



September 12 -15, 2017 – Limassol, Cyprus

General Co-Chairs

- Christóforos Hadjicostis,
University of Cyprus, Cyprus
- Richard Zurawski, ISA Group, USA

Program Committee Co-Chairs

- Charalambos D. Charalambous,
Univ. of Cyprus, Cyprus
- Cristian Mahulea,
Univ. of Zaragoza, Spain

Work-in-Progress Co-Chairs

- Charis Theocharides, Univ. of Cyprus
- Lukasz Wisniewski, Institute Industrial
IT/OWL University, Germany

Special Sessions Co-Chairs

- Alberto Ortiz, Universitat de les Illes
Balears, Spain
- Lucia Seno, CNR-IEIT, Italy

Tutorials Co-Chairs

- Khadija Chaib Draa, University of
Luxembourg, Luxembourg
- Herminio Martinez-Garcia, UPC, Spain

Workshops Co-Chairs

- Holger Flatt, Fraunhofer IOSB-INA,
Germany
- Marina Indri, Politecnico di Torino, Italy

Local Organizing Committee Chair

- Christos Panayiotou, Univ. of Cyprus

ETFA Series Steering Committee:

- A. Fay, Helmut-Schmidt University,
Germany
- A. Grau, UPC, Spain
- J. Jaspermeite, Fraunhofer, Germany
- Z. Mammeri, Univ. of Toulouse 3,
France
- M. Miskowicz, AGH UST, Poland
- C. Seatzu, Univ. of Cagliari, Italy
- H. Voss, Univ. of Luxembourg
- R. Zurawski, ISA Group, USA (Chair)

ETFA Series Advisory Committee:

- E. Dekenuel, Univ. of Nice, France
- J. M. Fuentes, UPC, Spain
- H. Fujita, Univ. of Tokyo, Japan
- L. Gomes, UNINOVA, Portugal
- F. Harashima, Tokyo Metropolitan
University, Japan
- C.-J. Kim, UCLA, USA
- S. Koubias, Univ. of Patras, Greece
- K. Lee, Univ. of Hawaii at Manoa, USA
- M. Marcos, Univ. of Basque Country
- V. Marik, Czech Tech. Univ. in Prague,
Czech Republic
- A. Weaver, Univ. of Virginia, USA

Sponsors:



Aim: The aim of the conference is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of technology, as well as actual and potential applications to industrial and factory automation.
Solicited Papers: Research papers reporting on new developments in technological sciences. Industry and development papers reporting on actual developments of technology, products, systems and solutions. Tutorial and survey papers. Work-in-progress papers. In addition, ETFA 2017 solicits special session proposals to stimulate in-depth discussions in special areas relevant to the conference theme. Please consult the conference web page for more details.

Topics within the scope of the conference include:

Information Technology in Automation: IT Modeling techniques (Object-Orientation, Components, Agents, Service Oriented Architectures,...) for Automation Systems; Model Driven Development in Automation (UML, SysML, ...); Data Modeling; Virtualization at the Factory Level, Digital Factory; Domain Specific Modeling and Programming Languages (IEC 61131, IEC 61499, ...); Integration with MES and ERP Systems (Databases, Semantic Web Services); Tool Chains, Platforms, and Frameworks for Software Design and Development; Security and Safety in Factory, Home and Building Automation; Network Integration in Automation Systems; Dynamically Reconfigurable, Adaptive, and Emergent Automation Software/Systems; Cost-Effective Automation/ Systems (Life-Cycle Cost); Case Studies, Application Reports and Experiences in Practice: Smart Manufacturing, Web-of-Things in the Factory Line; Home and Building Automation; Renewable Energy Systems (Production and Integration).

Industrial Communication Systems: Implementation Issues; Message Scheduling; Performance Analysis; Dependability and Fault Tolerance Aspects; System Design and Architecture; Self-Configurable Systems; Integration Support; Fieldbus Networks; Real-Time Ethernet Networks; Intranet and Internet; Wireless Networks; Hybrid (wired/wireless) Networks; Safety Buses; Sensor Networks; Automotive Networks; Building Automation Networks; Process Control Networks; Networked Control Systems.

Real-Time and (Networked) Embedded Systems: *Theory and Technology in RTNES:* Real-Time Computing; Real-Time Operating Systems; Real-Time Communications; Networked Embedded Systems Technology; Wireless Sensor Networks; Cyber Physical Systems. *Design and Methods in RTNES:* Design and Implementation; Design Methodologies and Tools; Components and Platforms; Models of Computation and Formal Methods; Hardware/Software Co- Design. Verification and Validation Methods. *Algorithms and Control in RTNES:* Energy Management; Data Integration and Fusion; Communication Modes; Quality of Service Control. *Case Studies in RTNES:* Industrial Automation, Automotive, Avionics, Communications and Building Automation Systems.

Automated Manufacturing Systems: Formal Modeling and Analysis of Manufacturing Systems; Scheduling, Simulation, Queuing Systems and Petri Nets; Synthesis and Analysis Techniques, Performance Evaluation and Reliability; Discrete and Continuous Industrial Automation Systems; Automated Manufacturing Systems and Enterprise Integration; Application of Service-Oriented Technologies; Benchmarks and Tools; Applications and Experiences in Practice; Recent Developments in Standardization; Resource Allocation Systems in Manufacturing; Fault Diagnosis, State-Estimation and Identification.

Industrial Control: Process Control; Equipment Control; Intelligent Control; Supervisory Control; Industrial Control Implementation; Discrete and Continuous Automation System; Equipment and Process Monitoring; Fault Detection and Management; Process Modelling and Optimization; Performance Assessment of Control Systems; Control Applications; Large-Scale Systems.

Computer Vision, Computational Intelligence, and Modern Heuristics in Automation: Computer vision systems in science, technology and industrial applications; Machine vision technology for flexible factory automation; Intelligent Systems and Control, Modern Heuristics, and Data Mining in Automation and Industrial Applications; Neural/Fuzzy/Evolutionary approaches in automation; Modern heuristics methods in factory automation based on predictive, adaptive control, recognition, navigation, motion control, competitive, self-organizing learning, and clustering; Computational intelligence in security, reliability, and fault-tolerance in automation; Ant colonies optimization and swarm intelligence in automation; Automotive intelligent systems; Expert systems in automation; Hardware optimization based on computational intelligence techniques; Expert systems for industrial applications.

Intelligent Robots & Systems: Cognitive Robotics; Cooperative and Collaborative Robotics; Multi-Agent Systems and Distributed Robotics Architectures; Human-Robot Interaction; Integrated Intelligence; Intelligent Robot Assistants; Intelligent Embedded Systems; Robot Programming; Natural Language Grounding; Path Planning and Collision Avoidance; Navigation, Control and Manipulation for Intelligent Robots and Systems; Perception, Environment Description and Map Building; Mobile Manipulation; Planning and Failure Recovery; Network Robotics; Reasoning under Uncertainty; Robot Learning; Advanced Sensors and Vision Systems in Robotics; Usability Studies.

Intelligent Sensors, Sensor Networks, and Information Processing: Novel components, devices and architectures for networked sensing; Network and system architectures and protocols; Network health monitoring and management; Detection, classification, tracking, reasoning, and decision making; Sensor data processing, mining, and machine learning; (distributed) signal processing; Energy harvested systems; Sensor tasking, control, and actuation; Innovative applications and deployment experiences; System modeling, simulation, measurements, and analysis.

Complex Engineering Systems & Systems Engineering: Systems Engineering, Engineering Systems-of-Systems, Systems Architecture, Complex Systems, Cyber Physical Systems, Cyber Security, Cloud Computing & Manufacturing, Modeling & Simulation, Model-Based Systems Engineering, Metamodeling, Model Driven Integration & Interoperability, Systems Engineering Theory, Systems Integration & Verification, Decision-making for Complex Systems, Autonomous Systems, Large-Scale Systems Integration. Diverse industrial application areas: factory and process automation, automotive applications, avionics, transportation systems, urban automation and systems, energy systems, health systems, military logistic systems, etc.

Cyber-Physical Systems & Smart Networked Systems: Distributed Architectures for Adaptive Systems; Autonomous Cyber-Physical Systems; Self-Adaption and Self-Organization for Smart Factories, Smart Cities, Smart Buildings and Smart Energy; Learning and Self-Optimizing Cyber-Physical Systems.

Conference Format: The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations; work-in-progress (WIP) sessions; panel discussions on the state-of-the-art and emerging trends, involving leading experts from industry and academia; and public discussion sessions moderated by leading experts in the field of industrial automation systems.

Submission of Papers: The working language of the conference is English. Two types of submissions are solicited. Long Papers – limited to 8 double column pages in a font no smaller than 10-points. Work-in-Progress and Industry practice – limited to 4 double column pages in a font no smaller than 10-points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site.

Best Paper Award: Best paper awards in Factory Automation and Emerging Technologies will be presented at the conference banquet dinner.

Further Information: ETFA2017 Conference Secretariat: Tel: +357 22892271, Email: contact@etfa2017.org

Paper Acceptance: Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

No-show Policy: The ETFA2017 Organizing Committee reserves the right to exclude a paper from distribution after the conference at IEEE Xplore if the paper is not presented at the conference.

<http://www.etfa2017.org>

Author's Schedule:

Regular and special sessions papers

Submission deadline	April 9, 2017
Acceptance notification	May 15, 2017
Deadline for final manuscripts	July 2, 2017

Work-in-progress/ Industry practice papers

Submission deadline:	May 20, 2017
Acceptance notification:	June 19, 2017
Deadline for final manuscripts:	July 2, 2017