Roadmaps and Strategies

The edacentrum is involved in the production of Roadmaps, White Papers and documents which are relevant for strategical decisions of future research adjustments.

Roadmaps

The main road maps in the field of design automation are the International Technology Roadmap for Semiconductors (ITRS) and the CATRENE European Roadmap for Design Automation. The edacentrum has worked on both roadmaps.

International Technology Roadmap for Semiconductors (ITRS)

The International Technology Roadmap for Semiconductors [1] (ITRS) is a prediction about the future development of semiconductor technology to be a model for all major chip and device manufacturers. A panel of experts from the worldwide semiconductor industry, updates this roadmap every two years, which is supplemented by updates in the intervening years. The edacentrum has in recent years contributed to the creation of the particular chapters "design" and "Modeling and Simulation".

AENEAS Strategic Agenda

On 18 October 2016, AENEAS [2] published its AENEAS Strategic Agenda [3], which presents the ambitions of AENEAS members in cooperative R&D activities, as well as the expected contributions to the solution of societal challenges and the creation of economic value for Europe.The Agenda builds on the paper "Vision, Mission and Strategy [4]" (VMS), which AENEAS published together with CATRENE in 2013, in which the R&D landscape of European micro- and nanoelectronics was highlighted from a strategic point of view.

ECSEL Multi Annual Strategic Plan

The technical goals and the strategy of the ECSEL Joint Undertaking (JU) [5] are described in its Multi-Annual Strategic Plan (MASP) [6]. The details of the (research) work to be carried out annually, as well as the funding for projects selected via the Calls process, is described in an annually published Work Plan (WP) [6] document. Despite a longer timeframe perspective (5 years), the MASP is updated at shorter intervals (optionally at any time) in order to keep abreast of technological and market developments in the fields of Electronic Components and Systems and also in the application of these technologies. The update of the latest versions MASP 2016 [7] and Work Plan 2016 [8] will soon be available.

CATRENE European Roadmap for Design Automation

The CATRENE European Roadmap for Design Automation [9] in semiconductor products (formerly known as the "MEDEA+ EDA Roadmap"), describes mainly "system on a chip" (SoC) and "System in Package"(SIP) products and their technologies in terms of new markets. The roadmap is a living document and should be an active European forum with contributions from all. In recent years members of the edacentrum have contributed to the creation of the EDA roadmap. The edacentrum will make suggestions for the thematic orientation of new calls in the future as well.

Promotion Strategies

Thanks to the targeted promotional strategy of the federal government Germany has developed significantly more in many fields of application. The edacentrum supports these activities with the creation of strategic documents such as the research agenda eDesign 2010-2014 [10] (in German only).

Research Agenda eDesign

On behalf of the BMBF edacentrum developed several strategy papers since 2004 in close cooperation with its members and partners. These contain EDA research topics that are relevant to the Germany industry. The strategy papers allow to consider in time the recent requirements of the German and international research for funding. More information on the strategy papers (in German only). [11]

ICT 2020

With "ICT 2020, Research for Innovations [12], the Federal Ministry for Education and Research (BMBF) placed a funding programm at the beginning of the year 2007. It focuses on "application-oriented, strategic partnerships between academia, business and politics" in the areas of information and communication technologies (ICT).

More than 80 percent of the innovations in the strong fields of applications in Germany (automotive, medical and logistics) are ICT driven. Thus, Information and communication technologies are the No. 1 innovation motor. The "High-Tech Strategy 2020" of the federal government includes ICT consistently as key enabling technology that are key to the future viability of the German economy.

The ICT 2020 research program is the contribution of the Federal Ministry for Education and Research to the identified field of "research funding" of the high-tech strategy and action program "id2010 - Informationsgesellschaft Deutschland 2010". It is the offer to science and industry to shape the future of ICT research together.

High-tech-Strategy

Global challenges such as climate change, demographic trends, the spread of endemic diseases, ensuring the world food and the finite nature of fossil raw materials and energy sources require sustainable solutions that can be provided only through research, new technologies and the diffusion of innovations.

Germany's answer to these challenges is the high-tech strategy 2020 for Germany, first introduced 2006. It brings together the key actors in the innovation process, sets goals and priorities for different areas of innovation and introducing new instruments.

CATRENE White Book

At irregular intervals or as required CATRENE (Cluster for Application and Technology Research in Europe on Nanoelectronics) prepares and publishes White Books, which are the basis for CATRENE calls. Edacentrum supports this by professional cooperation.

ENIAC Joint Undertaking

The ENIAC Joint Undertaking [13] (JU) is a public-private partnership in support of nanoelectronics. At irregular intervals, ENIAC publishes its research strategy Multi-Annual Strategic Plan [14], which is prepared by an Economic and Research Committee. The document contains the research priorities in the ENIAC research agenda, taking into account the long-term societal needs and lead markets.

In connection with the Multi-Annual Strategic Plan an Annual Work Programme [15] is defined for each call and provides an important reference in terms of the creation of a project application. It defines the specific R&D goals to be reached with each call. The Annual Work Programme focuses on the downstream research and only parts of the sub-programs of the Multi-Annual Strategic plan are taken into account.

Links:
[1] http://www.itrs2.net/
[2] https://aeneas-office.org/
[3] https://aeneas-office.org/documents-2.html
[4] http://www.catrene.org/web/communication/updatedpartc.php
[5] http://www.ecsel.eu/web/index.php
[6] http://www.ecsel.eu/web/documents/MASP%20and%20WP.php
[7] http://www.ecsel.eu/web/downloads/documents/ecsel_gb_2015_46_-_masp_2016.pdf
[8] http://www.ecsel.eu/web/downloads/Calls/ecsel_gb_2015_47_annex_-_work_plan_2016.pdf
[9] http://www.catrene.org/web/communication/publ_eda.php
[10] https://project.edacentrum.de/de/node/1272
[11] https://project.edacentrum.de/de/node/810
[12] http://www.bmbf.de/de/7706.php
[13] https://project.edacentrum.de/en/node/812
[14] http://www.eniac.eu/web/documents/JU_roadmaps.php
[15] http://www.eniac.eu/web/documents/Annual%20Work%20Programme.php