# EMC² Summit 2016

## "Embedded Multi-Core Systems for Mixed Criticality Applications in Dynamic and Changeable Real-Time Environments"

## at CPS Week 2016, Emperor's Palace (Hofburg), Vienna, Austria, April 11, 2016

## organized by

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*The EMC² Summit is open to all CPS week participants free of charge; separate participation to the Summit only will be possible against a separate charge (to be announced).*

## Call for Papers

**Motivation and Theme:**

**EMC² – "Embedded Multi-Core systems for Mixed Criticality applications in dynamic and changeable real-time environments"** is an ARTEMIS/ECSEL Joint Undertaking project in the ARTEMIS Innovation Pilot Programme "Computing platforms for embedded systems" (AIPP5). EMC² is a project of 100 partners of embedded industry and research from 19 European countries with an effort of about 800 person years and a total budget of more than 90 million Euro, which started April 1, 2014 and will finish 2017. For details, see http://www.artemis-emc2.eu/ .

Cyber-physical systems (CPS) are the key innovation driver to improve almost all mechatronic products with cheaper and 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. We have to find solutions for dynamic adaptability in open systems, provides handling of mixed criticality applications under real-time conditions, scalability and utmost flexibility, full scale deployment and management of integrated tool chains, through the entire lifecycle.

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, changing considerably the preconditions for dependable, safe and secure systems with respect to predictability. A major industrial challenge arises from the need to face cost efficient integration of different applications with

different levels of safety and security (mixed criticality) on a single computing platform in an open context.

EMC² will **present work in progress and important intermediate results** of the ongoing project (2014 – 2017) and **invites researchers and industry to contribute from their ongoing work in the areas addressed and of related projects**.

Topics of interest include, but are not limited to:
1. Architectures and platforms for embedded (cyber-physical) systems
2. Application Models and Design Tools for Mixed-Critical, Multi-Core CPS
3. Dynamic runtime environments and services
4. Multi-core hardware architectures and concepts
5. System design platform, tools, models and interoperability
6. 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 embedded/cyber-physical systems
9. Standardization, qualification and certification issues of complex critical CPS

**Submission procedure, deadlines, and author instructions:**

The papers will be reviewed by at least three reviewers and be published as ERCIM Workshop Proceedings in an open archive (e.g. Open Access repository HAL, [https://hal.archives-ouvertes.fr/ERCIM](https://hal.archives-ouvertes.fr/ERCIM)). A manuscript submitted to the EMC² Summit  of CPS-Week 2016 must be in the IEEE double column format with single space 10p fonts and figures included in the text, so the length of the manuscript of 6 - 8 pages long in PDF format can be evaluated.  For your convenience you may download      the      WORD      template.doc      (A4)      from      the      IEEE      website: [http://www.ieee.org/conferences_events/conferences/publishing/templates.html](http://www.ieee.org/conferences_events/conferences/publishing/templates.html)

*The EMC² Summit is scientifically co-sponsored by the ERCIM Dependable Embedded Software-intensive Systems Working Group and EWICS TC7 (European Workshop on Industrial Computer Systems, TC7, Safety, Reliability and Security), and co-hosted by the ARTEMIS projects ARROWHEAD, CRYSTAL and the standardization Innovation Action CP-SETIS.*

Please send papers to the IPC chairperson [Erwin.schoitsch@ait.ac.at](mailto:Erwin.schoitsch@ait.ac.at).

**Deadlines:**
- Reception of full paper:                   February 7, 2016
- Paper acceptance notification:        February 28, 2016
- Camera ready paper reception:       March 10, 2016
- EMC² Summit:                                   April 11, 2016