



ACE Deliverable 3.2D12

Final Plan for using and dissemination of knowledge

Project Number: FP6-IST 508009
Project Title: Antenna Centre of Excellence
Document Type: Deliverable

Document Number:
Contractual date of delivery: 31st December 2005
Actual Date of Delivery: XX December 2005
Workpackage: 2.2-1
Estimated Person Months: see WP description
Security (PP,PE,RE,CO): PU
Nature: Report
Version: 1.0
Total Number of Pages:
File name: 3.2.D12V1.0.doc
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Abstract

This deliverable provides the current status of the plan for using and disseminating the knowledge in the European NoE ACE at the end of its first phase (ACE1, 2004-2005)

Keyword List

Dissemination, transfer of technology, exploitable knowledge, publishable results.

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1. Introduction and General Strategy for Dissemination

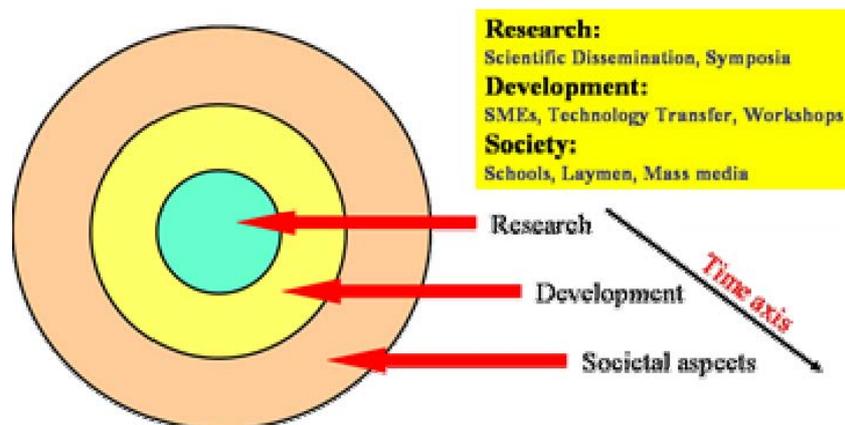
This deliverable gives the current status of the plan for using and disseminating the knowledge in the European NoE ACE at the end of its first phase (ACE-1, 2004-2005). It therefore concerns actions to be undertaken during the second phase of ACE (ACE-2, 2006-2007) and beyond.

The spreading of excellence and dissemination of the results achieved by the Network contractors has been planned within 3 concentric widening circles:

- Dissemination to academic & industrial R&D clusters outside the Network
- Dissemination to other potential end users (industries and SMEs).
- Dissemination to a larger public (societal aspects).

This rationale behind this division is to give some time to the Networks partners to produce the first batch of scientific results. Meanwhile, the existence itself of ACE, its objectives and its endowments are already the subject of strong external dissemination activities.

The three concentric circles of the dissemination strategy in ACE



The whole Dissemination project was found too ambitious for the first phase of our Network and it was decided to concentrate on Academia, International Companies active on Antenna R&D and national professional societies and Associations. This decision has allowed us to be able to show concrete achievements at the end of the first phase of ACE. The Association EurAAP, the Symposium EuCAP and the recognition of all the relevant professional association and conference organizers in Europe are now achieved goals, having resulted in useful VCE databases and other fulfilled deliverables.

Two years weren't a long period to achieve recognition and acceptance at the European level . Thanks to intense work by all the concerned ACE partners, these efforts will become reality with the crowning achievement of the European Conferences on Antennas and Propagation in the second phase of ACE (2006-2007).

The expected enlargement of ACE will also facilitate our efforts to extend dissemination towards new EU countries and other East Europe countries. Contacts with Poland, Hungary, the Czech Republic and Croatia have been already initiated and will be enlarged in the second phase.

During the first ACE-1 phase, which is the object of this deliverable, the main effort was provided into the inner circle. From a strategic point of view, the first essential goal has been to achieve international recognition in the Antenna R&D community. Today, ACE is acknowledge as an unavoidable partner for any Antenna R&D activity in Europe.

In the second phase of the ACE Network (ACE-2, 2006-2007), Dissemination activities will take care of the two outer circles, but without weakening the strong visibility acquired in the inner circle. Therefore, ACE-2 will keep alive this scientific activity, but it will also widen its scope, trying to reach the external circles in the figure. Dissemination activities are being very successful in ACE-1, a big amount of experience and knowledge is being gathered and ACE-2 will capitalize on these experiences.

On one side, ACE needs to touch the larger ring of European SMEs potentially interested in Antenna Technology but needing help to keep abreast of technological developments and for benefiting of useful technology transfers. Some preliminary contacts with SMEs have been achieved thanks to the several SMEs that are already active partners in ACE. These exploring actions are described here below.

On the other hand, ACE should also disseminate towards the outer realm of the general public, always concerned by the multifaceted societal aspects of Antennas. The plans include information campaigns directed to non-specialized audiences, to the young students and to the laymen (societal aspects). There have been already some actions initiated in the outer circle concerned the societal aspects. These actions are covered in the **Deliverable 3.2D14 "Report on raising public participation and awareness"**.

2. Current status of Dissemination

In ACE-1 (2004-2005) Dissemination & Knowledge Transfer Management is proceeding outwardly, starting with internal dissemination between ACE partners and associates and continuing with spreading of ACE excellence towards external members of the World Scientific Community. This is being achieved first through excellence in the Joint Research Activities (vertical and horizontal) defined as ACE goals. Secondly, a strong visibility has been obtained thanks to intensive Dissemination activities, including participation and co-sponsorship of many Conference and Antenna events in Europe and elsewhere.

2.1 Dissemination to academic & industrial R&D clusters outside the Network

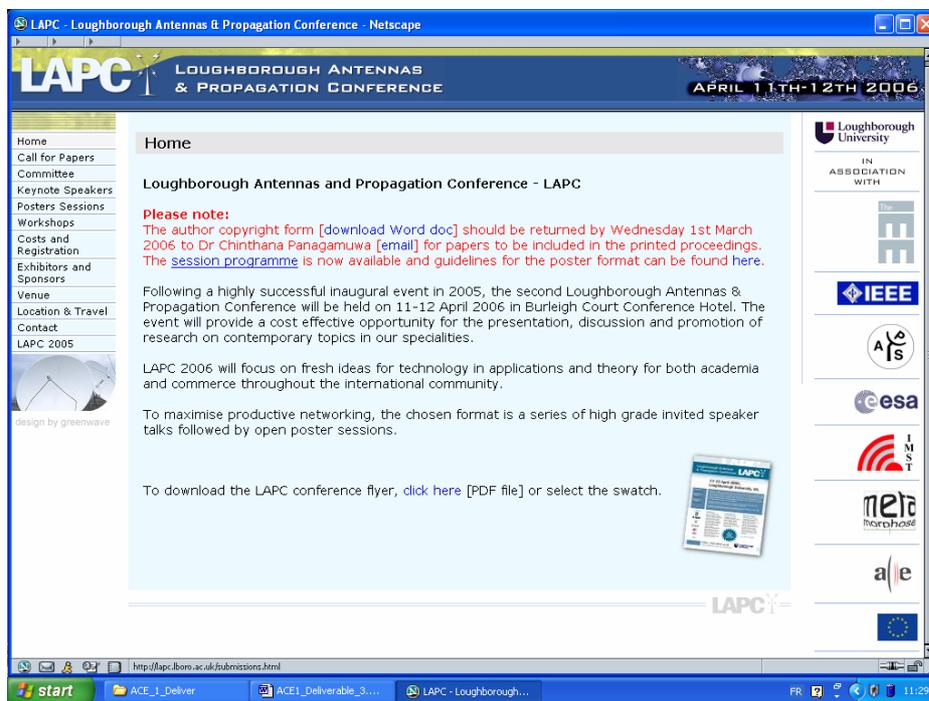
In ACE-1, we have essentially concentrated in the first inner circle and we have developed a strong activity to let ACE be known in academic and industrial environments. ACE members have participated in countless conferences and workshops. What follows is a description of the activities that have requested a collective contribution from ACE partners and that have been declared eligible in this sense by the responsible persons of the ACE Dissemination activities.

Conferences and Symposia

All the following conferences have reciprocated/will reciprocate to ACE participation by including officially ACE in their session programmes and by showing ACE logos and links to the ACE Virtual Centre of Excellence in their websites

Dates	Type	Countries addressed	Size of audience	Partner responsible /involved
June 04	Conference: Combined COST 273-284	Europe	150	All
June 04	Conference: IEEE-APS	USA	20	EPFL
June 04	Conference/publications: Millimetre and Submillimetre Waves Symposium, Ukraine	Eastern Europe	200	SES
Aug 04	Conference/publication: ISAP'04, Japan	Asia	600	SES
Sep 04	Conference: COST284-Spanish URSI	Spain	300	Alcatel Space
Oct 04	Conference/publication: EuMicrowave	Europe	800	KUL+Activity 1.1

	Week			
Nov. 04	Conference/publication: JINA, Nice, France	Europe	300	All
Feb. 05	Conference LATSIS'05 in Switzerland	World	100	EPFL+others
Apr. 05	"2005 IEEE/ACES International Conference on Wireless Communications and Applied Computational Electromagnetics, April 3-7, 2005, Honolulu, Hawaii http://hcac.hawaii.edu/conferences/ieeeeaces2005/	World	300	EPFL+others
Apr. 05	Conference: IEE Loughborough, UK	UK	100	Alcatel Space
June 05	2nd Int. Conf. on Electromagnetic Near-Field Characterisation and Imaging (ICONIC2005), Barcelona, Spain, June 8-10, 2005 http://www.iconic2005.org/	Europe	100	All
June 05	11th Int. Symp. on Antenna Technology and applied Electromagnetics (ANTEM2005), Saint Malo, France, June 15-17, 2005. http://antem2005.ietr.org/home/	France	100	U. of Rennes +others
July 05	2005 IEEE-APS International Symposium & USNC/URSI National Radio Science Meeting, on 3-8 July 2005 in Washington DC. http://apsursi2005.org/	USA	1000	All
Sep. 05	Spanish URSI Assembly (Gandia, Spain, Sep. 2005)	Spain	300	IMST Germany
Sep. 05	PIMRC 2005 (Sept 11-14, Berlin). Invited papers and Special Sessions http://www.pimrc2005.de	Europe	300	Lucent Tech. UK
Sep. 05	13th Conference on Microwave Techniques (COMITE 2005). Prague (Czech Republic) 26-28 September 2005 http://www.elmag.org/k317e/index.html	East Europe	100	AST Danemark
Sep 05	ICECom 2005, Dubrovnik (Croatia), on October 12th-14th 2005 http://www.rc.fer.hr/icecom/	World, East Europe	200	All
Oct. 05	35th European Microwave Conference (EuMC2005), 4-6 October 2005 in Paris, France. http://www.eumw2005.com/eumc2005.html	Europe	600	KUL Belgium, All
2005	URSI Radio Science Meeting, New Delhi, October 2005 http://www.ursi.org/India05/GA05index.htm	World	800	EPFL, All



Typical Symposia
 (ICONIC 2005,
 Barcelona, Spain,
 June 2005)
 and LAPC'2006
 (Loughborough,
 UK, April 2006)
 among those
 technically
 co-sponsored by
 ACE.



Typically,
 sponsoring
 includes the
 organisation of at
 least an ACE
 special session,
 invited papers,
 advertising of the
 Symposium in our
 VCE, a sizeable
 number of
 attendees from
 ACE and a small
 financial support

Beyond the point wise contribution to some Conferences, our Final Plan for Dissemination includes steady and stable Antenna sessions negotiated with the USA based IEEE-APS Int. Symposium, the European Microwave Week and East Europe events like Komite in the Czech republic and IceCom in Croatia. In addition, papers describing the activities and results of our Network were published in the IEEE Antennas and Propagation Magazine IEEE AP Mag. and ACE Dissemination is scheduled through special issues of EURASIP Journal on. Wireless Communications and Networking and the European Microwave Association Journal.

FP6 European Activity

ACE has sought collaboration and visibility within the European FP6 activities and other European projects, especially with related Networks of Excellence, where a strong cooperation has been established:

With the NoE METAMORPHOSE: Latsis Symposium at Lausanne, Switzerland, Feb. 28-March 02, 2005 <http://latsis05.epfl.ch>

With the NoE AMICON: Summer School. Definition of joint NorthStar projects.

The MEMSWAVE Workshop: "ACE-AMICOM meeting on MEMS in antennas" June 23, 2005, Lausanne Switzerland <http://memswave2005.epfl.ch/>

With the NoE NEWCOM: Workshop on "Smart Antennas, MIMO and Multiuser Systems"

IST Mobile and Wireless Communications Summit Dresden, June 19-23, 2005

<http://www.mobilesummit2005.org/>

With COST-284 : <http://www.cost284.com>

7th MCM and Workshop, Chexbres, Switzerland, March 2-4 2005

8th MCM and Workshop, Dubrovnik, Croatia, Oct. 11-14, 2005

Also ACE is actively participating in several **European Project Clusters** like : BB4ALL: SB3G and BAI (Smart Antennas Activities) and in the Coordination Action MOCCA "Mobile Cooperation and Coordination Action". Finally, ACE is present in most dissemination and brokerage events organized by the EU like **IST Conferences, Workshops and Summits:**

a) 4th FP6 Concertation Meeting, Brussels, 7-10 March 2005;

- b) 5th FP6 Concertation Meeting, Brussels, 22-23 September 2005;
- c) 4th Communicating European Research, 14-15 November 2005;
- d) eMobility General Assembly, 23 November 2005.

Final Workshop

A final workshop summarizing the achievements of this first phase of ACE (2004-2005) was held at the ESA-ESTEC headquarters in Noordwijk on Dec 1-2, 2005. With more than 200 attendees, the Workshop was a big success. All the ACE activities were presented and the **Final plans for Dissemination were accepted**. All the Network contractors involved in Dissemination attended, presented their achievements and confirmed their commitment

(See <http://www.estec.esa.nl/conferences/>).

2.2 Dissemination to other potential end users (industries and SMEs)

ACE started to encourage the Dissemination of existing and newly created knowledge and the technology transfer towards the SMEs having ACE membership (IMST, Satimo...)

In addition to internal exchanges and interactions within the Network, two actions have been found determinant for Dissemination: participation to Technological Fairs and participation to Forums for interaction with Academia and other sources of highly qualified potential employees. As an example, here follows the announcement for the participation of IMST to the Cebit Fair in Germany

PRESSEMITTEILUNG:

Kamp-Lintfort, Februar 2005

**IMST vernetzt den NRW Stand!**

Kamp-Lintforter Forschungsschmiede zeigt Funkinnovation!



Kamp-Lintfort: Vom 10. – 16. März ist IMST wieder auf der CeBIT in Hannover vertreten. Nach zweijähriger „CeBIT-Pause“ stellt das Kamp-Lintforter Unternehmen auf dem NRW Stand (Halle 3, Stand C 03) aus.

Auf dem NRW Stand wird IMST seine Kompetenz in Sachen Lokalisierung mittels Funk (WLAN) zeigen. Besucher werden über neue Technologien wie z.B. ortsbezogene Dienste informiert. Beim Besuch des Standes erhalten sie zur Darbietung einen PDA oder Laptop, mit dem der Nutzer sich frei auf dem NRW Stand bewegen kann. Die genaue Platzierung der Aussteller des NRW Standes wird angezeigt. Natürlich auch der eigene aktuelle Standort des Messebesuchers!

Zusätzlich liefert das Funksystem Informationen über die einzelnen Firmen. Beim Besuch des NRW-Standes erhält der Messegast die jeweils aktuelle Firmeninformation des Standes, auf dem er sich aufhält, auf sein Anzeigergerät.

IMST zeigt auch weitere Funkanwendungen:

Eine Camerabahn, deren Zustandsdaten per Bluetooth überwacht werden, sowie einen ganz besonderen Ball. Der Ball muss vom Besucher durch Drücken verformt werden. Ziel ist es, eine möglichst konstante Druckkraft zu schaffen. Die Messergebnisse werden direkt per Funk auf einen PC übertragen. Das Ergebnis wird parallel auf einem Monitor dargestellt. Spielerisch erfährt der Besucher die Faszination „Funk“!

Der Stand **e-future in NRW**, ist etwa 250 qm groß und präsentiert Unternehmungen aus NRW unter dem Themenschwerpunkt „IT-Kompetenz aus NRW“ (Mobile, Digitales Ruhrgebiet, Geo & Security).

Über IMST: Gegründet im Jahr 1992 beschäftigt das Entwicklungshaus und Forschungsinstitut heute ca. 130 hochqualifizierte Mitarbeiter. Schwerpunkt der Tätigkeit ist Forschung und Entwicklung auf dem Gebiet der Mobilfunktechnik, der Satellitenfunktechnik und der Informationstechnik. Zahlreiche Innovationen im Bereich der Handy-Entwicklungen und der Minimierung der elektromagnetischen Belastung des Mobilfunknutzers durch optimierte Antennen gehen auf IMST zurück. Im letzten Jahr wurden zwei renommierte Preise an Wissenschaftler der IMST GmbH vergeben – ein Zeugnis für die herausragende wissenschaftliche Qualität.

Zusätzlich betreibt das Unternehmen ein akkreditiertes Prüfzentrum für Elektromagnetische Verträglichkeit als Dienstleistung für Firmen der Region.

IMST GmbH – Informationstechnik, Mobilfunktechnik, Satellitenfunktechnik

IMST GmbH • Carl-Friedrich-Gauß-Str. 2 • D-47475 Kamp-Lintfort • Tel.: 02842-981-100
Fax.: 02842-981-199 • e-mail: contact@imst.de • www.imst.de, oder: www.imst.com



2.3 Dissemination of Patent and IPR issues

Final plans for ACE Dissemination also include issues related to patents and IP protection. The objective is not to compete with Patent offices, that are “general purpose” but rather to make something more specialised on the subject, seen from the point of view of the antenna scientists and engineers.

ACE is creating in our VCE a web-based organised database of European patents on antennas as well as a detailed inventory among all partners of the NoE concerned with antenna related patent activities.

Contacts were made with the EU Patent Office in Den Haag (The Netherlands) to organise workshops for the NoE participants, explaining how to interact with the existing patent information. The workshop, held in Torino, Italy, on October 28th, 2005, was organized by Poli Torino in cooperation with the European Patent Office and the "Torino Wireless" Foundation. The goal of this workshop was to link the world of scientific literature and that of the IP protection, and to make aware the antenna research community of the potentials of the issues related to the IP protection, thus fulfilling another of the Dissemination objectives in ACE



ACE
Antenna Centre of Excellence

WORKSHOP on
**INTELLECTUAL PROPERTY
IN ANTENNAS**
Protecting and exploiting
antenna technologies



Politecnico di Torino, Turin, Italy
October 28th, 2005

Program

9.30 Mario Orefice
9.45 Politecnico di Torino, ACE
Introduction to the Workshop

9.45 Carlo Torti
11.00 Grünecker
Fundamentals of Patents

11.00 Break
11.15

11.15 Gerry Van Dooren
12.30 European Patent Office
Patenting Antennas

12.30 Q&A Session
12.45
13.45 Lunch

13.45 Gerry Van Dooren
15.00 European Patent Office
Searching Patents on the Internet

15.00 Break
15.15

15.15 Stephen Potter
16.15 UK R&D Society
The IP Business

16.15 Panel discussion
17.30 *The antenna patent situation in Europe*



With the support of
The European
Patent Academy




**Politecnico di Torino
Fondazione Torino Wireless
ISMB**

Antennas and EMC Laboratory (L.A.E.)

A.C.E. (Antenna Centre of Excellence) is a FP6 funded Network of Excellence with 46 Institutions from all over Europe, aiming to structure the fragmented European antenna R&D, reduce duplications and boost excellence and competitiveness in key areas. One of the most significant tasks is to contribute to the dissemination and transfer of knowledge also through the management and coordination of patents and IP issues related to antennas.

The scope of this workshop is to link the world of the scientific literature and that of the IP protection, and to make aware the antenna research community of the potentials and the of the issues related to the IP protection.

The participation to the workshop is free of charge, but the attendance is limited and therefore registration is mandatory. Please register on the Antenna VCE or sending an e-mail to: mario.orefice@polito.it

*The announcement of a
very successful
Workshop on
Intellectual Property
on Antennas
held in Torino
on Oct. 2005*

3. Final plans for using and disseminating Knowledge

Real excellence in European R&D can only be achieved by means of knowledge sharing. Therefore, effective ways of dissemination should be implemented, to allow the flow of information within the antenna community. As stated above, conference attendance is only the first step. More specific symposia and workshops will be organised by the members of the NoE, to keep the remaining European players aware of the latest developments in technologies, procedures or theoretical advances. Moreover, the results of the enhanced collaboration will be made public, using current and future means of communication, like specialised periodic publications, the dedicated Virtual Centre of Excellence and lectures in universities in order to bring the students closer to the state-of-the-art topics in the antenna area.

It is also planned to harmonise the PhD studies and offer the possibility of training new generations of high-level European antenna professionals. In this regard PhD students will be able to determine the top institutions in the area of their interest. The organisations within the network therefore have indicated their desire to host and train exchange students in the area of their own excellence.

Having all this in mind, real networking can only be established by the close contact of researchers. This requires a certain mobility of staff from different organisations to learn from each other and generate long-term contacts.

In addition, the efforts of the Network would help bring European research into the spotlight, as a real competitor in the global environment. The respect for European expertise will be increased, bringing along new business opportunities, and thus fostering the development of the telecommunications sector beyond the lifetime of this action.

This work has successfully been started in ACE-1, but ACE-2 will allow a permanent structure to form, and to reach users outside the scientific community.

Coordination with Applications

As stated previously, scientific and technical research in Europe often suffers from deficient coordination and poor communication between the different groups. Although in the last years the situation has improved, for example through the different COST or FP actions, there still is a long way to go before there is a common European research programme. It is the aim of

the Network to cluster organisations with joint interests in order to enable closer communication between them to learn from each other's principles and enforce a common roadmap of research in the long term.

In order not to lose contact with real needs, and define the future needs, it is fundamental to involve industrial partners in the research and training programs. Thus, the more academic institutions will learn the requirements of the market, whereas private companies would get access to fundamental research results and methodologies. To achieve this, the composition of the network will contain both parties with equal rights within the NoE. To further strengthen the coordination with application needs, new application work packages have been added in ACE-2, an enhancement compared to ACE-1. They will establish the needs and specifications from the different applications, and feed back the research results to the users.

Durable structuring impact

The durable impact on the European antenna research will be large, overcoming to the present lack of a good European structure. The following major changes are foreseen:

- **New research cooperations**

In all the work packages, research institutions working on similar problems will meet, resulting in new common research cooperations

- **Better industrial use of the research results**

The industries will have much better knowledge about and direct contacts with the relevant research institutions

- **More relevant research**

Through ACE, the research direction will be more relevant to society and industrial needs, and this influence will continue with the improved contacts between universities and industry.

Organisation of Dissemination

Following the experience gathered and the results achieved in the first phase of the ACE Network, we are planning the following activities for using and disseminating Knowledge:

- DISAC: Dissemination at Academic and Research level: European conferences
- DISSME: Dissemination to SMEs and other potential end users
- IPPI: Intellectual Property and Protection of Innovation Issues
- DISSOC: Dissemination towards Society

Here follows a brief description of the three first Dissemination objectives. The fourth one is to be found in the **Deliverable 3.2D14 "Report on raising public participation and awareness"**.

3.1 Dissemination to academic & industrial R&D clusters outside the Network

A real excellence in European R&D can only be achieved by means of knowledge sharing. Therefore, effective ways of dissemination should be implemented, to allow the flow of information within the antenna community. European conferences and more specific symposia and workshops will be organised by the members of the Network, to keep the remaining European players aware of the latest developments in technologies, procedures or theoretical advances. A strong cooperation with the "VCE" and with the "Training and Education" activity is expected here. Another result that ACE-2 should achieve is the constitution of a stable Steering Committee intended to create a periodic event, the European Antenna and Propagation Conference (EuCAP). Thanks to efforts already accomplished in the current period, a first version of this Steering Committee already exists and includes representatives of the main national Conferences (detailed information available in the ACE-1 first year progress report). ACE-2 should complete this Committee, include new partners (EUREL, European IEEE chapters) and the first EuCAP would be organized in Nice, France, on November 2006.

Finally, ACE-2 must reinforce the interactions with related NoEs (Amicon, NewCom, SatNex, Metamorphose...) and with other European initiatives (Biological effects of EM waves, COST projects) or projects (IPs, STREPs) including activities in the antenna domain. Workshops aiming at defining new transdisciplinary research areas will be held.

3.2 Dissemination to other potential end users (industries and SMEs)

In the second phase of Network, the knowledge within ACE will be disseminated to users and

industry, with emphasis on smaller facilities (SMEs and similar), which have limited capability to keep abreast of the development. The objective is that all organisations outside the network, which need antenna knowledge, will get it through our dissemination activities, and through them, come into contact with suitable partners for co-operation. Particular emphasis will be put on the new member states and candidate countries, where the need for structuring is even higher than in the West European countries.

The VCE will assure the availability of research results to SMEs, and facilitate new cooperations

To disseminate towards SMEs, the ACE-2 partners involved in Dissemination will

- 1) **Collect information** about potentially interested SMEs in every European country. This will result in a database with all the relevant information about capabilities, antenna know-how, technological needs and general descriptions of the SMEs
- 2) **Involve the National Organisations** that represent the Associations of SMEs
- 3) **Organize an European SME Workshop** attracting a large participation and putting in touch the academia, the big industry and the SMEs, which could then come in contact with suitable partners for co-operation.

3.3 Dissemination of Patent and IPR issues

The world of the scientific literature and that of patents and intellectual property protection and exploitation seem to be very far apart and not communicating. The academic community looks preferably towards journal/conference publications as a mean of scientific success, disregarding the patent activity; on the other side, sometimes patent activity seems not to be aware of the existing scientific literature; and often a large part of the scientific content of patents does not have a further publication. This relationship is becoming more and more important, because nowadays patents are granted not only to “physical objects”, but also to algorithms and software. We found in ACE1 that in the last 10 years more than 2000 patents were awarded in the USA to subjects containing the word “antenna” in the title. Out of these, a little less than 20% were of European origin, mostly from the “big” companies (Nokia, Ericsson, Siemens, Alcatel...).

The final Dissemination plans should make aware all the European antenna community of the issues related to patents and IP protection, and to act as a link between the two worlds. In

connection with the European School of Antennas, currently under development, short courses will be proposed in this subject.

To this end we propose the following actions:

- 1) **Create within the Association EurAAP a specialized group** (for instance EARS, European Antenna Research Society) and its web-based Bulletin (BEARS), supported by the ACE Virtual Centre, that will inform the community about IP&PI issues.
- 2) **Create a series of short courses on IP&PI** issues with participation of European and World experts that could be included in the European School of Antennas.