DECSoS 2023 Workshop proposal - Call for Papers:

18th International Workshop on Dependable Smart Embedded Cyber-Physical Systems and Systems-of-Systems (DECSoS)

This workshop at SAFECOMP follows already its own tradition since 2006. In the past, it focussed on the conventional type of "embedded systems", covering all dependability properties. To emphasize more the relationship to physics, mechatronics and the interaction with a somehow unpredictable environment, the terminology changed to "cyber-physical systems". A new focus is on trustworthiness of smart systems composed from cognitive CPS integrated into IoT infrastructure, challenging system dependability assurance. A key issue is "Digitalization", particularly performing extensive V&V on "Digital Twins" to achieve confidence in these systems and taking into account new paradigms of software- and systems engineering, for instance questions of functional safety in systems including AI based elements.

The impact on society, as a whole, is considerable - thus dependability (safety, reliability, availability, security, maintainability, etc.) evaluated in a holistic manner becomes an important issue, including resilience, robustness, sustainability and ethical aligned design. Cognitive systems, CPSs and IoT are targeted research areas in Horizon Europe and public-private partnerships such as the KDT Program (Key digital Technologies).

Sessions are planned on

- Dependable and resilient embedded systems, systems of cyber-physical systems,
- Highly automated (autonomous) Systems and Robotics,
- Smart Anything Everywhere, IoT Internet of Things
- Digitalization of our world (Industry 4.0, Farming 4.0, Transportation 4.0, Digital Cities, Smart Health, Society 5.0, …), including consideration of human aspects and ethical aligned design.

particularly addressing thematic topics such as

- Multi-core platforms and mixed criticality systems,
- Safety and security co-engineering for trustworthiness,
- Validation and Verification, multi-concern assurance,
- Domain-specific critical applications (industrial demonstrators),
- Standardization (interoperability, trustworthiness), certification and ethical concerns.

covering aspects from concepts to deployment and maintenance. This is a workshop, and to be distinct from the SAFECOMP conference mainstream, it is aiming at reports on on-going "work in progress", aiming at hopefully fruitful discussions and experience exchange, allowing also unusual subtopics.

Reports on European or national research projects (as part of the required dissemination) as well as industrial experience reports from work in progress are most welcome.

All papers will be reviewed by at least three reviewers. Workshop proceedings will be provided as complementary book to the SAFECOMP Proceedings in **Springer LNCS**. **Papers (6 - 12 pages)** will be reviewed by at least three reviewers. Please keep your paper format according to SPRINGER LNCS style guidelines (http://www.springer.com/computer/lncs?SGWID=0-164-6-793341-0) (use Microsoft Word if possible).

Submission will be via EasyChair: https://easychair.org/conferences/?conf=decsos2023

Deadlines:

- **Full paper submission:**   2 May 2023
- **Notification of acceptance:** 25 May 2023
- **Camera-ready submission:** 05 June 2023
- **Workshop:**   19 September 2023

The International Programme Committee is composed of selected EWICS and ERCIM members, led by the workshop organizers.

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