Digital Single Market

Cyber-Physical Systems

Embedded systems are the electronics that are invisible to us and only indirectly accessible through the use of higher end products.

[1]

If you still wonder where you can find embedded systems, think about engine control systems, accurate control of speed, dynamic ride control, or the anti-lock braking system (ABS) monitor in your car.

Embedded systems have a big role, despite their invisibility as they bring intelligence to objects, devices and other artefacts. With the emergence of high speed broadband [2] and the Internet of Things (IoT) [3], the embedded world meets the virtual world. In the future of cyberphysical systems, devices connected to the physical environment will be able to exchange data with each other, access

web services, and interact with people.

The individual components of such devices, systems and sub-systems mutually influence each another, leading to a raise in their complexity. Such systems across the embedded and Internet worlds increasingly share common ICT resources without compromising on safety, dependability and time-constraints.

Sucess Stories

Projects using embedded systems have been successfully implemented:

- SCUBA [4]
- TTTech [5]
- DESTECS [6]
- 2PARMA [7]
- WIBRATE [8]
- EMBOCON [9]

Initiatives related to Embedded Systems

- Read the final report [10] on Cyber -Physical Systems Conference: Uplifting Europe's innovation capacity [11].
- Read more about Workshop European Clusters of Design Centres for Embedded ICT [12] in the workshop reports [13].
- Future Vision: "Smart Everywhere" [14]
- ARTEMIS -ECSEL [15]: Industry and Public Authorities in Partnership
- Embedded Systems [16]
- Monitoring and Control [17]
- System-of-Systems [18]

Useful Information

- Last call for proposals: H2020-ICT-01-2016 Smart Cyber-Physical Systems- Science of System Integration [19]
- A roadmap for Cyber-Physical Systems (CYPHERs) [20] in Europe
- Internet of Things and Platforms for Connected Smart Objects [21]

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[20] http://ec.europa.eu/digital-single-market/en/news/cyber-physical-european-roadmap-strategy

[21] https://ec.europa.eu/digital-single-market/events/cf/ictpd14/item-display.cfm?id=12623

[22] https://ec.europa.eu/info/departments/communications-networks-content-and-technology_en