding-Aided Wireless Networks](#)

Autori: Angelos Antonopoulos, Christos Verikoukis

Pubblicato in: IEEE Transactions on Industrial Informatics, Numero 14/4, 2018, Pagina/e 1436-1446, ISSN 1551-3203

Editore: Institute of Electrical and Electronics Engineers

DOI: 10.1109/TII.2017.2754579

[Coping with Complexity When Predicting Surface Roughness in Milling Processes: Hybrid Incremental Model with Optimal Parametrization](#)

Autori: Gerardo Beruvides, Fernando Castaño, Rodolfo E. Haber, Ramón Quiza, Alberto Villalonga

Pubblicato in: Complexity, Numero 2017, 2017, Pagina/e 1-11, ISSN 1076-2787

Editore: John Wiley & Sons Inc.

DOI: 10.1155/2017/7317254

[Calculation of Failure Detection Probability on Safety Mechanisms of Correlated Sensor Signals According to ISO 26262](#)

Autori: Wolfgang Granig, Dirk Hammerschmidt, Hubert Zangl

Pubblicato in: SAE International Journal of Passenger Cars - Electronic and Electrical Systems, Numero 10/1, 2017, ISSN 1946-4622

Editore: SAE International

DOI: 10.4271/2017-01-0015

[A Simple Multi-Objective Optimization Based on the Cross-Entropy Method](#)

Autori: Rodolfo E. Haber, Gerardo Beruvides, Ramon Quiza, Alejandro Hernandez

Pubblicato in: IEEE Access, Numero 5, 2017, Pagina/e 22272-22281, ISSN

2169-3536

Editore: Institute of Electrical and Electronics Engineers Inc.

DOI: 10.1109/ACCESS.2017.2764047

[Sintering strategies for inkjet printed metallic traces in 3D printed electronics](#)

Autori: Ali Roshanghias, Matic Krivec, Marcus Baumgart

Pubblicato in: Flexible and Printed Electronics, Numero 2/4, 2017, Pagina/e 045002, ISSN 2058-8585

Editore: IOP Publishing Ltd

DOI: 10.1088/2058-8585/aa8ed8

[Connectivity Analysis in Clustered Wireless Sensor Networks Powered by Solar Energy](#)

Autori: Prodromos-Vasileios Mekikis, Elli Kartsakli, Angelos Antonopoulos, Luis Alonso, Christos Verikoukis

Pubblicato in: IEEE Transactions on Wireless Communications, Numero 17/4, 2018, Pagina/e 2389-2401, ISSN 1536-1276

Editore: Institute of Electrical and Electronics Engineers

DOI: 10.1109/TWC.2018.2794963

[Optimal design of angular position sensors](#)

Autori: Hubert Zangl, Lisa-Marie Faller, Wolfgang Granig

Pubblicato in: COMPEL - The international journal for computation and mathematics in electrical and electronic engineering, Numero 36/5, 2017, Pagina/e 1372-1385, ISSN 0332-1649

Editore: Emerald Group Publishing Ltd.

DOI: 10.1108/COMPEL-02-2017-0099

[Sensor system optimization to meet reliability targets](#)

Autori: Wolfgang Granig, Lisa-Marie Faller, Hubert Zangl

Pubblicato in: Microelectronics Reliability, Numero 87, 2018, Pagina/e 113-124, ISSN 0026-2714

Editore: Elsevier BV

DOI: 10.1016/j.microrel.2018.06.005

[Secured and Easy-to-Use NFC-Based Device Configuration for the Internet of Things](#)

Autori: Thomas Ulz, Thomas Pieber, Andrea Holler, Sarah Haas, Christian Steger

Pubblicato in: IEEE Journal of Radio Frequency Identification, Numero 1/1, 2017, Pagina/e 75-84, ISSN 2469-7281

Editore: IEEE Journal of Radio Frequency Identification

DOI: 10.1109/jrfd.2017.2745510

[Rapid prototyping of force/pressure sensors using 3D- and inkjet-printing](#)

Autori: L-M Faller, W Granig, M Krivec, A Abram, H Zangl

Pubblicato in: Journal of Micromechanics and Microengineering, Numero 28/10, 2018, Pagina/e 104002, ISSN 0960-1317

Editore: Institute of Physics Publishing

DOI: 10.1088/1361-6439/aaadf4

[An Algebraic Framework for Runtime Verification](#)

Autori: Stefan Jaksic, Ezio Bartocci, Radu Grosu, Dejan Nickovic

Pubblicato in: IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, Numero 37/11, 2018, Pagina/e 2233-2243, ISSN 0278-0070

Editore: Institute of Electrical and Electronics Engineers

DOI: 10.1109/tcad.2018.2858460

[CuO Thin Films Functionalized with Gold Nanoparticles for Conductometric Carbon Dioxide Gas Sensing](#)

Autori: Robert Wimmer-Teubenbacher, Florentyna Sosada-Ludwikowska, Bernat Travieso, Stefan Defregger, Oeznur Tokmak, Jan Niehaus, Marco Deluca, Anton Köck

Pubblicato in: Chemosensors, Numero 6/4, 2018, Pagina/e 56, ISSN 2227-9040

Editore: Chemosensors 2018

DOI: 10.3390/chemosensors6040056

[Exploring Temperature-Modulated Operation Mode of Metal Oxide Gas Sensors for Robust Signal Processing](#)

Autori: Romana Boiger, Stefan Defregger, Mirza Grbic, Anton Köck, Manfred Mücke, Robert Wimmer-Teubenbacher, Bernat Zaragoza Travieso

Pubblicato in: Proceedings, Numero 2/13, 2018, Pagina/e 1058, ISSN 2504-3900

Editore: EUROSENSORS 2018

DOI: 10.3390/proceedings2131058

[Self-Tuning Method for Increased Obstacle Detection Reliability Based on Internet of Things LiDAR Sensor Models](#)

Autori: Fernando Castaño, Gerardo Beruvides, Alberto Villalonga, Rodolfo Haber

Pubblicato in: Sensors, Numero 18/5, 2018, Pagina/e 1508, ISSN 1424-8220

Editore: Multidisciplinary Digital Publishing Institute (MDPI)

DOI: 10.3390/s18051508

An Architecture for a Distributed Lean Innovation Management System.

Autori: Mai, C., Grzelak, D., Zia, M., D.Lemme, & Aßmann, U.

Pubblicato in: ijimt, 2019, ISSN 2010-0248

Non-peer reviewed articles (6)

[Consensus-Based Cooperative Control Based on Pollution Sensing and Traffic Information for Urban Traffic Networks](#) 

Autori: Artuñedo, A., del Toro, R. M., & Haber, R. E.

Pubblicato in: Sensors, Numero 17/5, 2017, Pagina/e 953, ISSN 1424-8220

Editore: Multidisciplinary Digital Publishing Institute (MDPI)

DOI: 10.3390/s17050953

[Wireless differential pressure measurement for aircraft](#) 

Autori: Juliana P. Leitzke, Astrid Della Mea, Lisa-Marie Faller, Stephan Mühlbacher-Karrer, Hubert Zangl

Pubblicato in: Measurement, Numero 122, 2018, Pagina/e 459-465, ISSN 0263-2241

Editore: Elsevier BV

DOI: 10.1016/j.measurement.2017.12.042

[Simulating Rain Droplets Influence on Distance Measurement with a Time-of-Flight Camera Sensor](#) 

Autori: Marcus Baumgart, Markus Dielacher, Norbert Druml, Cristina Consani

Pubblicato in: Proceedings, Numero 1/4, 2017, Pagina/e 287, ISSN 2504-3900

Editore: MDPI

DOI: 10.3390/proceedings1040287

[Condition-based Monitoring Architecture for CNC Machine Tools based on Global Knowledge](#) 

Autori: Alberto Villalonga, Gerardo Beruvides, Fernando Castaño, Rodolfo E. Haber, Marcelino Novo

Pubblicato in: IFAC-PapersOnLine, Numero 51/11, 2018, Pagina/e 200-204, ISSN 2405-8963

Editore: INCOM2018

DOI: 10.1016/j.ifacol.2018.08.259

[Fog Effects on Time-of-Flight Imaging Investigated by Ray-Tracing Simulations](#) 

Autori: Cristina Consani, Norbert Druml, Markus Dielacher, Marcus Baumgart

Pubblicato in: Proceedings, Numero 2/13, 2018, Pagina/e 859, ISSN 2504-3900

Editore: MDPI Journal

DOI: 10.3390/proceedings2130859

[Dependability considerations of redundant sensor systems](#) 

Autori: Wolfgang Granig, Lisa-Marie Faller, Dirk Hammerschmidt, Hubert Zangl
Pubblicato in: Reliability Engineering & System Safety, Numero 190, 2019, Pagina/e 106522, ISSN 0951-8320
Editore: Elsevier BV
DOI: 10.1016/j.ress.2019.106522

Conference proceedings (73)

[Obstacle Recognition Based on Machine Learning for On-Chip LiDAR Sensors in a Cyber-Physical System](#) 

Autori: Castaño, F., Beruvides, G., Haber, R. E., & Artuñedo, A.
Pubblicato in: Sensors, Numero 17/9, 2017, Pagina/e 2109, ISSN 1424-8220
Editore: Multidisciplinary Digital Publishing Institute (MDPI)
DOI: 10.3390/s17092109

[Optical simulation of time-of-flight sensor accuracy in rain](#) 

Autori: Marcus Baumgart, Cristina Consani, Markus Dielacher, Norbert Druml
Pubblicato in: 2017 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC), 2017, Pagina/e 1-1, ISBN 978-1-5090-6736-7
Editore: IEEE
DOI: 10.1109/CLEOE-EQEC.2017.8086908

[Time-To-Failure Modelling in On-Chip LiDAR Sensors for Automotive Applications](#) 

Autori: Fernando Castaño, Gerardo Beruvides, Rodolfo E. Haber, Alberto Villalonga
Pubblicato in: Proceedings, Numero 1/8, 2017, Pagina/e 809, ISSN 2504-3900
Editore: MDPI
DOI: 10.3390/proceedings1080809

[Safety-critical human detection featuring time-of-flight environment perception](#) 

Autori: Norbert Druml, Bernhard Rutte-Vas, Sandra Wilfling, Cristina Consani, Marcus Baumgart, Thomas Herndl, Gerald Holweg
Pubblicato in: 2017 22nd IEEE International Conference on Emerging Technologies and Factory Automation (ETFA), 2017, Pagina/e 1-7, ISBN 978-1-5090-6505-9
Editore: IEEE
DOI: 10.1109/ETFA.2017.8247647

[Diagnostic coverage estimation method for optimization of redundant sensor systems](#) 

Autori: Wolfgang Granig, Dirk Hammerschmidt, Hubert Zangl
Pubblicato in: 2017 IEEE SENSORS, 2017, Pagina/e 1-3, ISBN 978-1-5090-

1012-7

Editore: IEEE

DOI: 10.1109/ICSENS.2017.8234088

[Considerations on pre-stress in a 3D-printed capacitive force/pressure sensor](#)

Autori: Lisa-Marie Faller, Hubert Zangl

Pubblicato in: 2017 18th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE), 2017, Pagina/e 1-6, ISBN 978-1-5090-4344-6

Editore: IEEE

DOI: 10.1109/EuroSimE.2017.7926279

[3DInkPack—Inkjet Printing of Discrete Sensor Packages for Advanced Rapid Prototyping](#)

Autori: Matic Krivec, Ali Roshanghias, Alfred Binder

Pubblicato in: Proceedings, Numero 1/4, 2017, Pagina/e 609, ISSN 2504-3900

Editore: MDPI

DOI: 10.3390/proceedings1040609

["A novel silicon ""star-comb"" microphone concept for enhanced signal-to-noise-ratio: Modeling, design and first prototype"](#)

Autori: Johannes Manz, Gabriele Bosetti, Alfons Dehe, Gabriele Schrag

Pubblicato in: 2017 19th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS), 2017, Pagina/e 67-70, ISBN 978-1-5386-2732-7

Editore: IEEE

DOI: 10.1109/TRANSDUCERS.2017.7993989

Adaptive Petri Nets – A Petri Net Extension for Reconfigurable Structures

Autori: Carl Mai, René Schöne, Johannes Mey, Thomas Kühn, Uwe Aßmann

Pubblicato in: Thinkmind, 2018, Pagina/e 15-23, ISBN 978-1-61208-610-1

Editore: IARIA

[Evolving fuzzy models for myoelectric-based control of a prosthetic hand](#)

Autori: Radu-Emil Precup, Teodor-Adrian Teban, Thiago Eustaquio Alves de Oliveira, Emil M. Petriu

Pubblicato in: 2016 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), 2016, Pagina/e 72-77, ISBN 978-1-5090-0626-7

Editore: IEEE

DOI: 10.1109/FUZZ-IEEE.2016.7737670

[SystemC Test Case Generation with the Gazebo Simulator](#)

Autori: Thomas W. Pieber, Thomas Ulz, Christian Steger

Pubblicato in: Proceedings of the 7th International Conference on Simulation and Modeling Methodologies, Technologies and Applications, 2017, Pagina/e

65-72, ISBN 978-989-758-265-3

Editore: SCITEPRESS - Science and Technology Publications

DOI: 10.5220/0006404800650072

[Sneakernet on wheels: Trustworthy NFC-based robot to machine communication](#)

Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Sarah Haas, Rainer Matischek

Pubblicato in: 2017 IEEE International Conference on RFID Technology & Application (RFID-TA), 2017, Pagina/e 260-265, ISBN 978-1-5386-1833-2

Editore: IEEE

DOI: 10.1109/RFID-TA.2017.8098906

[Bring your own key for the industrial Internet of Things](#)

Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Sarah Haas, Holger Bock, Rainer Matischek

Pubblicato in: 2017 IEEE International Conference on Industrial Technology (ICIT), 2017, Pagina/e 1430-1435, ISBN 978-1-5090-5320-9

Editore: IEEE

DOI: 10.1109/ICIT.2017.7915575

[Prognostics & health management for LED-based applications](#)

Autori: W.D. van Driel, B. Jacobs, D. Schenkelaars, M. Klompenhouwer, R. Poelma, B. El Mansouri, L.M. Middelburg

Pubblicato in: 2017 18th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE), 2017, Pagina/e 1-4, ISBN 978-1-5090-4344-6

Editore: IEEE

DOI: 10.1109/EuroSimE.2017.7926293

[Hardware Secured, Password-based Authentication for Smart Sensors for the Industrial Internet of Things](#)

Autori: Thomas W. Pieber, Thomas Ulz, Christian Steger, Rainer Matischek

Pubblicato in: 2017, Pagina/e 632-642

Editore: Springer International Publishing

DOI: 10.1007/978-3-319-64701-2_50

[Analyzing Computer Vision Data — The Good, the Bad and the Ugly](#)

Autori: Oliver Zendel, Katrin Honauer, Markus Murschitz, Martin Humenberger, Gustavo Fernandez Dominguez

Pubblicato in: 2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2017, Pagina/e 6670-6680, ISBN 978-1-5386-0457-1

Editore: IEEE

DOI: 10.1109/CVPR.2017.706

[Exponential pattern recognition for deriving air change rates from CO₂ data](#)

Autori: Florian Wenig, Peter Klanatsky, Christian Heschl, Cristinel Mateis, Nickovic Dejan

Pubblicato in: 2017 IEEE 26th International Symposium on Industrial Electronics (ISIE), 2017, Pagina/e 1507-1512, ISBN 978-1-5090-1412-5

Editore: IEEE

DOI: 10.1109/ISIE.2017.8001469

[SECURECONFIG: NFC and QR-code based hybrid approach for smart sensor configuration](#)

Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Christian Lesjak, Holger Bock, Rainer Matischek

Pubblicato in: 2017 IEEE International Conference on RFID (RFID), 2017, Pagina/e 41-46, ISBN 978-1-5090-4576-1

Editore: IEEE

DOI: 10.1109/RFID.2017.7945585

[Industrial cyber-physical system for condition-based monitoring in manufacturing processes](#)

Autori: Alberto Villalonga, Gerardo Beruvides, Fernando Castano, Rodolfo Haber

Pubblicato in: 2018 IEEE Industrial Cyber-Physical Systems (ICPS), 2018, Pagina/e 637-642, ISBN 978-1-5386-6531-2

Editore: IEEE

DOI: 10.1109/icphys.2018.8390780

[PROCEDURE ENABLING SIMULATION AND IN-DEPTH ANALYSIS OF OPTICAL EFFECTS IN CAMERA-BASED TIME-OF-FLIGHT SENSORS](#)

Autori: M. Baumgart, N. Druml, M. Consani

Pubblicato in: ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Numero XLII-2, 2018, Pagina/e 83-89, ISSN 2194-9034

Editore: ISPRS TC II Symposium

DOI: 10.5194/isprs-archives-xlii-2-83-2018

[Time-of-Flight Cameras for Parking Assistance: A Feasibility Study](#)

Autori: Josef Steinbaeck, Norbert Druml, Allan Tengg, Christian Steger, Bernhard Hillbrand

Pubblicato in: 2018 12th International Conference on Advanced Semiconductor Devices and Microsystems (ASDAM), 2018, Pagina/e 1-4, ISBN 978-1-5386-7490-1

Editore: IEEE

DOI: 10.1109/asdam.2018.8544683

[Distributed massive MIMO for estimation of a correlated source vector in sensor networks](#)

Autori: Jordi Serra, David Pubill, Christos Verikoukis

Pubblicato in: 2017 IEEE International Symposium on Signal Processing and Information Technology (ISSPIT), 2017, Pagina/e 163-167, ISBN 978-1-5386-4662-5

Editore: IEEE

DOI: 10.1109/isspit.2017.8388635

[Countering Intelligent Dependent Malicious Nodes in Target Detection Wireless Sensor Networks](#)

Autori: Saud Althunibat, Angelos Antonopoulos, Elli Kartsakli, Fabrizio Granelli, Christos Verikoukis

Pubblicato in: IEEE Sensors Journal, 2016, Pagina/e 1-1, ISSN 1530-437X

Editore: Institute of Electrical and Electronics Engineers

DOI: 10.1109/jsen.2016.2606759

[Color maintenance prediction for LED-based products](#)

Autori: W. D. van Driel, J.G.J. Beijer, J.W. Bikker, C.H.M. van Blokland, C. Ankomah, B. Jacobs

Pubblicato in: 2018 19th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE), 2018, Pagina/e 1-6, ISBN 978-1-5386-2359-6

Editore: IEEE

DOI: 10.1109/eurosime.2018.8369875

[Harvesting artificial light indoors to power perpetually a Wireless Sensor Network node](#)

Autori: David Pubill, Jordi Serra, Christos Verikoukis

Pubblicato in: 2018 IEEE 23rd International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD), 2018, Pagina/e 1-6, ISBN 978-1-5386-6151-2

Editore: IEEE

DOI: 10.1109/camad.2018.8514995

[Misbehavior detection in the Internet of Things: A network-coding-aware statistical approach](#)

Autori: Angelos Antonopoulos, Christos Verikoukis

Pubblicato in: 2016 IEEE 14th International Conference on Industrial Informatics (INDIN), 2016, Pagina/e 1024-1027, ISBN 978-1-5090-2870-2

Editore: IEEE

DOI: 10.1109/indin.2016.7819313

[Multifunctional Nanoparticles-Key for Optimizing Chemical Nanosensors](#)

Autori: A. Kock, M. Deluca, F. Sosada-Ludwikowska, R. Wimmer-Teubenbacher, E. Lackner, K. Rohrer, E. Wachmann, J. S. Niehaus, S. Becker, S. Steinhauer, M. Sowwan, V. Singh, O. Tokmak

Pubblicato in: 2018 12th International Conference on Advanced Semiconductor Devices and Microsystems (ASDAM), 2018, Pagina/e 1-5, ISBN 978-1-5386-

7490-1

Editore: IEEE

DOI: 10.1109/asdam.2018.8544608

[Advanced Technology Processes for Manufacturing of SnO₂ and NiO-Based Gas Sensors and Their Properties](#)

Autori: R. Wimmer-Teubenbacher, S. Defregger, R. Boiger, A. Kock, I. Hotovy, M. Mikolasek, M. Predanocy, G. Toschkoff

Pubblicato in: 2018 12th International Conference on Advanced Semiconductor Devices and Microsystems (ASDAM), 2018, Pagina/e 1-5, ISBN 978-1-5386-7490-1

Editore: IEEE

DOI: 10.1109/asdam.2018.8544639

[Temperature Modulated Operation of SnO₂-Based Gas Sensor Arrays](#)

Autori: Romana Boiger, Stefan Defregger, Anton Kock, Manfred Mucke, Robert Wimmer-Teubenbacher, Gregor Toschkoff

Pubblicato in: 2018 12th International Conference on Advanced Semiconductor Devices and Microsystems (ASDAM), 2018, Pagina/e 1-4, ISBN 978-1-5386-7490-1

Editore: IEEE

DOI: 10.1109/asdam.2018.8544491

Nanoindentation and Coupled Finite Element Analysis for Robustness and Design Evaluation of MEMS-Microphones

Autori: Albrecht, J., Weissbach, M., Vobl, M., Krumbein, U., & Rzepka, S

Pubblicato in: Nanoindentation and Coupled Finite Element Analysis for Robustness and Design Evaluation of MEMS-Microphones, 2018, Pagina/e 225, ISBN 978-1-5386-7488-8

Editore: IEEE

[Lumen maintenance prediction for LEDs — New insights](#)

Autori: B. Jacobs, W. D. van Driel, M. Schuld

Pubblicato in: 2018 19th International Conference on Thermal, Mechanical and Multi-Physics Simulation and Experiments in Microelectronics and Microsystems (EuroSimE), 2018, Pagina/e 1-4, ISBN 978-1-5386-2359-6

Editore: IEEE

DOI: 10.1109/eurosime.2018.8369895

[Smart Sensing of Pavement Temperature Based on Low-Cost Sensors and V2I Communications](#)

Autori: Jorge Godoy, Rodolfo Haber, Juan Muñoz, Fernando Matía, Álvaro García

Pubblicato in: Sensors, Numero 18/7, 2018, Pagina/e 2092, ISSN 1424-8220

Editore: Multidisciplinary Digital Publishing Institute (MDPI)

DOI: 10.3390/s18072092

[Investigating Intense Rainfall Influence on Distance Measurement with a Time-of-Flight Camera Sensor Using Optical Ray-Tracing Simulation Technique](#)

Autori: Marcus Baumgart, Norbert Druml, Markus Dielacher, Cristina Consani

Pubblicato in: Proceedings, Numero 2/13, 2018, Pagina/e 1056, ISSN 2504-3900

Editore: MDPI

DOI: 10.3390/proceedings2131056

[Adaptable Emergency Braking Based on a Fuzzy Controller and a Predictive Model](#)

Autori: Leonardo Gonzalez Alarcon, Myriam Elizabeth Vaca Recalde, Mauricio Marcano, Enrique Marti

Pubblicato in: 2018 IEEE International Conference on Vehicular Electronics and Safety (ICVES), 2018, Pagina/e 1-6, ISBN 978-1-5386-3543-8

Editore: IEEE

DOI: 10.1109/icves.2018.8519586

[Modelling an Optical Time-of-Flight Camera in OpticStudio and Python: Method and Applications](#)

Autori: M. Baumgart, N. Druml, M. Dielacher, C. Consani

Pubblicato in: 2018 12th International Conference on Advanced Semiconductor Devices and Microsystems (ASDAM), 2018, Pagina/e 1-2, ISBN 978-1-5386-7490-1

Editore: IEEE

DOI: 10.1109/asdam.2018.8544507

[Automated Authentication Credential Derivation for the Secured Configuration of IoT Devices](#)

Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Andrea Holler, Sarah Haas, Rainer Matischek

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Editore: IEEE

DOI: 10.1109/sies.2018.8442106

[QSNFC: Quick and secured near field communication for the Internet of Things](#)

Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Sarah Haas, Rainer Matischek

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Editore: IEEE

DOI: 10.1109/rfid.2018.8376190

[Virtual White Cane Featuring Time-of-Flight 3D Imaging Supporting Visually Impaired Users](#)

Autori: Norbert Druml, Thomas Pietsch, Markus Dielacher, Christian Steger, Marcus Baumgart, Cristina Consani, Thomas Herndl, Gerald Holweg
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Editore: IEEE
DOI: 10.1109/dsd.2018.00081

[Towards wireless industrial control over 6TiSCH networks](#)

Autori: Thang Phan Duy
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Editore: ACM Press
DOI: 10.1145/3278161.3278164

[Modeling of an out-of-plane capacitive MEMS transducer with dynamically coupled electrodes](#)

Autori: Gabriele Bosetti, Johannes Manz, Gabriele Schrag, Alfons Dehe
Pubblicato in: 2017 Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP), 2017, Pagina/e 1-5, ISBN 978-1-5386-2952-9
Editore: IEEE
DOI: 10.1109/dtip.2017.7984459

[Non-Linear Bulk Micromachined Accelerometer for High Sensitivity Applications](#)

Autori: L.M. Middelburg, B. El Mansouri, Rene Poelma, G.Q. Zhang, Henk Van Zeijl, Jia Wei
Pubblicato in: 2018 IEEE SENSORS, 2018, Pagina/e 1-4, ISBN 978-1-5386-4707-3
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[Designing a 100 \[aF/nm\] capacitive transducer](#)

Autori: L. M. Middelburg, B. El Mansouri, R. H. Poelma, H. W. van Zeijl, J. Wei, G. Q. Zhang, W. D. van Driel
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Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Sarah Haas, Rainer Matischek
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Autori: Wolfgang Granig, Slimane Aoudjit, Lisa Marie Faller, Hubert Zangl

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Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Rainer Matischek, Holger Bock

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Autori: Uwe Aßmann, Dominik Grzelak, Johannes Mey, Dmytro Pukhkaiev, René Schöne, Christopher Werner, Georg Püschel

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[Modeling high signal-to-noise ratio in a novel silicon MEMS microphone with comb readout](#)

Autori: Johannes Manz, Alfons Dehe, Gabriele Schrag

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Autori: Wolfgang Granig, Friedrich Rasbornig, Dirk Hammerschmidt, Mario Motz, Thomas Zettler, Michael Strasser, Alessandro Michelutti

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[Smart Systems Everywhere – Intelligence, Autonomy, Technology and Society](#)

Autori: Erwin Schoitsch

Pubblicato in: Schriftenreihe Informatik, Numero 47, 2018, Pagina/e 153-165, ISBN 978-3-99062-339-8

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Mechanical Characterization of MEMS-Microphones by Means of Nanoindentation and Coupled Finite Element Analysis. Electronics Packaging Technology Conference (EPTC)

Autori: Albrecht, J., Weissbach, M., Vobl, M., Krumbein, U., & Rzepka, S.

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Autori: Grzelak, D., Mey, J., & Aßmann, U.

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Autori: Mikolášek, M., Ondrejka, P., Chymo, F., Řeháček, V., Predanocy, M., Kostič, I., & Hotový, I.

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[Hardware-Secured Configuration and Two-Layer Attestation Architecture for Smart Sensors](#) 

Autori: Thomas Ulz, Thomas Pieber, Christian Steger, Sarah Haas, Rainer Matischek, Holger Bock

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Editore: IEEE

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Challenges of mounting magnetic materials in electronics

Autori: Mueller, J.

Pubblicato in: 2018

Editore: SEMICON Europa

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applications""

Autori: Dehe, A.

Pubblicato in: 2017

Editore: SPIE Micro Technologies Conference

Packaging of MEMS – Integrating MEMS and ICs

Autori: Theuss, H.

Pubblicato in: 2017

Editore: Aalto Universit

Packaging for MEMS and Sensors

Autori: Theuss, H.

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Editore: IEMT

Additive-manufactured organic interposers by using mono- and bi-material 3D printing technologies; active interposers with added features.

Autori: Ali Roshanghias, Matic Krivec, Jochen Bardong, Alfred Binder

Pubblicato in: 2020

Editore: NYP

Exploring wavelet coefficients as robust features in TCO MOx gas sensor signal processing

Autori: Boiger, R., Defregger, S., Grbic, M., Köck, A., Mücke, M., Wimmer-Teubenbacher, R., & Zaragoza Travieso, B.

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[Towards a Software Architecture for Near Real-time Applications of IoT](#) 

Autori: Dominik Grzelak, Carl Mai, Uwe Aßmann

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Novel Cu₂O gas sensor prepared by potentiostatic electrodeposition on IDE electrodes.

Autori: Mikolasek, M., Meri, J., Chymo, F., Ondrejka, P., Rehacek, V., Predanocy, M., . . . Hotovy, I

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Automatic Integration of Transducers in ROS via Transducer Electronic Data Sheets

Autori: Mitterer, T., & Zangl, H.

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Editore: Not Published Yet

Transducer Electronic Data Sheets on Smart Ultra Low Power Devices

Autori: Mitterer, T., & Zangl, H.

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Editore: Not Published Yet

Indoor light lamp energy harvesting for WSN: a prototype

Autori: o. A.

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Post processing of a SiN-based photonic stack above a CMOS imager sensor

Autori: Pham, N. P., Du Bois, B., Van Hoof, R., Winderickx, G., Tyagi, H. K., Sabuncuoglu, D., & Tilmans, H. A.

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Autori: Predanocy, M., Hotový, I., Mikolášek, M., Botcher, R., & Spiess, L

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Car parking assistance based on Time-of-Flight camera

Autori: TECNALIA + VIF

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A MEMS Microphone in a Fan-Out Wafer Level Package

Autori: Theuss, H. et al.

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Autori: Ulz, T., Pieber, T., Steger, C., Haas, S., & Maticsek, R.

Pubblicato in: IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2018, 2020

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CMOS integrable Metal-oxide based CO₂ gas sensing

Autori: Wimmer-Teubenbacher, R., Sosada-Ludwikowska, F., Defregger, S., & Köck, A.

Pubblicato in: Eurosensors 2018 Conference on Digital System Design (DSD),

2020

Editore: Not Published Yet

A Complete Framework for Developing and Testing Automated Driving Controllers

Autori: Ray Lattarulo (TECNALIA), Joshue Perez (TECNALIA), Martin Dendaluze (TECNALIA)

Pubblicato in: IFAC 2017 Conference, Numero July 9-12, 2017, 2017

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SecureConfig: NFC and QR-Code based Hybrid Approach for Smart Sensor Configuration.

Autori: Thomas ULZ (TUG), Christian STEGER (TUG), Holger BOCK (IFAT), Thomas RUPRECHTER (IFAT)

Pubblicato in: IEEE RFID 2017, Numero May 9-11, 2017, 2017

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[Safety and Security in a Smart Production Environment](#)

Autori: Reinhard Kloibhofer, Erwin Kristen, Stefan Jakšić

Pubblicato in: Developments in Language Theory - 22nd International Conference, DLT 2018, Tokyo, Japan, September 10-14, 2018, Proceedings, Numero 11088, 2018, Pagina/e 190-201, ISBN 978-3-319-98653-1

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[Implementation of an SDN-Enabled 5G Experimental Platform for Core and Radio Access Network Support](#)

Autori: Kostas Ramantas, Elli Kartsakli, Mikel Irazabal, Angelos Antonopoulos, Christos Verikoukis

Pubblicato in: Interactive Mobile Communication Technologies and Learning, Numero 725, 2018, Pagina/e 791-796, ISBN 978-3-319-75174-0

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DOI: 10.1007/978-3-319-75175-7_77

[Quality of Service Provisioning in High-Capacity 5G Fronthaul/Backhaul Networks](#)

Autori: John S. Vardakas, Elli Kartsakli, Sotirios Papaioannou, George Kalfas, Nikos Pleros, Angelos Antonopoulos, Christos Verikoukis

Pubblicato in: Interactive Mobile Communication Technologies and Learning, Numero 725, 2018, Pagina/e 797-804, ISBN 978-3-319-75174-0

Editore: Springer International Publishing

DOI: 10.1007/978-3-319-75175-7_78

[Using Gazebo to Generate Use Case Based Stimuli for SystemC](#) 

Autori: Thomas W. Pieber, Thomas Ulz, Christian Steger

Pubblicato in: Simulation and Modeling Methodologies, Technologies and Applications - 7th International Conference, SIMULTECH 2017 Madrid, Spain, July 26–28, 2017 Revised Selected Papers, Numero 873, 2019, Pagina/e 241-256, ISBN 978-3-030-01469-8

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-01470-4_13

[Smart Systems Everywhere–how much smartness is tolerable?](#) 

Autori: Erwin Schoitsch

Pubblicato in: Schriftenreihe Informatik, Numero 46, 2017, Pagina/e 361-374, ISBN 978-3-99062-119-6

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[Reliability of IoT Sensor Systems: New Methods for the Efficient and Comprehensive Reliability Assessment](#) 

Autori: J. Albrecht, G. Gadhiya, S. Rzepka

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Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_11

[Electro-Thermal-Mechanical Modeling of Gas Sensor Hotplates](#) 

Autori: Raffaele Coppeta, Ayoub Lahlalia, Darjan Kozic, René Hammer, Johann Riedler, Gregor Toschkoff, Anderson Singulani, Zeeshan Ali, Martin Sagmeister, Sara Carniello, Siegfried Selberherr, Lado Filipovic

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Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_2

[Multipath Ray-Tracing-Based Modelling of Time-of-Flight Cameras - Method and Application to Semi-Transparent and Scattering Media](#) 

Autori: Marcus Baumgart, Norbert Druml, Cristina Consani

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Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_4

[A Smartphone-Based Virtual White Cane Prototype Featuring Time-of-Flight 3D Imaging](#) 

Autori: Norbert Druml, Thomas Pietsch, Marcus Baumgart, Cristina Consani, Thomas Herndl, Gerald Holweg

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Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_6

Sensor System Optimization under Uncertainty - Sensor System Solutions

Autori: Granig, W., Faller, L.-M., Zangl, H.

Pubblicato in: 2020

Editore: Springer

[A Software Toolkit for Complex Sensor Systems in Fog Environments](#)

Autori: Dominik Grzelak, Carl Mai, René Schöne, Jan Falkenberg, Uwe Aßmann

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Pagina/e 253-282, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_9

[Integrated Photonic Microsystems](#)

Autori: J. Kjellman, N. Hosseini, Jeong Hwan Song, T. Tongnyuy, S. Dwivedi, B. Troia, B. Figeys, S. Kerman, A. Stassen, P. Neutens, S. Severi, R. Jansen, P. Soussan, S. S. Saseendran, A. Marinins, X. Rottenberg

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020,
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Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_15

[Ultraviolet Sensing in WBG: SiC](#)

Autori: B. El Mansouri, W. D. van Driel, G. Q. Zhang

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020,
Pagina/e 397-425, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_14

[From Si Towards SiC Technology for Harsh Environment Sensing](#)

Autori: L. M. Middelburg, W. D. van Driel, G. Q. Zhang

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020,
Pagina/e 1-15, ISBN 978-3-030-16576-5

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DOI: 10.1007/978-3-030-16577-2_1

[Sensor Testing for Smart Mobility Scenarios: From Parking Assistance to Automated Parking](#)

Autori: J. Murgoitio Larrauri, E. D. Martí Muñoz, M. E. Vaca Recalde, B. Hillbrand, A. Tengg, Ch. Pilz, N. Druml

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020,

Pagina/e 331-365, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_12

[Model-Based Design of Secured Power Aware Smart Sensors](#)

Autori: Thomas Wolfgang Pieber, Thomas Ulz, Christian Steger

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020, Pagina/e 227-251, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_8

[Power Consumption Minimization of Wireless Sensor Networks in the Internet of Things Era](#)

Autori: Jordi Serra, David Pubill, Christos Verikoukis

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020, Pagina/e 201-226, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_7

[Miniaturized Photoacoustic Gas Sensor for CO₂](#)

Autori: Horst Theuss, Stefan Kolb, Matthias Eberl, Rainer Schaller

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020, Pagina/e 73-92, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_3

[Health Monitoring for Lighting Applications](#)

Autori: W. D. van Driel, L. M. Middelburg, B. El Mansouri, B. J. C. Jacobs

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020, Pagina/e 367-395, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_13

[Computational Intelligence for Simulating a LiDAR Sensor - Cyber-Physical and Internet-of-Things Automotive Applications](#)

Autori: Fernando Castaño, Gerardo Beruvides, Alberto Villalonga, Rodolfo E. Haber

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020, Pagina/e 149-178, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_5

[Sensor System Optimization Under Uncertainty](#)

Autori: Wolfgang Granig, Lisa-Marie Faller, Hubert Zangl

Pubblicato in: Sensor Systems Simulations - From Concept to Solution, 2020,

Pagina/e 283-316, ISBN 978-3-030-16576-5

Editore: Springer International Publishing

DOI: 10.1007/978-3-030-16577-2_10

Monographic books (2)

[Simulation and Modeling Methodologies, Technologies and Applications - 7th International Conference, SIMULTECH 2017 Madrid, Spain, July 26–28, 2017 Revised Selected Papers](#) 

Autori: Thomas Wolfgang Pieber, Thomas Ulz, Christian Steger

Pubblicato in: 2019, ISBN 978-3-030-01470-4

Editore: Springer

DOI: 10.1007/978-3-030-01470-4

[Sensor Systems Simulations - From Concept to Solution](#) 

Autori: Van Driel, W.D., Pyper, O., Schumann, C.

Pubblicato in: 2020, ISBN 978-3-030-16577-2

Editore: Springer

DOI: 10.1007/978-3-030-16577-2

Diritti di proprietà intellettuale

Utility model (2)

IoTemp (Industrial Property Office of the Slovak Republic) - in the future increase to EU level (potentially)

Numero candidatura/pubblicazione: SK 8459

Data: 2017-10-25

Candidato/i: POWERTEC SRO

Smart parking sensor (Industrial Property Office of the Slovak Republic) - in the future increase to EU level (potentially)

Numero candidatura/pubblicazione: SK 271-2017

Data: 2017-12-08

Candidato/i: POWERTEC SRO

Registered design (1)

Smart parking sensor (Industrial Property Office of the Slovak Republic) - in the future increase to EU level (potentially)

Numero candidatura/pubblicazione: SK 28513

Data: 2017-12-08

Candidato/i: POWERTEC SRO

Ultimo aggiornamento: 12 Settembre 2023

Permalink: <https://cordis.europa.eu/project/id/692480/results/it>

European Union, 2025