

Special Sessions Program

(WEDST – Western European Daylight Savings Time, Local Time in Aveiro)

San Francisco	New York	Aveiro	Rome	New Delhi	Beijing
00:30h-02:30h PDST	03:30h-05:30h EDST	08:30h-10:30h WEDST	09:30h-11:30h CEST	13:00h-15:00h IST	15:30h-17:30h CT
03:00h-05:00h PDST	06:00h-08:00h EDST	11:00h-13:00h WEDST	12:00h-14:00h CEST	17:30h-19:30h IST	20:00h-22:00h CT
06:00h-08:00h PDST	09:00h-11:00h EDST	14:00h-16:00h WEDST	15:00h-17:00h CEST	20:30h-22:30h IST	23:00h-01:00h CT (Next Day)
08:30h-10:30h PDST	11:30h-13:30h EDST	16:30h-18:30h WEDST	17:30h-19:30h CEST	23:00h-01:00h IST (Next Day)	01:30h-03:30h CT (Next Day)

Spes-01	<u><i>“Future Platforms for Cloud-Edge Continuum – Theoretical Foundations and Practical Considerations”</i></u>		
Organizers	<ul style="list-style-type: none"> • Marcin Paprzycki - Systems Research Institute Polish Academy of Sciences, Warsaw, Poland • Rajkumar Buyya - The University of Melbourne, Melbourne, Australia • Tarik Taleb - The University of Oulu, Oulu, Finland • Maria Ganzha - Warsaw University of Technology and Systems Research Institute, Warsaw, Poland • Carlos Palau - Universitat Politècnica de Valencia, Valencia, Spain • Levent Gürgen – Kentyou, Grenoble, France 		
Spes-01 - Session 1			<i>Session 1: Future Platforms for Cloud-Edge Continuum</i>
Monday October 16 11:00-13:00 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)	1441		<i>“Towards autonomous configuration management for IoT ecosystems.”</i> , Piotr Lewandowski ¹ , Wieslaw Pawlowski ² , Marcin Paprzycki ¹ , Maria Ganzha ¹ , and Ignacio Lacalle Ubeda ³ ; (1) Polish Academy of Sciences, Warsaw, Poland; (2) University of Gdansk, Gdansk, Poland; (3) Universitat Politècnica de Valencia, Valencia, Spain.
Room 5	1275		<i>“Design Concepts of the ASSIST-IoT Smart Orchestrator for Managing the Realization of NGIoT Systems.”</i> , Alejandro Fornés-Leal ¹ , Francisco Mahedero Biot ¹ , Rafael Vaño ¹ , Raúl Reinosa Simón ¹ , Pawel Szymeja ² , Ignacio Lacalle ¹ , and Carlos Enrique Palau ¹ ; (1) Universitat Politècnica de València, Valencia, Spain; (2) Polish Academy of Sciences, Warsaw, Poland.
	1346		

		1311	<p>“Emerging IoT Applications and Architectures for Smart Maritime Container Terminals.”, Michalis Michaelides¹, Sheraz Aslam¹, Herodotos Herodotou¹, Eduardo Garro², Álvaro Martínez-Romero², María A. Burgos², Alessandro Cassera³, George Papas³, and Petros Dias³; (1) Cyprus University of Technology, Limassol, Cyprus; (2) Prodevelop S.L., Valencia, Spain; (3) Eurogate Container Terminal, Limassol, Cyprus.</p> <p>“A novel approach to self-* capabilities in IoT industrial automation computing continuum.”, Ignacio Lacalle¹, Salvador Cuñat¹, Andreu Belsa¹, Rafael Vaño¹, Raúl S-Julián¹, Philippe Buschmann², José Eduardo Fontalvo-Hernández², Korbinian Pfab², Renzo Bazan², Florian Gramß², Katarzyna Wasielewska-Michniewska³, and Carlos Enrique Palau¹; (1) Universitat Politècnica de València, Valencia, Spain; (2) SIEMENS AG, Nuremberg, Bavaria, Germany; (3) Systems Research Institute Polish Academy of Sciences, Warsaw, Poland.</p>
Spes-02	<u>“Special Session on Cybersecurity Issues of IoT in Ambient Intelligence Environment (2nd Edition)”</u>		
	Organizers		<ul style="list-style-type: none"> • Abdellah Chehri - Royal Military College of Canada, Kingston, Ontario, Canada • Gwanggil Jeon - Incheon National University, Incheon, Korea • Imran Ahmed - Anglia Ruskin University, Cambridge, UK • Muhammad Zeeshan Shakir - University of the West of Scotland, Paisley, Scotland, UK
	<p>Spes-02 - Session 1</p> <p>Tuesday October 17 08:30-10:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>1158</p> <p>1372</p> <p>1293</p>	<p>Session 1: Privacy, Efficiency and Anomaly Detection in IoT</p> <p>“Design and Implementation of a Simple Wireless Battery Monitoring System for Photovoltaic Applications.”, Roger Martin Crowter, and Nagham Saeed; University of West London, West Ealing, England, UK.</p> <p>Federated Learning for IoT Networks: Enhancing Efficiency and Privacy, Sofia Zahri¹, Hajar Bennouri², Abdellah Chehri³, and Ahmed Mohamed Abdelmoniem Sayed¹; (1) Queen Mary University of London, London, UK; (2) Technological University Dublin, Dublin, Ireland; and (3) Royal Military College of Canada, Kingston, Ontario, Canada.</p> <p>“SIMAGRO: A prototype for network anomaly detection in agrifood IoT environments”, Roberto Magán Carrión¹, Marta Fuentes García², Celia Fernández Rosales², and Patricia Maldonado Mancilla²; (1) University of Granada, Grenada, Spain; and (2) COSCYBER Fidesol, Granada, Spain.</p>
	Spes-02 - Session 2		Session 2: Enhancing Security in IoT

	<p>Tuesday October 17 11:00-13:00 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>1285</p> <p>1307</p> <p>1056</p>	<p><i>“Predictive Maintenance and Time Series Analysis for Equipment Failure”</i>, Muhammad Zia Ur Rehman¹, Abdellah Chehri²; and Anand Paul¹; (1) Kyungpook National University, Daegu, South Korea; and (2) Royal Military College of Canada, Kingston, Canada.</p> <p><i>“Enhancing Security in Ambient Intelligence: A STRIDE Threat Modeling Perspective”</i>, Md Ismail Hossain, and Ragib Hasan; University of Alabama at Birmingham, Birmingham, Alabama, USA.</p> <p><i>“Rediscovering Fraud Detection in Bitcoin Transactions Using Machine Learning Models”</i>, Fernando Martinez¹, Mohamed Rahouti¹, Abdellah Chehri², Mohammad Ruhul Amin¹, and Nasir Ghani³; (1) Fordham University, New York, New York, USA; (2) Royal Military College of Canada, Kingston, Ontario, Canada; and (3) University of South Florida, Tampa, Florida, USA.</p>
Spes-03	<u>“Advances on the Internet of Biological and medical things (AdIoBMT)”</u>		
Organizers	<ul style="list-style-type: none"> • Maria Fatima Domingues - Khalifa University, Abu Dhabi, UAE • Andrea Sciarrone - University of Genoa, Genoa, Italy 		
<p>Spes-03 - Session 1</p> <p>Tuesday October 17 16:30-18:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>Pres</p> <p>1443</p> <p>1418</p> <p>1286</p> <p>1149</p>	<p>Session 1: Advances on the Internet of Biological and Medical Things (AdIoBMT)</p> <p>Invited Speaker: “The Future of eHealth: Trends and Challenges in IoT based Applications”, Chiara Garibotto, Digital Signal Processing (DSP) Laboratory - DITEN, University of Genoa, Genoa, Italy</p> <p>“Selective Lead Integration: Enhancing ECG Classification for Effective Cardiac Monitoring”, Khalid Elgazzar, and Ahmad Mousa; Ontario Tech University, Oshawa, Ontario, Canada.</p> <p>“FBGs based solution for handgrip fine skills force evaluation.”, Maria de Fatima Domingues¹, Matilde Rocha², Nelia Alberto², and Paulo Antunes³; (1) Khalifa University, Abu Dhabi, UAE; (2) Instituto de Telecomunicações, Aveiro, Portugal; and (3) University of Aveiro, Aveiro, Portugal.</p> <p>“A Digital Twin Framework for Personalized Healthcare Management Services”, Hikmat Ullah, Najah AbuAli, and Mohammed Hayajneh; College of Information Technology, United Arab Emirates University, Abu Dhabi, UAE.</p> <p>“Improving Security Practices in Health Information Systems with STRIDE threat modeling.”, Md Ismail Hossain, and Ragib</p>	

			Hasan; University of Alabama at Birmingham, Birmingham, Alabama, USA.
Spes-04	<u>“Software Engineering for the Industrial Internet of Things”</u>		
	Organizers		<ul style="list-style-type: none"> • Rui Pinto - Faculty of Engineering of the University of Porto, Porto, Portugal • Gil Gonçalves - Faculty of Engineering of the University of Porto, Porto, Portugal • Pedro Miguel Baptista Torres - Polytechnic Institute of Castelo Branco, Castelo Branco, Portugal • Paulo Leitão - Polytechnic Institute of Bragança, Bragança, Portugal
	Spes-04 - Session 1 Wednesday October 18 08:30-10:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online) Room 5	 <i>1313</i> <i>1332</i> <i>1303</i> <i>1167</i>	<i>Session 1: Software Engineering for the Industrial Internet of Things</i> <i>“A Low-Cost Solution for Assets Location Tracking Based on LoRaWAN Networks”</i> , Ricardo Severino ¹ , António Serrador ¹ , Nuno Datia ^{1,2} , Rogério Campos-Rebello ^{3,4,5} , and José Machado ³ ; (1) Lisbon School of Engineering(ISEL), Polytechnic University of Lisbon, Lisboa, Portugal; (2) NOVALINCS, NOVA School of Science and Technology, Monte da Caparica, Portugal; (3) CTT-Correios de Portugal S.A, Lisboa, Portugal; (4) UNINOVA, Center of Technology and Systems, Monte de Caparica, Portugal; and (5) Polytechnic Institute of Beja, School of Technology and Management, Beja, Portugal. <i>“A Blockchain Approach Towards Secure Industrial Internet of Things Management”</i> , Breno Pimentel, and Rui Pinto; Faculty of Engineering, University of Porto, Porto, Portugal. <i>“Digital Factory: An Industrial Case Study for Function Block-Oriented Development”</i> , Gonçalo Pinto ¹ , Alexandre Nunes ¹ , Leandro Silva ¹ , Rui Pinto ² , João Pinheiro ² , and Anabela Ribeiro ³ ; (1) Faculty of Engineering, University of Porto, Porto, Portugal; (2) SYSTEC, ARISE - Faculty of Engineering, University of Porto, Porto, Portugal; and (3) Continental Advanced Antenna, Sociedade Unipessoal, Lda, Vila Real, Portugal. <i>“A Speculative Computing Approach to Accelerate the Task Execution in Cyber-Physical Systems”</i> , Eliseu Pereira, and Gil Gonçalves; Faculty of Engineering of the University of Porto; Porto, Portugal.
Spes-05	<u>“GROWS: 6G-empoweRed iOt netWorkS”</u>		

	Organizers	<ul style="list-style-type: none"> • Daniel Nunes Corujo - Instituto de Telecomunicacoes, Aveiro, Portugal • Håkon Lønsethagen – Telenor Research, Oslo, Norway • Hesitate Kaja – Samsung Electronics, USA
	<p>Spes-05 - Session 1</p> <p>Wednesday October 18 11:00-13:00 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p><i>Session 1: GROWS: 6G-empoweRed iOt netWorkS.</i></p> <p><i>Pres</i> Invited Speaker: “An approach to the new wireless technologies opportunities, by a European SME”, Mario Rui, Wavecom, Aveiro, Portugal.</p> <p><i>1064</i> “A Data Flow Programming Framework for 6G-Enabled Internet of Things Applications”, Gabriele Baldoni^{1,2}, Julien Loudet¹, Carlos Guimarães¹, Sreeja Nair¹, and Angelo Corsaro¹; (1) ZettaScale Technology, Saint Aubin, France; and (2) Universidad Carlos III de Madrid, Madrid, Spain.</p> <p><i>1296</i> “Designing an optimization framework for optimal electrical consumption”, David Ribeiro Santos, and Rui Morais Silva; Instituto de Telecomunicações, Aveiro, Portugal.</p> <p><i>1343</i> “Evaluating Scalable Work Distribution Using IoT Devices in Fog Computing Scenarios”, Stefan Forsstrom and Hans Lindqvist; Department of Computer and Electrical Engineering (DET), Mid Sweden University, Sundsvall, Sweden.</p>
Spes-06	<u>“Internet of Robotic Things”</u>	
	Organizers	<ul style="list-style-type: none"> • Prabha Sundaravadivel - The University of Texas at Tyler, Tyler, Texas, USA • Thinagran Perumal - Universiti Putra Malaysia, Selangor, Malaysia • Soumya Kanti Dutta – Digiotech, Niece, France • Preetha Roselyn - SRM Institute of Science and Technology, Noida, Uttar Pradesh, India
	<p>Spes-06 - Session 1</p> <p>Monday October 16 16:30-17:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p><i>Session 1: Internet of Robotic Things</i></p> <p><i>1353</i> “Joint Traffic and Obstacle-aware UAV Positioning Algorithm for Aerial Networks.”, Kamran Shafafi, André Coelho, Rui Lopes Campos, and Manuel Ricardo; INESC TEC and Faculdade de Engenharia, Universidade do Porto, Porto, Portugal.</p> <p><i>1410</i> “Smart Road Reflector: Enhancing Road Health and Safety through Precise Sensing Technology.”, Md Sharif Ahmed¹, Prabha Sundaravadivel¹, and Lakshman Tamil²; (1) The University of Texas at Tyler, Tyler, Texas, USA; and (2) The University of Texas at Dallas, Richardson, Texas, USA.</p>

		1411	<p>“Multi-Object Detection Using Enhanced Computer Vision Models for Underwater Systems.”, Md Sharif Ahmed¹, Maliha Kabir¹, Parker Wilmoth¹, Prabha Sundaravadivel¹, and Preetha Roselyn²; (1) University of Texas at Tyler, Tyler, Texas, USA; (2) SRM Institute of Science and Technology, Kattankulathur, Chennai, India.</p>
Spes-07	<u>“Navigating the Opportunities and Challenges in Maritime IoT”</u>		
	Organizers		<ul style="list-style-type: none"> • Rui Campos - INESC TEC and Universidade do Porto, Porto, Portugal • Filipe Borges Teixeira - INESC TEC, and Universidade do Porto, Porto, Portugal • Roberto Petroccia - NATO STO-CMRE, Sarzana, Liguria, Italy
	<p>Spes-07 - Session 1</p> <p>Thursday October 19 16:30-17:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>		<p>Session 1: Navigating the Opportunities and Challenges in Maritime IoT</p> <p>1404 “Advancing Offshore Underwater Applications using a Robotic System with Robust Navigation and Virtual Supervision Capabilities.”, Ivan Loncar, Phillipe Santos, and Edin Omerdic; University of Limerick, Limerick, Ireland.</p> <p>1397 “DURIUS: A Multimodal Underwater Communications Approach for Higher Performance and Lower Energy Consumption.”, João Pedro Loureiro, Filipe B. Teixeira, and Rui Campos; INESC TEC and Faculdade de Engenharia, Universidade do Porto, Porto, Portugal.</p> <p>1417 “WELOC: Localizing Equipment in Marinas using Ultrasound.”, Trifun Savic¹, Keoma Brun-Laguna¹, and Thomas Watteyne²; (1) Wattson Elements – Falco, Paris, France; (2) National Institute for Research in Digital Science and Technology (Inria), Paris, France.</p>
Spes-08	<u>“IoT for Agriculture and Aquaculture”</u>		
	Organizers		<ul style="list-style-type: none"> • Stefano Giordano - University of Pisa, Pisa, Italy • Mike O Ojo - Texas A&M University, College Station, Texas • Mehmet Can Vuran - University of Nebraska-Lincoln, Lincoln, Nebraska
	<p>Spes-08 - Session 1</p> <p>Wednesday October 18</p>	1319	<p>Session 1: IoT for Agriculture and Aquaculture</p> <p>“IoT-based Solution to Reduce Waste and Promote a Sustainable Farming Industry.”, Bruno Matheu Moreira Stefanuto¹, Gustavo</p>

	<p>16:30-18:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>1355</p> <p>1421</p> <p>1289</p>	<p>Funchal¹, Victória Melo¹, André Mendes¹, Délio Raimundo², Hélia Gouveia², João Paulo Coelho¹, and Paulo Leitão¹; (1) Instituto Politécnico de Bragança, Bragança, Portugal; (2) Campotec IN, Silveira, Torres Vedras, Portugal.</p> <p><i>“Internet of Things and Artificial Intelligence for Sustainable Agriculture: A Use Case in Citrus Orchards.”</i>, Antonino Pagano^{1,2}, Federico Amato¹, Matteo Ippolito¹, Dario De Caro¹, Daniele Croce^{1,2}, Antonio Motisi¹, Giuseppe Provenzano¹, and Ilenia Tinnirello^{1,2}; (1) Università degli studi di Palermo, Palermo, Italy; (2) CNIT - Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Parma, Italy.</p> <p><i>“A seedling handling system in a hydroponic greenhouse for homogeneous crop growth.”</i>, Giuseppe Caruso, Marialaura Tamburello, Cristian Bua, Davide Adami, and Stefano Giordano; University of Pisa, Pisa, Italy.</p> <p><i>“3D Drone Path Planning Algorithms with Collision Avoidance: Collision Resolution vs. Prevention.”</i>, Rutuja Dilip Shivgan¹, Jorge Medina², Ziqian (Cecilia) Dong¹, and Roberto Rojas-Cessa²; (1) New York Institute of Technology, New York, NY USA; (2) New Jersey Institute of Technology, Newark, New Jersey, USA.</p>
<p>Spes-09</p>	<p><u><i>“LPWAN and 5G/6G-enabled Artificial Intelligence of Things applications for Internet of Ships and Maritime Internet of Things”</i></u></p>		
	<p>Organizers</p>	<ul style="list-style-type: none"> • Ana Maria Drăgulescu - Politehnica University of Bucharest, Bucharest, Romania • Bogdan Ionescu - Politehnica University of Bucharest, Bucharest, Romania • Frank Yong Li - University of Agder, Grimstad, Norway • Octavia Dobre - Memorial University of Newfoundland, St. John's, Canada • Marius Vochin - Politehnica University of Bucharest, Bucharest, Romania 	
	<p>Spes-09 - Session 1</p> <p>Friday October 20 16:30-18:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>1361</p> <p>1379</p>	<p><i>Session 1: LPWAN and 5G/6G-enabled Artificial Intelligence of Things applications for Internet of Ships and Maritime Internet of Things</i></p> <p><i>“Enabling Reinforcement Learning for Network Slice Management in Multi-Agent 5G Networks.”</i>, Larisa Mihaela Tufeanu¹, Marius-Constantin Vochin¹, Constantin-Laurentiu Paraschiv¹, and Frank Y. Li²; (1) University Politehnica of Bucharest, Bucharest, Romania; and (2) University of Agder, Grimstad, Norway.</p> <p><i>“Maritime Internet of Things meets LoRaWAN: a container testbed, measurement campaign and dataset analysis”</i>, Ana Maria Dragulescu¹, Mihai Gabriel Constantin¹, Bogdan</p>

		<p>Ionescu¹, Marius Vochin¹, and Razvan Tamas²; (1) Politehnica University of Bucharest, Bucharest, Romania; (2) Maritime University of Constanța, Constanța, Romania.</p> <p>1382 <i>“Adaptive generative-music application for cognitive support during maritime and aerial travel.”</i>, George Craioveanu, and Ioana Manuela Marcu; University Politehnica of Bucharest, Bucharest, Romania.</p> <p>1383 <i>“Tridimensional Representation and Analysis of Ultra-Wideband using Two Way Ranging for Maritime and Sports Applications.”</i>, Cristian Alexandru Tanase, Anamaria Dumitescu, Ana-Maria Claudia Dragulinescu, and Bogdan Emanuel Ionescu; University Politehnica Bucharest, Bucharest, Romania.</p> <p>1257 <i>“Enabling innovation in maritime ports and the need of the 6G candidate technologies: 5G-LOGINNOV showcase.”</i>, Eusebiu Catana¹, Pavlos Basaras², and Ralf Willenbrock³; (1) ERTICO-ITS Europe, Brussels, Belgium; (2) Institute of Communication and Computer Systems (ICCS), Athens, Greece; and (3) T-Systems International GMBH, Leinfelden-Echterdingen, Germany.</p>
Spes-11	<i>“Quantum Internet of Things”</i>	
	Organizers	<ul style="list-style-type: none"> • Riccardo Bassoli - Technische Universität Dresden, Dresden, Germany • Holger Boche - Technische Universität München, Munich, Germany • Christian Deppe - Technische Universität München, Munich, Germany • Frank H.P. Fitzek - Technische Universität Dresden, Dresden, Germany • Janis Nötzel - Technische Universität München, Munich, Germany
	<p>Spes-11 - Session 1</p> <p>Friday October 20 08:30-10:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p><i>Session 1: Hardware and Software for Future Quantum IoT</i></p> <p><i>Spes</i> <i>Invited Speaker: “Deutsche Telekom’s path to Quantum”</i>, Dr. Marc Geitz, Deutsche Telekom, Munich, Germany.</p> <p>1300 <i>“Microwave to Optical Conversion via Six-Wave Mixing for Optical Telecommunication Networks.”</i>, Swaraj Shekhar Nande, Osel Lhamo, Riccardo Bassoli, and Frank H. P. Fitzek; Technische Universität Dresden, Dresden, Germany.</p> <p>1271 <i>“Comparing Latency and Power Consumption: Quantum vs. Classical Preprocessing.”</i>, Zuhra Merve Amiri, and Janis Nötzel; Technische Universität München, Munich, Germany.</p> <p>1392 <i>“Design and Simulation of a Quantum-Classical Network Service Access Point Encoder.”</i>, Buniechukwu Njoku, Sonai</p>

			Biswas, Riccardo Bassoli, and Frank H. P. Fitzek; Technische Universität Dresden, Dresden, Germany.
	<p>Spes-11 - Session 2</p> <p>Friday October 20 11:00-13:00 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>Session 2: Quantum IoT System's design and Security</p> <p>1357 <i>“An Operator’s View on Opportunities and Challenges of Quantum Internet of Things.”</i>, Leonardo Alexis Gonzalez¹, Ming Yin², Caspar Hopfmann³, Matheus Ribeiro Sena², Marc Geitz², Oliver Holschke², Riccardo Bassoli¹, and Frank H. P. Fitzek¹; (1) Technische Universität Dresden, Dresden, Germany; (2) Deutsche Telekom AG, Berlin, Germany; (3) Leibniz-Institut für Festkörper- und Werkstoffforschung, Dresden, Germany.</p> <p>1351 <i>“Machine Learning Based Attack Detection for Quantum Key Distribution.”</i>, Hilal Sultan Duranoglu Tunc, Yingjian Wang, Riccardo Bassoli, and Frank H. P. Fitzek; Technische Universität Dresden, Dresden, Germany.</p> <p>1349 <i>“Common Randomness Generation for Information Theoretic Security in Post-Quantum Internet of Things.”</i>, Prashanth Kumar Herooru Sheshagiri, Siddharth Das, Juan Alberto Cabrera, Riccardo Bassoli, and Frank H. P. Fitzek; Technische Universität Dresden, Dresden, Germany.</p> <p>1310 <i>“Quantum Static Remote Attestation.”</i>, Davide Li Calsi, and Janis Noetzel; Technical University of Munich, Munich, Germany.</p>	
Spes-12	<u><i>“IoT for Road Safety: Innovations, Challenges, and Future Directions”</i></u>		
	Organizers		<ul style="list-style-type: none"> • Abd-Elhamid Taha - Alfaisal University, Riyadh, Saudi Arabia • Sharief Oteafy - DePaul University, Chicago, Illinois, USA • Mohamed Abusharkh - Ferrist State University, Big Rapids, Michigan, USA
	<p>Spes 12 - Session 1</p> <p>Thursday October 19 08:30-10:30 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)</p> <p>Room 5</p>	<p>Session 1: IoT Architectures for Road Safety</p> <p>1373 <i>“Towards Accountable Self-Driving Cars: A Framework for Identifying the Cause of Autonomous Traffic Collisions.”</i>, Yasmin Hisham Mansy, Nourhan Ehab, and Amr Elmougy; New Cairo, Egypt.</p> <p>1189 <i>“A Framework to Support Collection, Processing and Analysis of Smart Vehicles Data.”</i>, Mariana Azevedo¹, Thais Medeiros¹, Morsinaldo Medeiros¹, Carlos Viegas¹, Marianne Silva¹, Ivanovitch Silva¹, and Daniel G. Costa²; (1) Federal University of Rio Grande do Norte, Natal, Rio Grande do Norte, Brazil; (2) University of Porto, Porto, Portugal.</p> <p><i>This paper has been presented in Session 2 of Topical Track 02.</i></p>	

		1306	<i>“M-IIoT System for Reducing Bandwidth Costs in Cloud-Hybrid Multimedia Pipelines.”</i> , Fuad Shamieh ¹ , and Xianbin Wang ² ; (1) TripleLift, Manhattan, New York City, NY USA; (2) Western University, London, Ontario, Canada.
		1402	<i>“A Software QA Framework for Autonomous Vehicle open source application: OpenPilot.”</i> , Khalid Ali ¹ , Manar Jammal ¹ , Mohamed Abu Sharkh ² ; (1) York University, Toronto, Ontario, Canada; (2) Ferris State University, Grand Rapids, Michigan, USA.
	Spes 12 - Session 2		<i>Session 2: IoT Testbeds for Road Safety</i>
	Thursday October 19 11:00-13:00 WEDST (Hybrid – In person in Aveiro, Portugal and Virtual Live Online)	1405	<i>“DigiWays: A Digitalisation Testbed for Sustainable Traffic Management on Swedish Motorways.”</i> , Xiaoliang Ma ¹ , Jiaqui Xu ¹ , Magnus Nordenvaad ² , and Tomas Julner ² ; (1) KTH Royal Institute of Technology, Stockholm, Sweden; (2) Swedish Transport Administration, Stockholm, Sweden.
	Room 5	1324	<i>“Keep Calm and Cross: Smart Pole Interaction Unit for Easing Pedestrian Cognitive Load.”</i> , Vishal Chauhan, Chia-Ming Chang, Ehsan Javanmardi, Jin Nakazato, Koki Toda, Pengfei Lin, Takeo Igarashi, and Manabu Tsukada; The University of Tokyo, Tokyo, Japan.
		1264	<i>“Assessing the Robustness of LiDAR, Radar and Depth Cameras Against Ill-Reflecting Surfaces in Autonomous Vehicles: An Experimental Study.”</i> , Michael Lötscher, Nicolas Weiming Baumann, Edoardo Ghignone, Andrea Ronco, and Michele Magno; ETH Zurich, Zurich, Switzerland.
		1316	<i>“Containerized edge architecture for centralized Industry 4.0 fleet management.”</i> , Ander Garcia, Javier Tardos, Juan Luis Ferrando, and Telmo Fernandez; Vicomtech Foundation, Basque Research and Technology Alliance (BRTA), San Sebastian, Spain.