



ACE Deliverable 3.2D2+D4+D6

*NoE Recommendations on Antenna-related
Associations, Publications and Conferences*

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Abstract

This deliverable provides the final recommendations issued from the first phase of ACE (ACE-1, 2005-2006) and to be applied in the second phase (ACE-2, 2006-2007) and beyond

Keyword List

Dissemination, transfer of technology, Antenna societies, Antenna publications, Antenna conferences

1. Introduction

This deliverable gives the recommendations of our Network ACE concerning European policies and strategies in the matters of Societies/Associations, Publications and Conferences related to the technical area of Antennas and, accessorially, Electromagnetic Propagation.

These were initially the matters of three separate deliverables (3.2D2, 3.2D4 and 3.2D6) in the Dissemination activity 3.2. However, it was quickly evident that due to the close relationship between these three topics, a single deliverable document would much better show the connections between them, avoiding at the same time unnecessary overlappings and duplications.

For the sake of an efficient reading, the ACE recommendations are clearly stated in the initial sections of this document. Then follows the description of the work upon which these recommendations have been built. This bulk material reflects accurately the amount of work requested by the elaboration of the final recommendations.

2. Time Frame

The recommendations are the result of intensive activities performed during the first phase of the ACE Network (ACE-1, 2004-2005). They should be subsequently explored and, at least, partially realized during the second phase of ACE (ACE-2, 2006-2007). At the end of the second phase, these recommendations will be reviewed and updated in the perspective of ensuring a sustained impact in the European landscape after the completion of our Network (2008 and beyond).

3. Network recommendations on Antenna Societies

During the first phase of ACE, a workpackage of the Dissemination Activity, was fully dedicated to contact the existing World and European professional societies in the area of Antennas. This resulted in extensive contacts (personal or through letter/email) with the relevant leaders of these societies (see section 6). The contacts were facilitated by our Network policy, consisting in offering a seat in our Scientific Advisory Committee to many of these individuals, especially those coming from non-European societies (The Institute of the Electrical and Electronic Engineers IEEE-USA, ISAP-Japan...) and from institutions not

exclusively dealing with Antennas but including strong activities in this area (European Space Agency, European Microwave Association...).

From these exchanges, a clear picture has emerged whose main features follow.

Most Antenna engineers, researchers and professionals in Europe belong to the IEEE Societies. Not only to the one on Antenna and Propagation (IEEE-AP) but also to several related ones (Microwave, Wireless Communication...). A fair estimate is 85% of IEEE membership among European antenna professionals. Therefore IEEE is "de facto" the Society universally acknowledged in our area. Indeed, IEEE Societies like Antennas and Propagation, are increasingly acknowledging this situation by including a continuously increasing participation of European and Asian members in their Boards and Administrative Committees (AdCom). This reflects the fact that, typically, more than 50% of their members and of the published papers come from outside the USA.

Another successful international societies are the century old URSI (Union Radio Scientifique Internationale) and the very young EuMA (European Microwave Association) which also gather membership from many European Antenna professionals.

In addition, transnational societies specialized on specific technical subjects (AMTA for antenna measurements, ACES for numerical computations and software...) are also quite successful and well established. On the other hand, the European Society EUREL has been a relative disappointment, showing very little dynamism in our area.

Finally, most European Antenna professionals belong to their own national society. Particularly active and strong societies are to be founding Germany, France and UK but most other European countries boast a national society.

In summary, as a result of intensive internal discussions and following also the recommendations of our Scientific Advisory Committee, our Network issues the following recommendations:

- At this point, our Network **doesn't recommend the direct creation of a new European Society with membership fees**
- On the other hand, our Network **recommends the creation of a non-profit European Association on Antennas and Propagation (EurAAP)**. This association is being

created following the example of the initial steps taken when the similar-purpose European Microwave Association was created.

- Finally, **our Network recommends the continuous upgrade of our Virtual Centre of Excellence (VCE)**, by encouraging membership from European and International Institutions not yet members of our Network. In this way, the VCE could become an efficient website-based association for the Antenna Community.

3.1. The new European Association EurAAP

ACE is creating an "European Association for Antennas and Propagation" (EurAAP). This legal entity, under Belgian and European laws, answers to the following definition:

The Association named European Association on Antennas and Propagation, in short: "EurAAP", is an international Association with a scientific, educational and technical purpose, within the framework of the law of October 25, 1919, amended by the law of December 6, 1954. The registered office of the Association is situated at ... address ..., Brussels, in Belgium.

The purpose of this association is to provide a frame for the survival of the most important achievements of our Network after its lifetime. In particular, original developments that could be transferred to EurAAP are our Internet-based Virtual Centre of Excellence (Antennas VCE), the European School of Antennas (ESoA) and the European Conference on Antennas and Propagation (EuCAP).

The acceptance by the European Commission of the second phase of our Network (ACE2, 2006-2007) will provide the necessary time span to solve many pending questions concerning the best smooth transition between the Network achievements and EurAAP.

3.2. The VCE as a Virtual Antenna Society

Since its creation, the ACE Virtual Centre of Excellence (VCE) has encouraged membership outside ACE and even outside Europe. During ACE lifetime this should be a no-fee membership. However, a membership fee, possible adapted to the type of member (individual, academia, industry...), should be considered after ACE lifetime to ensure the VCE survival.

Thus the VCE could become a virtual antenna society and a forum to exchange ideas and exhibit technical information.

Other tasks that could be assigned to the VCE are:

- Networking amongst EM antenna specialists and laboratories
- Exchanges of students
- Use of the web site as bulletin board
- Fostering and organizing regular reunions of members or subset of members

E-mail should be used selectively to access members on a strictly personal keyword basis

The VCE could also be the seed and/or support for different associations and clubs:

1) Dissemination Association (**EurAAP**) covering:

- Conference EuCAP and other events
- European quality level courses
- Possibly a web & e-mail based publication organ

2) Antenna measurement association/organ covering:

- One or more Reference facilities for calibrations, new techniques' validation
- Reference/benchmark test objects
- Network of top level facilities
- Workshops and courses on antenna measurements

3) Modelling Software Network/organ covering

- Network of top modelling software developers and users
- Standard formats for interfaces
- Validation and comparison of S/W tools etc...also via web site
- Software available on the ACE web site

4) Small antenna ACE website based network / miniclub covering:

- Exchanges / publications via the ACE web site and via E-mail
- Comparison of small antenna analysis methods/ tools via the web site
- Regular meetings possibly in COST like

5) European Antenna Research Association (EARS) also dealing with patent and international property issues.

In the longer term, the notion of a wider European IEEE equivalent should be studied by EC.

The ACE successor, maybe with the help of the European Microwave Association, could be the first stone of this construction.

4. Network recommendations on Antenna Publications

The Dissemination Activities in the first phase of ACE confirmed the almost one-to-one correspondence currently existing between Antenna Societies and Antenna Publications and Journals. This strong connection justifies alone the interest of a common policy in these two affairs.

Antennas remain a very active and hot subject for research and development, thus fostering a large number of scientific and technical publications. In the last year, the Antenna community has largely proven its dynamism by introducing new subjects of the uppermost relevance (for instance UltraWideBand antennas) and by being actively associated to other subjects like RadioFrequency Identification (RFID), smart antennas for MIMO systems and Body/Personal Area Networks (BAN/PAN). The existing Antenna publications, with a long tradition and a faithful membership, have successfully coped with these evolution offering a satisfactory framework for these subjects with a good impact factor in the Science Citation indexes.

As in the case of societies (see section 3), IEEE publications (Transactions in AP and in MTT) are the "de facto" standard publication for the Antenna community at world level. For instance, IEEE Trans. on AP publishes around 800 papers a year with more than 5000 pages. Half of the papers are from outside the USA. Other publications, like MOTL, Electronic Letters, IEE Proceedings, Radio Science... are also well established in the Antenna community and also exhibit good impact factors in the Science Citation Index. It would be quite surprising seeing antenna professionals departing from these publications.

So, in summary, as result of intensive internal discussions and following also the recommendations of our Scientific Advisory Committee, our Network issues the following recommendations:

- At this point, our Network believes **there is no need for a fully new Publication or Journal on Antennas**. The antenna landscape is sufficiently covered (and even too crowded) with the existing publications. Therefore, the creation of a traditional paper-printed Antenna Journal is **not recommended**.

- On the other hand, our Network **recommends to investigate three complementary ways**, all leading to the increase of the dissemination of scientific knowledge on Antennas
- First, **the instalment of special issues (annual or biannual) dealing with Antenna application in already existing European Journals**. This recommendation is being already negotiated with the European Journals on Signal Processing (Eurasip) and on Microwaves (EuMA).
- Secondly, if the annual European Conference in Antennas and Propagation is successfully created, **a yearly conference book could be edited** by well established editing houses (Springer, Artech...)
- Thirdly, the **Virtual Centre of Excellence (VCE) could foster the creation of an online journal** for fast exchange of scientific progress between European researchers.

In the second and third options the copyright could be assigned to the newly created association EurAAP.

5. Network recommendations on Antenna Conferences

Probably the most consuming effort associated to the Dissemination Activities in the first phase of ACE has been the consideration of the possibility of a fully new European Conference on Antennas and Propagation (EuCAP).

A thorough investigation on the existing conferences (see deliverable 3.2D12), confirmed that, opposite to the prevailing opinion for Publications and Journals, there was a general wish and a positive feeling for an European Conference on Antennas and Propagation. Moreover, our intensive discussions with national societies showed that there could be a possibility to take advantage of the momentum created by previous existing conferences (ICAP in UK, JINA in France) which were now being cancelled or in a standby position.

Therefore, our Network issues the following recommendations:

- **To create a year event for the Antenna Community in the form of EuCAP**, the European Conference on Antennas and Propagation. This conference should be the focal meeting of the European Antenna Community and the shop window for all its R&D activities. A strong participation of non-European Institutions is expected, thus

giving world visibility to European Research and putting EuCAP at the same level of other world events on Antennas, currently hosted in the USA and in Far East countries.

- **To strongly support the first two editions (2006 and 2007)** by considering them key goals in the ACE-2 Dissemination Activity
- **To ensure EuCAP perennality beyond ACE**, by putting its management and strategy under control of the newly created European Association EurAAP. At this point, a favoured scenario would be to subcontract the practical organisation of each edition to the Congress Bureau of the European Space Agency (ECB-ESA), which will give a real European support not biased to any specific country, while negotiating a eventual cooperation and support from the corresponding national society.
- In order to guarantee the application of the above recommendations, **a EuCAP Steering Committee has been created** (see section 7). The first edition of the conference, EuCAP'2006, is scheduled in Nice, France on Nov. 6-10, 2006.

6. Current status of European societies

Research and professional activities of antenna engineers in Europe are acknowledged through membership of many different associations of international or national scope. As a result, research dissemination is made through reviews and publications frequently based outside Europe or of limited scope. Hence, or recommendations strongly depended on the possibilities of networking and structuring the activities of the professional associations in the Antenna area.

After the initial contacts taken in the first year, the second year of ACE has been dedicated to solidify these contacts and to find the possibilities for ACE networking and coordinating most antenna-related activities of professional associations. For this database for professional societies in Europe, created by ACE (our CNRS-LEAT partner) and available in our VCE has been continuously updated and upgraded. In the second year, personal contacts and discussions have taken place either through physical meetings or through correspondence exchanges with the most relevant societies. Our contact persons in these societies are now in most cases at the top level of their hierarchy.

Here is the list of contacts with indication of the contact date and type:

Society	Contact person	ACE liaison partner	Contact date and type
IEE (UK) http://www.iee.org/	A. Mani	Y. Vardaxoglou	Letter, June 2005
SEE (France) http://www.see.asso.fr/	Y. Mori	P. Brachat	Meeting, Paris, may 2005
EuMA http://www.eumwa.org/	R. Sorrentino	J. Mosig	Meeting, Paris, Oct. 2005
VDE/ITG (Germany) http://www.vde.com/vde/	V. Schanz	M. Martinez, W. Wiesbeck	Letter, September 2005
ESA http://www.esa.int/	A. Roederer	P. Balling	Meeting, Noordwijk
KOREMA (Croatia) http://www.korema.hr/	J. Bartolic	Z. Sipus	Meeting Dubrovnik, Oct. 2005
URSI-B & Japan http://www.ursi.org/	M. Ando	J. Mosig	Letter, November 2005
IEEE-APS (USA) http://www.ieee.org/	R. Ziolkowski	A. Roederer, J. Mosig	Meeting, Washington DC, July 2005
Spanish Antenna Network RESA	M. Sierra	A. Cardama	Meeting, September 2005
NoE AMICOM	R. Sorrentino	H. Legay	Meeting, Lausanne, June 2005
NoE Metamorphose	S. Tretyakov	J. Mosig	Meeting, Lausanne, Feb. 2005
NoE NewCom	A. Alexiou	A. Alexiou	Meeting, Dresden, June 2005
AMTA, Ant. Meas. Soc. http://www.amta.org/	C. Rizzo	O. Breinbjerg	Letter, Dec. 2005
ACES http://aces.ee.olemiss.edu/	O. Mohamed	J. Mosig	Meeting, Hawaii, April 2005
COST 284 http://www.asc-consult.dk/cost284/	J. Mosig	P. Ingvarson	Meeting, Chexbres, Feb. 2005

Formal agreements have been already established for cooperating with ALL the above institutions. This includes sharing of dissemination and mailing lists, free exchange of information, enhancing mutual visibility (logo exchanges) and organisation of joint sessions and Symposia.

7. The European Conference EuCAP

Probably the most consuming effort associated to the Dissemination Activities in the first phase of ACE has been the creation of EuCAP, the European Conference in Antennas and Propagation. After the preliminary discussions in Nice, France, at the moment of the final edition of the JINA conference (November 2004), many other meetings followed in 2005, progressively defining EuCAP. Summarizing in a few words, a very difficult and sometimes painful itinerary, the First European Conference in Antennas and Propagation (EuCAP' 2006) will be held in Nice, France on 6-10 November 2006.

The poster for EuCAP 2006 is a colorful collage. At the top left, it features the logos of the European Union, Information Society Technologies, a|e, and ESA. Text on the left side includes: 'EuCAP is an initiative of the European Network of Excellence ACE, co-sponsored by ESA, supported by:'. Below this, it lists 'Chairs of EuCAP2006': General chair: Juan MOSIG, EPFL, Switzerland; Vice chairs: Per INGVARSON, Bagg Ericsson Space, Sweden; Bertram ARBESSER-BASTBURG, ESA-ESTEC; Honorary chair: Antoine ROEDERER, ESA-ESTEC; Local Chairs: Patrice BRACHAT, France Telecom R&D, France; Christian PICHOT, Université de Nice, France. It also lists 'Important deadlines': Abstract submission: 2 April 2006; Notification of acceptance: 30 May 2006; Submission of final papers: 30 June 2006. The Secretariat is listed as esa.conference.bureau@esa.int and the web page as http://www.eucap2006.org. The right side of the poster features the title 'EuCAP 2006' in large white and yellow letters, the dates '6 - 10 November' and the location 'Nice France' in red. It includes a scenic view of the coastline and a building. At the bottom, it says 'Call for Papers' in large red letters. Logos for COST, IEEE, ITG/VDE, CNES, IEEE, A&S, Université Nice Sophia Antipolis, JINA, and France tele.com are also present.

*The "Call for Papers"
of EuCAP'2006
published by the
IEEE AP Magazine and
distributed & emailed
worldwide*

We expect an world-class event comparable to the major Antenna conferences in United States and Japan and we are targeting more than 600 attendees.

EuCAP'2006 will be organized with the invaluable assistance of the European Space Agency and its Conference Bureau. After some doubts and hesitations, all the European professional national societies will support our Conference and will provide technical co-sponsorship.

Again, the second phase of our Network (ACE2, 2006-2007) will allow us to prepare a solid future for the following editions of EuCAP, that should become the most important periodical event for Antennas and Propagation R&D in Europe.

During the first year of ACE, we surveyed the national antenna conferences in Europe with more than 100 attendees and we identified the most relevant to the creation of a European Conference. This first year ended with a Workshop in Nice and the creation of a seed committee for EuCAP, including representatives from ACE, ESA, INICA(ITG), ICAP (IEE) and JINA (SEE).

Most of the Dissemination efforts in the second year were dedicated to fulfil the actions decided in the Nice Workshop. A *EuCAP Steering Committee* has been created and formed by: *J. Mosig (ACE), P. Ingvarson (ACE), B. Casali (ACE), A. Roederer (ESA), B. Arbesser-Rastburg (ESA), W. Wiesbeck (ITG Germany) Y. Vardaxoglou (IEE-UK), P. Brachat (JINA, France), Ch. Pichot (SEE, France).*

This Steering Committee met intensively in 2005 (Brussels, Feb. 2005; Noordwijk, May 2005; Washington DC, July 2005; Paris, October 2005; Dubrovnik, October 2005; Noordwijk, December 2005). Frequently the meetings were connected to International Events allowing us to reach significant agreements with other Conferences (ESA Workshops, IEEE-APS, EuMW).

This strategy was greatly facilitated by the continuous update and upgrade, under the responsibility of CNRS-LEAT and U. de Marne-la-Vallée, France, of our "Conference Database", which is one of the deliverables in the ACE Network.

Here follows an updated list of relevant conference with active contact points in ACE:

Conference	Web address	ACE liaison partner
LAPC	http://lapc.lboro.ac.uk (<i>in replacement of ICAP</i>)	U. Birmingham
JINA (France)	http://www.jina2004.com/jina2004/index.php	CNRS-LEAT, France Telecom
EuMW	http://www.eumw2005.com/	EPFL
ICONIC	http://www.iconic2005.org/	UPC Barcelona

ICEAA-Torino	http://www.iceaa.polito.it/	Poli Torino
ESA- Workshops	http://www.estec.esa.nl/conferences/	EPFL
ICECOM	http://www.rc.fer.hr/icecom/	EPFL
INICA Germany	http://www.inica.de/	IMST
URSI	http://www.ursi2005.upv.es	UP Valencia
ANTEM'2005	http://antem2005.ietr.org/	U. of Rennes