

# IEEE SoSE 2016

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## Special Session on “Embedded Multi-Core Mixed-Critical Systems Engineering”

Organized by:

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### Call for papers

Cyber-physical systems (CPS) are the key innovation driver to improve almost all mechatronic products with cheaper and even new functionalities. Furthermore, they strongly support today's information society as inter-system communication enabler. Consequently boundaries of application domains are alleviated and ad-hoc connections and interoperability play an increasing role. At the same time, multi-core and many-core computing platforms are becoming available on the market and provide a breakthrough for system (and application) integration.

A major industrial challenge arises facing (cost) efficient integration of different applications with different levels of safety and security on interconnected computing platforms in an open context. A SoS perspective may benefit the design, study and implementation of such systems, taking into account both different application requirements and constraints and CPS capabilities and characteristics.

The scope of the proposed session is to bring together researchers and developers from the academia and the industry to exchange ideas on this area, making the most of the experience obtained in several R&D projects, such as the EU funded project EMC<sup>2</sup> ([www.artemis-emc2.eu](http://www.artemis-emc2.eu)), targeting the recent advances in fostering the change of CPS through an innovative and sustainable service-oriented architecture approach for mixed criticality applications in dynamic and changeable real-time environments.

Topics of interest include, but are not limited to:

1. SoS architectures and platforms for embedded (cyber-physical) systems
2. Application Models and Design Tools for Mixed-Critical, Multi-Core CPS
3. Systems thinking and its impact on Mixed Critical Systems
4. Multi-core hardware architectures and concepts
5. SoS design platform, tools, models and interoperability for embedded systems

6. IoT related applications of multi-core cyber-physical systems: avionics, automotive, space, cross-domain and other applications
7. Safety and security co-engineering in open dynamic CPS
8. Next generation multi core embedded/cyber-physical systems
9. Standardization, qualification and certification issues of complex critical CPS

## Important dates

Paper submission (online): 7th April, 2016

Notification of accepted papers: 30th April, 2016

Final Camera Ready Manuscript due: 10th May 2016

Questions and Comments mail to [gdimitra@hua.gr](mailto:gdimitra@hua.gr)

The online version of this call for papers is at <http://www.sose2016.org/emcse.html>

## SoSE 2016 Paper Submission instructions

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5. Select the track "Innovative Cyber-Physical Architectures? (EmcSE)"
6. Follow the instructions to submit your paper; see notes below.

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