

European Technology Network Sustainable Electromagnetic Environments (EMC, including EMF)

Status Report

Website: www.emc-esd.nl, technology network

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Overall Context

Platform Rationale and Objectives

Electromagnetic Compatibility (EMC) underpins almost all engineering activities and influences our daily life more than ever at a time that the number of EMC problems is rapidly increasing. In the coming years the electromagnetic environment will drastically change. A high-speed digital lifestyle and an explosion of (wireless) devices will, without well timed and properly informed action, result in an increase of interference problems in homes, vehicles, hospitals, factories, planes, etc. Without a coordinated development program in which all stakeholders are involved, this increasingly complex electromagnetic environment cannot be controlled anymore and will lead to more and more interference problems and safety hazards.

However, because EMC is apparent everywhere, in any product and environment, research and engineering activities are fragmented. This fragmentation poses a big disadvantage, that is EMC research and innovation does not receive sufficient attention to establish a determined push towards lower costs and higher social and economic benefits.

In our view, long-term fundamental work of strategic nature in EMC is required now to support emerging technologies.

Stage 1: Stakeholders getting together

The scattered and unstructured EMC research activities have been discussed during meetings in 2004, 2005 and 2006 organised in parallel to international conferences.

A letter on the Technology Network was sent to the European Commission in May 2005, along with over 20 signatories from leading European industry managers and organisations.

The number of stakeholders is over 150, and include industrial entities, research institutes, small and medium sized enterprises as well as universities.

Stage 2: Stakeholders define a Strategic Research

The Strategic Research Agenda has been discussed in February 2005 and regular updates have been made since then. After discussions with the commission, the focus was on the work plan. Specific working groups have been appointed and the working plan is near to publication. All material is available on our (temporary) website: www.emc-esd.nl.

Public dissemination and consensus building will be promoted via the annual conferences, the website and publications in journals.

Stage 3: Implementation of the Strategic Research Agenda

The goal of the ETP-SEE is to create common understanding, to identify top priority research topics and to include them in the EU framework programme for research, other European initiatives and national and regional programmes. The overarching theme is primarily a coherent approach, which results in useful research for social and economic benefit.

The economic impact of electromagnetic compatibility is huge: EMC related costs count for 1 – 5% of the sales price of electrical and electronic goods. With a European sales volume in

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electronics around 530 Billion euro (Source: EC Report NACE Rev. 1) the EMC financial impact is in the range of 5 to 25 Billion euro a year. Delay in product introduction or withdrawal of products are further substantial unaccountable costs.

This is the reason that many large industrial parties initiated and support the ETP-SEE, to facilitate, co-ordinate and accelerate the development of technologies that create a future electromagnetic compliant society.

Stakeholder commitment is first and foremost demonstrated by the significant resources that all parties are investing in this area. There is also strong evidence of stakeholder commitment by the person-days that have been invested, in attending meetings and in the preparation of the vision document, the letters, and the draft SRA.

Benefits can be expected from synergy between various research and technological development programmes and from new modes of co-operation. It is nevertheless clear that the process will take time and will require sustained commitment from all involved parties. The ETP-SEE intends to provide leadership in this area.

Cooperation with the EC and existing European Technology Platforms

The Vienna Conference on European Technology Platforms was an excellent venue for establishing contacts with the commission and the technology platforms.

In the handouts and in the final speech it was stated explicitly that there is a need for a horizontal associated technology platform on EMC (incl. EMF). ETN-SEE was officially mentioned in the printed handouts distributed to every participant as one of the "Emerging initiatives for ETPs currently under discussion". During meetings it was several times mentioned that a need for cooperation between ETPs exists, as well that there is need for horizontal networks.

Many ETPs agreed that EMC is an important issue which could be covered by ETN-SEE. We discussed with:

Nanoelectronics Initiative Advisory Council, ENIAC,
European Road Transport Research Advisory Council, ERTRAC, Prof. Mike McDonald
European Rail Research Advisory Council, ERRAC, Nailia Dindarova, UNIFE
The Mobile and Wireless Communications Technology Platform, eMobility, Dr. Fiona Williams Embedded Systems, ARTEMIS, Laila Gide and Dominique Potier, Thales
Advisory Council for Aeronautics Research in Europe, ACARE, Luigi Bottasso, ASD Brussels
The European Space Technology Platform, ESTP
Platform on Future Manufacturing Technologies
The European Technology Platform on Industrial Safety, Olivier Salvi, INERIS
European Initiative on NETWORKED and ELECTRONIC MEDIA, NEM, dr. Jos van Sas,
The European Robotics Platform, EUROP, Caroline Nilsson, SAGEM
The Integral Satcom Initiative (ISI), dr. Silvia Vecchi, University of Bologna

The Core Team is creating terms of reference on collaboration towards all relevant ETPs, although acceptance could be improved by some formal recognition of the commission.

Angel Landabaso Alvarez agreed to contact Thomas Heinemeier for a meeting in June to talk about the ETN-SEE/horizontal network, how to implement it, and how to finance research. He said the the EMC/EMF initiative could become a new 'model' for a formal transversal cooperation between ETPs, by creating an associated technology platform.

Another key element for this meeting would be CORDIS web site access for the ETN-SEE. However, due to changes in personnel within the commission no follow-up was made.

End of 2006, the EMC research agenda looks to be very scattered, again. Many initiatives within industrial sectors are popping up, with a mix of many interested parties. The federative transversal action of the ETN-SEE is more than ever mandatory to leverage synergies among these initiatives.

The ETN-SEE is now waiting for an official recognition statement by the European Commission.