

# SIES 2018

## Call for Papers

### 13<sup>th</sup> IEEE International Symposium on Industrial Embedded Systems



June 6 - 8, 2018 – Graz, Austria

## “ICT for a Dependable Internet of Things”

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**Background:** Application domains have a considerable impact on the evolution of embedded systems, in terms of required methodologies and design paradigms, supporting tools, and resulting technologies. Beside increasingly complex software and growing networks, application-specific hardware and systems on chips (SoC) will become more and more relevant in all areas of industrial and consumer applications. In order to provide sophisticated local and global services, there is a growing tendency to co-design hardware, software and networks for smart, dependable and networked devices. Therein, complex sensor/actuator functionality demands for real-time, safe, and secure signal conversion, data processing, and communication over large lifetimes of the deployed embedded systems. Apart, there is a clearly visible trend towards an increasing interaction between the affected domains. In this regard, the Internet of Things (IoT) promises to be one of the most disruptive technologies with transformational impact on industry and society throughout the next decades. As a global super-infrastructure, the IoT is a key enabling technology for a multitude of application domains, including smart cities, smart cars, smart home, smart health, smart factories, smart buildings, etc. However, related applications and services are only feasible if the underlying IoT doesn't fail and disastrous real-world impacts are avoided, making dependability one of its main design challenges.

**Aim:** The aim of the symposium is to bring together researchers and practitioners from industry and academia. SIES provides a platform to report on recent developments, deployments, technology trends and research results, as well as to discuss and start initiatives related to embedded systems and their applications in a variety of industrial environments.

#### Topics include, but are not limited to:

- **Embedded Systems:** Dependability Aspects in Embedded Systems (Real-Time, Safety, Security, Maintainability); Design and Validation of Embedded Systems (Modeling, Languages, Formal Approaches, Certification); Operating Systems and Middleware (Architectures, Timing and Performance Analysis, Static and Dynamic Scheduling); Power Aware Embedded Computing; Adaptive and Compositional Embedded Systems.
- **System-on-Chip and Network-on-Chip:** Design & Testing of SoC/NoC; Multiprocessor SoC/NoC (Architectures, Communication, Platforms, Tools, Programming Paradigms); Design of Application-Specific CPU/MCU Architectures (Single/Multi-Core, DSP); Platform-Based Embedded Systems Design; Reconfigurable Platforms (Programmable Logic, Partial Reconfiguration); Implementation and Testing of Integrated Circuits.
- **Networked Embedded Systems:** Design, Dependability and Tooling for Networked Embedded Systems (Real-Time, Safety, Security, Maintainability); Middleware for Distributed Systems (Self-X, Collaboration, Distributed Localization and Signal Processing, Testing); Network Protocols for Distributed Systems (Medium Access Control, Self-Organization, Time Synchronization, Routing, Energy-Efficiency).
- **Embedded Applications:** Cyber-Physical Systems and the Internet of Things (Design, Maintenance, Fault Tolerance, Dependability, Networks, Infrastructure, Safety, Security, Certification); Domain Specific Embedded Systems (Industrial Automation and Control, Intelligent Transportation Systems, Automotive, Avionics and Aerospace, Smart Home, Wireless Health Care, Power Station Automation and Control).

**Submission of Contributions:** Papers and posters must be submitted electronically in PDF format, according to the instructions contained in the Conference web site. Contributions must contain original unpublished work. Contributions that have been concurrently submitted to other conferences or journals (double submissions) will be automatically rejected. Three types of submissions are solicited: long papers (up to 10 double-column pages), work-in-progress papers (up to 4 double-column pages), and poster presentations. Further details are available on the conference web page.

**Paper Acceptance:** Each accepted paper must be presented at the conference by one of the authors. All conference attendees, including authors and session chairpersons, must pay the conference registration fees and their travel expenses.

#### Author's Schedule:

##### Regular papers

Submission deadline: **(extended)** March 11, 2018  
Acceptance notification: April 04, 2018  
Deadline for final manuscripts: May 04, 2018

##### Work-in-progress papers and posters

Submission deadline: April 13, 2018  
Acceptance notification: April 26, 2018  
Deadline for final manuscripts: May 04, 2018

#### Sponsored by (requested):



#### Keynote Speakers:



Schlossberg



Main Square



Island in the River Mur

**Graz** is the second largest city in Austria, embedded into beautiful and diverse landscapes, with the wine growing region known as "Styrian Tuskany" in the south, a region rich of hot springs and spas in the east, and the Alps in the north and west. The medieval old town is one of the largest and best-preserved in central Europe and was named a UNESCO world heritage site. Its magnificent buildings bear witness to over 850 years of architecture in the city, such as the Landhaus, the cathedral and the mausoleum, Eggenberg Castle and the Grazer Burg with its double-spiral staircase. These ancient edifices merge in unique harmony with state-of-the-art works by internationally renowned architects, such as the Kunsthaus Graz, Joanneumsviertel, or the greenhouses in the Botanical Gardens. Graz is also a young and lively city with more than 50.000 students enrolled into six universities.

Do not miss to also attend the co-located  
**2nd Symposium on Dependable Internet of Things**  
(5 June 2018)



IEEE Council on Electronic Design Automation



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