

By Erwin Schoitsch

ARTEMIS Working Group

Education and Training

Education and Training (E&T) is a crucial factor in maintaining leadership and competitiveness in such a dynamically evolving domain as Embedded Systems. E&T is an issue that goes beyond academia into the world of industry where the training of professionals focused E&T is also required to cope with the emerging and new challenges.

The mission of the WG E&T is to enable long-term sustainability of innovation eco-systems by:

- > building an infrastructure for E&T that facilitates the introduction of new content and curricula
- > strengthening links between industry and academia
- > building on and integrating the results of recent and ongoing European activities, networks and projects
- > raising business awareness and facilitating short-term exchange and training in both directions (industry and academia), complementary to long-term basic research.



The importance of the WG E&T to the ARTEMIS strategy is clear in the statement of intent in the SRA2011 to “facilitate the productive engagement of industry and academia to match the pace of evolution of educational systems and curricula to the rapid evolution in technologies.” Not only will ARTEMIS break down the present distinctions between system architects, hardware and software engineers, and promote a more holistic approach to system design, covering all levels of industrial groups (OEMs, suppliers, end-users) but it will also use **EIT ICT Labs** of the European Institute of Innovation and Technology (EIT) to get ARTEMIS results quickly to the curricula of students, to the knowledge of SMEs and to the products of European industry.

The ARTEMIS Summer Camp 2011 discussed the primary question: “What can the ARTEMIS E&T Working Group contribute to better match the innovation needs in this fast evolving technological world?”. The results of the discussions are summarised below:

Ideas & priorities for future activities of the WG E&T:

- > evaluation criteria should include concrete E&T target values
- > the whole chain for professionals has to be addressed, also at school level since it is too late in curricula to start at academic level given the shortage in engineering staff on all levels, which has become a problem for industry
- > complementary funding to explore innovation is not possible in current ARTEMIS projects: target for ‘Next Generation Joint Undertaking’?

Cooperation with other initiatives or programmes:

- > mutually beneficial cooperation with EIT
- > follow up the concrete request for cooperation with the EIT ICT Lab’s Embedded Systems MSc programme
- > explore cooperation with KET (high-level group)



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Erwin Schoitsch has worked at AIT Austrian Institute of Technology for more than 40 years, focusing on software process improvement and on development and validation of safety-related embedded software-intensive systems with high dependability requirements. He has been involved in many industrial and research projects, including the European projects ESPITL, SPIRE, ACruDA, ISA-EuNet, COOPERS, Watch-Over, MOGENTES, ProSE and the ARTEMIS projects R3-COP, pSafeCer and MBAT. He is active in ARTEMIS and EPoSS, EWICS TC7, ERCIM, (co-) organiser of workshops and conferences, lecturer at a University of Applied Sciences, member of international program committees and of standardisation committees for functional safety (IEC 61508, IEC 61511 and related standards, ISO WD 26262). Within ARTEMIS Industry Association, he is chairperson of the WG Education & Training. He is an active member of the WG Standardisation and contributed to the ARTEMIS SRA.

Link with and tap into projects and their innovation activities:

- > E&T activities (development of training material, workshops) planned in R3-COP, pSafeCer and the nSafeCer proposal as well as in MBAT Dissemination

- > contribution to future MASP
- > Pupil days (companies, research organisations)
- > Short internships for students and schools

“Make it happen” implications of the new SRA2011 for the WG:

- > “Sustaining the ARTEMIS innovation environment” – E&T has an important role in this. To invite local students, teachers and local industrial community to ARTEMIS events such as the Co-Summit 2011 exhibition in Helsinki is highly recommended.
- > ARTEMIS Centres of Innovation Excellence (CoIE): E&T should be an important criteria

Involvement and commitment from industry is essential. The E&T Working Group is established within ARTEMIS Industry Association and well prepared to meet its objectives within the ARTEMIS context; concrete steps were defined during the discussions. Additionally, in co-operation with COSINE2, work on a ‘White Paper’ was started and should be finished by the next Summer Camp of ARTEMIS Industry Association. ■