SYDIC-Training

Advanced System Design Training Courses

Fall 2003
The SYDIC-Training project is devoted to the organization of training courses on system specification methodology, concepts and system validation methods for complex electronic systems. The project answers an increasing industry demand to efficient transfer of design methodology research results from academia to industry. In addition training courses focusing on new or prototype EDA tools entering the market will be developed by two leading EDA companies who are project partners. The project will also deliver training courses based on newly emerging standard methods (languages, notations) used in the specification of complex systems. One of the most important objectives of the project is to provide and prove the mechanisms of customizing education and training services in order to satisfy the dynamically changing requirements of the system industry. The customisation will address both the technical content and the delivery mechanisms to provide just-in-time training services for a specific set of industry requirements. To establish an efficient mechanism for the promotion of the newly developed training.

Ultimately the most ambitious objective of the project is to create the ECSI Institute for the long term exploitation of project outputs. This Institute will continuously enlarge its course portfolio to provide highly advanced expertise in the domain of system design to the whole European industry.

The SYDIC-Training project was prepared in response to the IST Programme Action Line IV.1.3 “Development of skills in micro- and opto-electronics”. It officially started on April 1st, 2002 and last 2 years. The projects overall budget is 3.6M€ with the EC contribution of 1.8M€.
Organization of the work

WP1: Assessment of Industry Needs

The training needs of the industrial partners will be identified in terms of course content and scope, application domain, plus practical examples.

WP2: Training Material Production and Customisation

From the results of WP1, a set of courses will be defined covering the requirements identified by industry. The material prepared for each course will include technical contents, practical exercises and an evaluation mechanism. The potential for on-line accessibility of the material will be explored. A set of courses and the corresponding detailed syllabus, training methods and material will be developed.

Material tailored to the different application areas identified in WP2 will be prepared focused on the industrial partners needs (specific contents, domain specific examples, tool selection, and learning methodology e.g. the level of interactivity, learning aids, training support, mentorship etc.). In WP4 analysis of the services already offered will be undertaken allowing , the courses to be customized and improved following in the second phase of WP3.

WP4: Promotion, exploitation and analysis

WP4 will ensure the promotion of the educational services developed to all potential industrial end users. Using feedback form the industry group an analysis of the different courses will be performed allowing criteria for improvement to be defined and implemented. A Marketing & Promotion Committee will be established to ensure the execution of the tasks in this WP. Exploitation will be ensured by the ECSI Institute and by all project partners.

WP5: Delivery demonstrators

The goal of WP5 will be to identify and develop as required novel and unique new solutions for remote and web based delivery of all the training courses, as well as improvement to, and standardization of more traditional methods across a disparate group of training providers. A stepwise approach will be adopted to include:

- Face to face courses and hands-on labs of up to 5 days duration (dedicated courses in a particular application area)
- Web hosted on-line delivery, with a varying degree of the tutor assistance.

Milestones

There will be 2 sets of milestones: The first milestone will be the delivery of the detailed course portfolio, made in consultation with industry. This portfolio will give a set of course kernels, each with its own set of flavors for the different application domains and specific needs of industrial partners. The other milestone will be associated with the course quality assessments provided by both the teacher-lecturer and the course participants. This assessment will be used to adapt and improve the course content and delivery mechanisms.

Long Term Strategy

ECSI’s long-term objective is to create a dynamically reconfigurable training environment enabling:

- Selection of required training services rather than service providers
- Selection of best experts in a domain
- Focus on Advanced domains
- Focus on Application Domains (e.g. telecom, automotive, multimedia,)
- High degree of training customization
- Combination of theoretical knowledge and practical skills
- Prototype tools and first experiments

The first step in implementation of this vision is the SYDIC-Training project which is focused in scope to system specification & validation. In the continuation this scope will be extended to cover other advanced aspects of system design.

This project will also prove that the training environment, the management structure, publicity mechanisms, and responsiveness to changing industry needs work efficiently. ECSI will also establish the ECSI Institute. Beyond the SYDIC-Training project the work will consist of:

- integration of new university centres and research institutions
- expansion of activities on a geographical basis
- improvement of services provided throughout SYDIC-Training
- definition of new courses
- expansion to new domains of application
- new/emerging design methodologies
- new ways of presentation: dedicated courses, courses on demand, and course customisation
- extended promotion and awareness actions
- integration of new industrial partners
- exploitation and promotion of research results of SYDIC-related projects (SYDIC-Telecom, SYDIC-Automotive, …)

Project Partners

- ECSI (project initiator, management, promotion and exploitation)
- Universities/Research Centers:
  - IMEC, Belgium
  - Institute for System Level Integration, UK
  - Linköping University, Sweden
  - Technische Universität München, Germany
- EDA tool providers
  - Cadence
  - Mentor Graphics
- Industrial Partners
  - ARM, UK
  - MBDA France
  - Motorola

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European Electronic Chips & Systems design Initiative

**ECSI Mission**
- To identify, develop and promote efficient methods for electronic systems design, with particular regards to the needs of system-on-chip
- To provide ECSI members with a competitive advantage in this domain for the benefit of European industry

**ECSI Strategy**
- Identification and optimization of appropriate design paradigms applicable to System-Design with specific emphasis on efficient reuse
- To create a beneficial synergy among members via a combination of systems, EDA and IP business know-how with academic knowledge
- To increase member companies awareness and knowledge via professional involvement and ongoing education
- To facilitate the exchange of knowledge and best practice between academia and the practicing communities
- To be the representative body of the European industry assuring the industry is offered maximum opportunities to collaborate

**Means and Measures**
- Development of an Industry lead, needs driven consortia
- Initiation and execution of projects as a means of accomplishing goals, e.g. demonstration of new concepts
- To increase ECSI membership from among electronic systems users and designers via improved visibility and acknowledged competence of ECSI
- To establish a recognized professional body called ECSI-SYDIC, through which ECSI disseminates results from domain specific System-Design methodology projects
- To openly co-operate with recognized standardization bodies
- Harness academic excellence through ECSI Associated Centers, to allow feed back of the industry needs for research and education
- To ensure efficient promotion of results by all possible media
- Gathering and disseminating relevant information
- Via efficient organization of meetings, workshops, seminars and courses
- Provision of training in new design methods for industrial engineers

**ECSI-SYDIC**
The ECSI System Design Industry Council (ECSI-SYDIC) is an ECSI Committee. Its objective are:
- To develop a common vision and understanding of system-level design across the electronic system industry
- To coordinate the development and establishment of an agreed and open 'Map' (or Maps) illustrating the process of System-Level Design; as applicable to microelectronic systems on chip, with particular regard to the requirements of Market Sectors and Application Domains, Productivity and Reliability.

It is intended that through the development of a common vision, and the provision of process Maps, plus through the Projects and other Collaborative Actions, applicable Methods, Tools, Education and Standards will emerge.

**ECSI Members List**

**ECSI Industrial Members**

**ECSI Industrial Associate Members**
- Evatronix, Synopsys, TNI-Valiosys

**ECSI Associate Centers**
- CNM (E), EPFL (CH), FZI (D), IMEC (B), Institute for System Level Integration (UK), ITE (PL), LESTER (F), LETI (F), National Technical University of Athens (GR), OFFIS (D), Technische Universität München (D), University of Cantabria (E), Université de Lille (F), University of Linköping (S), University of Madrid (E), University of Paderborn (D), University of Patras (GR), VTT Electronics (FIN)