

## **Annex 5: Telecommunications and Transport Technologies Detailed Findings (Group B)**

### **A5..1 Introduction**

The proposals classified as relating to telecommunications technology, network elements as well as the proposals classified as addressing the needs of the telecommunications and transport markets, emergency services were reviewed and analysed by the Telecommunications and Transport group. Sub-categories and links between proposals were identified, both within the scope of the areas listed above and to the other areas of the IST programme and the Fifth Framework Programme. Approximately 100 proposals were analysed according to the technology sector they addressed and 150 proposals according to the market sector addressed. The Telecommunications and Transport Technologies group created 6 technology sub-clusters and 7 market sub-clusters.

The proposals addressing telecommunications technology were proposed as Key Action 4 proposals. The proposals addressing transport technology and markets came mainly from Key Actions I, II and III.

### **A5..2 Content of the proposals**

The proposals address topics covering the broad scope of telecommunications with proposals relating to access networks, core networks, 2<sup>nd</sup> and 3<sup>rd</sup> Generation mobile networks and terminals, wireless LANs, satellite networks and services and Internet Service providers, network and service management, corporate networks and home networks. New technologies such as the use of power lines as a carrier for telecommunications services, smart antennas, software radio and active network, amongst many others are represented.

Some areas which were noted as partially addressed were wearable computers, body area networks and short range wireless networks in general. No proposal addressed ATM over UMTS and IN networks technologies were partially addressed.

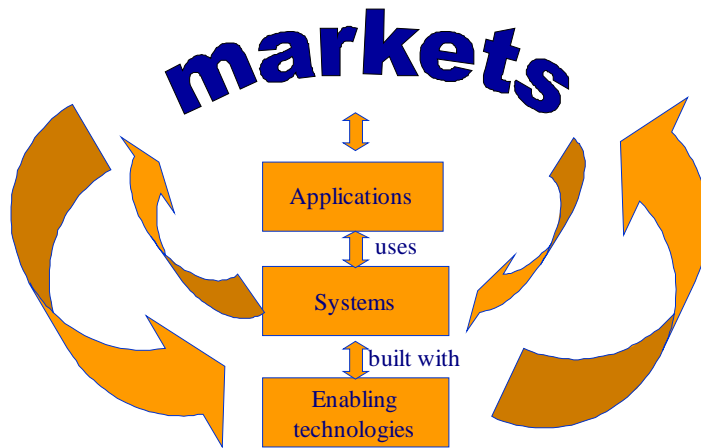
In the transport area, proposals address a broad range of technologies for the pedestrian, the car, public transport, lorries, aircraft and handling equipment for containers. A range of systems are proposed which will improve the safety of transport and improve traffic management on the road and in the air. Other systems will improve the access of the citizen to information, such as routing information, traffic information, schedules for public transport and schedules for shared private transport systems such as car-share systems.

The dominant technology permeating proposals from all areas is Internet technology.

Convergence between the telecommunications, computer and audio-visual industry is evident in the proposals. Organisations from all three sectors have the same end customer in mind (for example, the home consumer).

### **A5..3 Relationship to the IST Programme**

The proposals we examined were mainly concerned with systems development with some developing applications and a few addressing both areas. The systems will be built of components and enabling technologies being developed in other areas of Key Action 4. The systems will support applications being developed in Key Actions 1,2, and 3. Future systems will use the results of research in proposals addressed to Future and Emerging technologies, for example quantum systems. The applications will address the needs of users from a range of markets, particularly the communications and transport markets.



**Figure B.1 - Relationship between markets and IST technologies**

### **A5..3.1 Categories and Sub-categories**

#### **Technology grouping**

For the purposes of categorisation and hence analysis, the Telecommunications and Transport group used the following technology categories and subcategories as shown in the following table.

<b>Categories</b>	<b>Sub-categories</b>
UMTS and Software radio, Satellite and DVB	<ul style="list-style-type: none"> <li>• DVB</li> <li>• Satellite</li> <li>• Software Radio</li> <li>• UMTS</li> </ul>
GPRS, GSM, Tetra and terminals	<ul style="list-style-type: none"> <li>• GSM/GPRS</li> <li>• Terminals</li> <li>• Tetra</li> </ul>
Wireless LAN and Wireless Access networks	<ul style="list-style-type: none"> <li>• Wireless Access</li> <li>• Wireless LANs</li> </ul>
Optical networks, home and fixed networks	<ul style="list-style-type: none"> <li>• Home</li> <li>• Optical</li> <li>• Physical Access</li> </ul>
IP, Networking nodes, content servers, NMS and components	<ul style="list-style-type: none"> <li>• Components</li> <li>• Content Adaptation Servers</li> <li>• IP/QoS</li> <li>• Networking Nodes</li> <li>• Network Services &amp; Management services</li> </ul>
Cluster Projects	<ul style="list-style-type: none"> <li>• Cluster projects</li> </ul>

### Market grouping

For the purposes of categorisation and hence analysis, the Telecommunications and Transport group used the following technology categories and subcategories as shown in the following table.

Categories	Sub-categories
Network and service operators	<ul style="list-style-type: none"> <li>• Internet service providers and operators</li> <li>• UMTS networks</li> <li>• GSM and GPRS networks</li> <li>• Local loop networks</li> <li>• Corporate networks</li> <li>• Home networks and users</li> <li>• Backbone networks</li> <li>• Satellite</li> <li>• Fixed network operators</li> <li>• Network and service providers</li> </ul>
Telecom Manufacturers	<ul style="list-style-type: none"> <li>• UMTS</li> <li>• GSM</li> <li>• Local loop</li> <li>• Corporate networks</li> <li>• Home networks</li> <li>• Satellite</li> <li>• Telecom</li> </ul>
Emergency Service operators and Manufacturers	<ul style="list-style-type: none"> <li>• Emergency service providers</li> </ul>
Auto Industry Manufacturers and users	<ul style="list-style-type: none"> <li>• Auto-industry manufacturers</li> <li>• Auto end-users/car buyers</li> </ul>
Non-telecom service providers	<ul style="list-style-type: none"> <li>• Non-telecom service providers</li> </ul>
Transport service providers	<ul style="list-style-type: none"> <li>• Air-traffic</li> <li>• Automotive</li> <li>• Railways/aerospace</li> <li>• Ship</li> </ul>
Longer term and support projects	<ul style="list-style-type: none"> <li>• Longer term and support projects</li> </ul>

### A5..3.2 Links

#### A5..3.2.1 Proximity links:

- Integration and convergence of 2<sup>nd</sup> and 3<sup>rd</sup> mobile infrastructures towards configurable platforms (multi-standard, multi-modes terminals)

FROM	TO
Software Radio (10287-CAST, 11251-PASTORAL, 12070-TRUST, 10206-MOBIVAS, KA IV.5 11243-SODERA)	<ul style="list-style-type: none"> <li>GSM/GPRS proposals (11385-ARTIST, 10050-BRAIN, 10469-SUITED, 12515-DRIVE)</li> <li>UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li> </ul>

- Convergence and Integration of IP with mobile and Wireless networks

FROM	TO
IP/QoS proposals (10077-AQUILA, 10504-GCAP, 11017-CADENUS, 11591-MOEBIUS, 10028-WINE, 10905-NETGATE)	<ul style="list-style-type: none"> <li>GSM/GPRS proposals (11385-ARTIST, 10050-BRAIN, 10469-SUITED, 12515-DRIVE)</li> <li>UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li> <li>Software Radio (10287-CAST, 11251-PASTORAL, 12070-TRUST, 10206-MOBIVAS, KA IV.5 11243-SODERA)</li> </ul>
Content Servers Proposals (10160-VIDEOGATEWAY)	<ul style="list-style-type: none"> <li>GSM/GPRS proposals (11385-ARTIST, 10050-BRAIN, 10469-SUITED, 12515-DRIVE)</li> <li>UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li> <li>Software Radio (10287-CAST, 11251-PASTORAL, 12070-TRUST, 10206-MOBIVAS, KA IV.5 11243-SODERA)</li> </ul>
IP/QoS proposals (10077-AQUILA, 10504-GCAP, 11017-CADENUS, 11591-MOEBIUS, 10028-WINE, 10160-VIDEOGATEWAY, 10905-NETGATE)	<ul style="list-style-type: none"> <li>Wireless Access Proposals (10731-ADAMAS, 11571-EMBRACE, 11956-BASS)</li> <li>Wireless LAN Proposals (10205-WIND-FLEX, 10050-BRAIN, 11316-R6FIELDBUS)</li> </ul>
Network Services and Services Management (10167-VIRTUOUS, 10299-ANDROID, 10440-BRAHMS, 10921-MANTRIP, 11014-SHUFFLE, 13305-WINMAN)	<ul style="list-style-type: none"> <li>UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li> <li>Software Radio (10287-CAST, 11251-PASTORAL, 12070-TRUST, 10206-MOBIVAS, KA IV.5 11243-SODERA)</li> <li>Wireless Access (10731-ADAMAS, 11571-EMBRACE, 11956-BASS)</li> </ul>
IP/QoS proposals (10077-AQUILA, 10504-GCAP, 11017-CADENUS, 11591-MOEBIUS, 10028-WINE, 10160-VIDEOGATEWAY, 10905-NETGATE)	<ul style="list-style-type: none"> <li>Network Nodes (10031-XSPAN, 10561-FAIN, 10905-NETGATE)</li> <li>Network Service and Service Management (10167-VIRTUOUS, 10299-ANDROID, 10440-BRAHMS, 10921-MANTRIP, 11014-SHUFFLE, 13305-WINMAN)</li> </ul>

#### A5..3.2.2 Info Sharing links:

The following table shows some of the links found between Wireless technologies and Auto Industry Manufactures related proposals:

FROM TELECOM & TRNSPORT(GROUP B)	TO TELECOM & TRANSPORT (GROUP B)
GPRS/GSM UMTS	<ul style="list-style-type: none"> <li>Auto industry Manufactures (5 proposals) 10700-PARCELCALL, 11138-ITSWAP, 13046-MCP, 11595-COMMUNICAR, 11161-DIAMOND</li> </ul>

The following diagram shows some of the possible links between subcategories of Telecom & Transport technologies (group B) and Enabling Technologies and Applications (group C), with synergies identified between technologies/markets classification

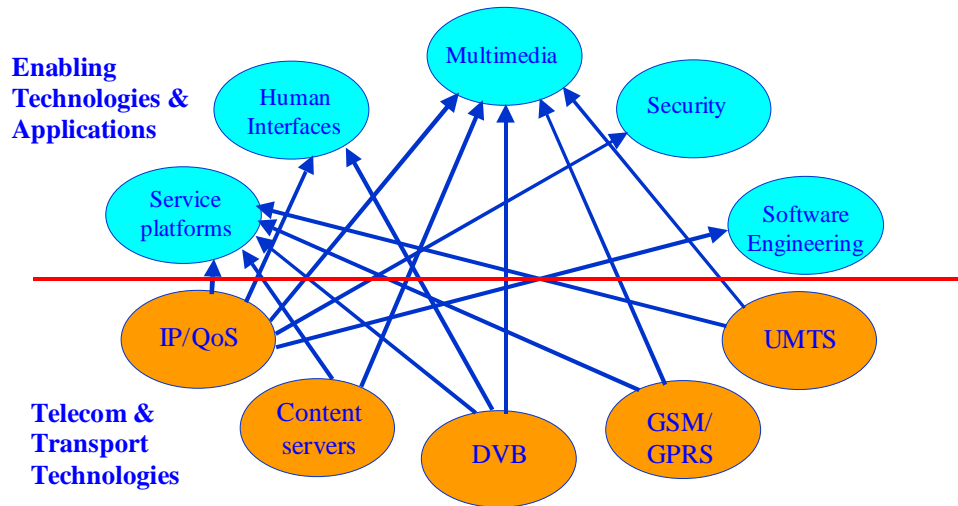
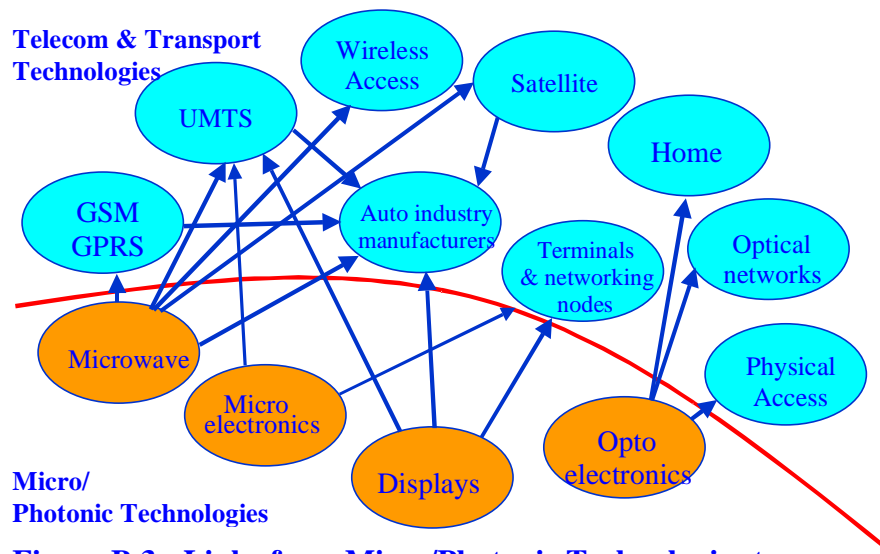


Figure B.2 - Links from Telecom & Transport to Enabling Technologies

FROM TELECOM & TRANSPORT (GROUP B)	TO ENABLING TECHNOLOGIES & APPLICATIONS (GROUP C)
IP/QoS proposals (10077-AQUILA, 10504-GCAP, 11017-CADENUS, 11591-MOEBIUS, 10028-WINE, 10905-NETGATE)	<ul style="list-style-type: none"> <li>Service Platforms: KA III.3 (4 proposals), KA. III.4 (8 proposals), KA. III.2 (7 proposals), KA II.2 (4 proposals), II.3 (1 proposal), I.2 (6 proposals), I.5 (2 proposals), I.6 (2 proposals), IV.2 (4 proposals), IV.5 (3 proposals).</li> <li>Human Interfaces and VR (KA III.2.3 10954-VAKHUM, KA III.3.1 12017-DIVILAB, KA III.2.1 11090-IST-G9-1, KA III.2.3 12026-IVEX-MST, KA II.3 12361-SHOPAWARE, KAI.3 12641 FAIRWIS, KA III.2.3 12643-TOURBOT, KA II.2 13365-DIVERCITY, KA III.3.3 10953-VirTEPPE, KA II.3 11078-FASHIONME, KA II.3 12665-VIRTUAL WI )</li> <li>Multimedia (KA II.2 11027-VR-CONFERE, KA I.6 11595-COMMUNICA, KA I.4 11678-TRIDENT, KA III.3.1 12017-DIVILAB, KA III.3.1 12021-CODEX-IP, KA III.2.1 12508-VINE, KA IV.2 12585-RAA, KA II.3 11305-ADVICE, KA II.3 <a href="#">12277-LIVE@WEB.COM</a> , KA III.2.2 12203-CIWOS, KA III.2.4 13391-THEMAPORT)</li> <li>Security (KA II.4.1 12554-ASPIS)</li> <li>Simulation (KA IV.4.1 proposals, KA II.2 10202-STARIMATE, KA II.3 10549-E6TAILOR, KA II.2 10846-TOWER, KA III.2.3 10859-ASA, KA. II.2 13365-DIVERCITY, KA III.3.3 11286-ASIMIL, KA IV.7.2 12128-BRAKE)</li> </ul>

Content Servers Proposals (10160-VIDEOGATEWAY)	<ul style="list-style-type: none"> <li>• Service Platforms KA IV.4.3 11702-myTV, KA IV.4.2 SAMBITS, KA IV.4.6 NextTV</li> </ul>
GSM/GPRS	<ul style="list-style-type: none"> <li>• Service Platforms: CPA.1 12295-SIRLAN, KA IV.5 10106-GLOBAL-CHI</li> <li>• Multimedia (KA II.2 11027-VR-CONFERE, KA I.6 11595-COMMUNICA, KA I.4 11678-TRIDENT, KA III.3.1 12017-DIVILAB, KA III.3.1 12021-CODEX-IP, KA III.2.1 12508-VINE, KA IV.2 12585-RAA, KA II.3 11305-ADVICE, KA II.3 <a href="mailto:12277-LIVE@WEB.COM">12277-LIVE@WEB.COM</a>, KA I.5 10637-MERMAID, KA III.2.2 12203-CIWOS, KA III.2.4 13391-THEMAPORT)</li> </ul>
UMTS	<ul style="list-style-type: none"> <li>• Service Platforms: CPA.1 12295-SIRLAN, KA IV.5 10106-GLOBAL-CHI</li> <li>• Multimedia (KA II.2 11027-VR-CONFERE, KA I.6 11595-COMMUNICA, KA I.4 11678-TRIDENT, KA III.3.1 12017-DIVILAB, KA III.3.1 12021-CODEX-IP, KA III.2.1 12508-VINE, KA IV.2 12585-RAA, KA II.3 11305-ADVICE, KA II.3 <a href="mailto:12277-LIVE@WEB.COM">12277-LIVE@WEB.COM</a>, KA I.5 10637-MERMAID, KA III.2.2 12203-CIWOS, KA III.2.4 13391-THEMAPORT)</li> </ul>

The following diagram shows some of the possibly links between subcategories of Micro/Photonic technologies (group A) and Telecom & Transport technologies (group B), with synergies identified between technologies/markets classification.



**Figure B.3 - Links from Micro/Photonic Technologies to Telecom & Transport Technologies**

FROM MICRO/PHOTONIC TECHNOLOGIES (GROUP A)	TO TELECOM & TRANSPORT TECHNOLOGIES (GROUP B)
Microwave devices and antennas (KA IV.8 10339-PALOMAR, KA IV.5)	<ul style="list-style-type: none"> <li>• GSM/GPRS (11385-ARTIST, 10050-BRAIN, 10469-SUITED, 12515-DRIVE)</li> <li>• UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li> <li>• Wireless Access</li> <li>• Satellite</li> </ul>
Advanced Micro-electronics	<ul style="list-style-type: none"> <li>• UMTS and terminals</li> <li>• Networking nodes</li> </ul>
Advanced Opto-electronics Design (KA IV.2 10626-ATLAS, KA IV.8 10187-WILD, KA IV.8 12700-GIFT)	<ul style="list-style-type: none"> <li>• Optical networks</li> <li>• Home networks</li> <li>• Physical access</li> </ul>

FROM ENABLING TECHNOLOGIES & APPLICATIONS (GROUP C)	TO TELECOM & TRANSPORT TECHNOLOGIES (GROUP B)
Agents	<ul style="list-style-type: none"> <li>• Networking nodes (and Active Networks) (10031-XSPAN, 10561-FAIN, 10905-NETGATE)</li> </ul>
Security	<ul style="list-style-type: none"> <li>• IP/QoS (10077-AQUILA, 10504-GCAP, 11017-CADENUS, 11591-MOEBIUS, 10028-WINE, 10905-NETGATE)</li> <li>• Network Services and Service Management (10167-VIRTUOUS, 10299-ANDROID, 10440-BRAHMS, 10921-MANTRIP, 11014-SHUFFLE, 13305-WINMAN)</li> </ul>

**A5..3.2.3 External Dependency links:**

Forums/contributions to Standardisation

***ITU-T (UMTS, IMT-2000)***

10287 CAST  
12070 TRUST  
10206 MOBIVAS  
11014 SHUFFLE

***IETF***

10077 AQUILA  
10504 GCAP  
10561 FAIN  
13305 WINMAN

**A5..3.2.4 Strategic links:**

- Integration and convergence of 2<sup>nd</sup> and 3<sup>rd</sup> mobile infrastructures towards configurable platforms (multi-standard, multimodes terminals)

FROM	TO
Software Radio (10287-CAST, 11251-PASTORAL, 12070-TRUST, 10206-MOBIVAS)	<ul style="list-style-type: none"><li>• GSM/GPRS proposals (11385-ARTIST, 10050-BRAIN, 10469-SUITED, 12515-DRIVE)</li><li>• UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li></ul>

- Convergence and Integration of IP with mobile and Wireless networks

FROM	TO
IP/QoS proposals (10077-AQUILA, 10504-GCAP, 11017-CADENUS, 11591-MOEBIUS, 10028-WINE, 10160-VIDEOGATE, 10905-NETGATE)	<ul style="list-style-type: none"><li>• GSM/GPRS proposals (11385-ARTIST, 10050-BRAIN, 10469-SUITED, 12515-DRIVE)</li><li>• UMTS (10322-SATURN, 10669-WINE GLASS, 10741-ASILUM)</li><li>• Software Radio (10287-CAST, 11251-PASTORAL, 12070-TRUST, 10206-MOBIVAS)</li></ul>



## **A5..4 Key issues**

### **A5..4.1 *Convergence, local loop and home***

The market of the historical telecommunication operators has been deeply transformed by the regulation evolution of the telecommunication sector. The European projects and the integration of the IST programme should allow to maintain the European research at a high level while keeping it very close to the complete process of production of new products and services. In this context, the IST programme should favour the development of new products and infrastructures, and in particular of alternative local loop solutions, with a global vision for the home access, allowing to free the end users from a monopoly of historical operators on the local loop. The current set of proposals in this area addresses most of the technologies in the lower layer (XDSL, Power Line, Radio, Optical Fibre, copper), supporting IP technologies, however no proposal is currently aiming at services developments over cable TV networks. Another key aspect in alternative service access solutions relies on the convergence of broadcast and Internet applications through the development of inter-operable platforms, and through the incorporation of "content anytime" concepts developed within the DVB and DAVIC groups, eventually aiming at the maintenance of the European audio-visual industry competitiveness, and at the creation of new market opportunities in the audio-visual industry. This area seems to be well covered by the existing proposals.

### **A5..4.2 *IP and Wireless***

The IP and wireless technologies have an important role on the development of the Information Society bringing up the paradigm of having "anything everywhere". This brings up new concepts addressed from various proposal including virtual home environments. However the access to the big "telecommunications cloud" is still a drawback not only due to the reduced band but also due to the mixture of packet and circuit technologies. Although the development seen on the wireless and optical technologies and also the effort to re-use the cooper networks (xDSL, Cable modems) are overcoming the band problem at transmission level, there is still the limitation of switching at the "input" node. The "democratisation process" that is being observed on the access to the communication resources is pressing the telecom providers, mainly on the local networks, forcing them to look for new network concepts (community networks, metropolitan networks, etc.) which are not fully addressed from the current proposals. The area of wireless and mobile communications (GSM/GPRS, UMTS, Satellite) is well covered, however one should notice a strong presence of the terminal manufacturers and an absence of participation of the new mobile operators. The maintenance of the high level of European competitiveness in the wireless market relies also on pro-activeness in the integration of IP with Wireless. This issue is not covered as a well focused goal by the existing proposals and this can be reinforced through the implementation of proximity links between the proposals dealing with GSM/GPRS, UMTS and Software Radio on one hand and the proposals dealing with Internet technologies and quality of service management on the other hand.

### **A5..4.3 *QoS***

The future generations of wireless infrastructures, terminals and applications rely also on high pro-activeness in the area of software radio which will eventually lead to high level of evolution, adaptability and re-configurability. The software radio concepts in the current proposals are addressed considering mainly the MAC and physical layer (close to the RF interface). No proposal is currently addressing the re-configurability with adaptive optimised QoS and its impact on services and applications (i.e Voice, Data, Video).

### **A5..4.4 *Interoperability***

One essential issue of competitiveness in the telecommunication sector relies on the development of flexible and inter-operable open platforms that can be customised for supporting different applications and services, in order to increase potential market shares in various application sectors. Few proposals addresses however specifically this area. This can be reinforced by strong links, and at the least strong awareness, between the proposals identified in the middleware technology area and those developing telecommunication infrastructures (GSM/GPRS, UMTS) and new telecommunication technologies (IP/QoS, Service management, network nodes, etc.), the ultimate goal being to come up with clear interfaces allowing for flexibility, and the capability of the integrated service platforms evolution.

#### **A5..4.5 End user involvement**

The integration of the IST programme should create unique opportunities in involving, at an early stage, real end users, at least to an early awareness of the new technologies in the telecommunication sector which should eventually lead to higher risk contention capabilities.

#### **A5..4.6 Transport Industry**

There is a broad range of transport related proposals dealing with safety on the roads and also with traffic management on the air/roads. These proposals have a futuristic technology approach based on wireless communications, IP technology, sensor systems and Web based access techniques to traffic information. The coverage of automotive/airspace/ railway industry is broad, contributing to the improvement of the environment, health and safety of the citizen.

### **A5.5 Recommendations**

1. Emphasis should be given to the development of technologies, products and services for the home environment.
2. Emphasis should be placed on the implementation of the identified strategic links (integration of IP with wireless and fixed access networks) with the provision of additional funding for R&D.
3. More emphasis should be given to long term telecom related R&D.
4. Emphasis should be placed on strategies and contributions to the standardisation process in the telecom sector from the proposals.
5. Implementation of links between telecom oriented proposals and application proposals with end users.
6. Cross fertilisation between IT&Telecom proposals and transport proposals should have special attention.

### **A5..6 Appendix to Telecommunications and Transport Technologies (Group B) Report - Technology and Marketing Grouping**

#### **A5..6.1 Technology Grouping**

##### **UMTS and software radio, satellite and DVB**

	<b>Proposal n°</b>	<b>KA</b>	<b>Acronym</b>
DVB	11729	IV.5	METRA
Satellite	11754	IV.2	GEOCAST
	12319	IV.5	MULTIKARA
Software Radio	11251	IV.5	PASTORAL
	12070	IV.5	TRUST
	10287	IV.5	CAST
UMTS	10322	IV.5	SATURN
	10669	IV.5	WINE GLASS
	10741	IV.5	ASILUM

**GPRS, GSM, Tetra and terminals**

	Proposal n°	KA	Acronym
GSM/GPRS	10178	IV.8.1-2	TIGRA
	10498	CPA1	ODIN
	13583	IV.5	ARTIST
Terminals	11100	CPA.1	MTM
	11156		AMOVITE

**Wireless LAN and Wireless Access networks**

	Proposal n°	KA	Acronym
Wireless Access	10731	IV.5	ADAMAS
	11571	IV.5	EMBRACE
	11956	IV.2	BASS
Wireless LAN	10025	IV.5	WIND-FLEX
	10050	IV.5	BRAIN
	11316	IV.5	R-FIELDBUS

**A5..6.2 Optical networks, home and fixed networks**

	Proposal n°	KA	Acronym
Home	10358	IV.8.1.2	INSONET
	10622	IV.2	INHOMENET
	11379	CPA.1	PALAS
	13313	IV.2	E-HOME
Optical	10402	IV.2	METEOR
	11387	IV.2	LION
	11719	IV.2	HARMONICS
	11742	IV.2	DAVID
Physical Access	10326	IV.8.1.2	ULTRAMOD

**IP, Networking Nodes, Content servers, NMS and Components**

	<b>Proposal n°</b>	<b>KA</b>	<b>Acronym</b>
Components	11449	IV.8.1-2	PRO3
Content Adaptation Servers	10160	IV.2	VIDEOQATEWAY
IP/QoS	10028	IV.2	WINE
	10031	IV.2	XSPAN
	10077	IV.2	AQUILA
	10469	IV.5	SUITED
	10504	IV.2	GCAP
	11017	IV.2	CADENUS
	11591	CPA.1	MOEBIUS
	11956	IV.2	BASS
	12515	IV.5	DRIVE
	13305	IV	WINMAN
Networking .Nodes	10031	IV.2	XSPAN
	10561	IV	FAIN
	10905	IV.2	NETGATE
Network services and Management Services	10167	IV.5	VIRTUOUS
	10206	IV.5	MOBIVAS
	10299	IV	ANDROID
	10440	IV.5	BRAHMS
	10921	IV	MANTRIP
	11014	IV	SHUFFLE
	13305	IV	WINMAN

**Cluster proposals**

	<b>Proposal n°</b>	<b>KA</b>	<b>Acronym</b>
Test bed	12300	IV.5	WSI

## Marketing Grouping

### A5..6.2.1.1 Network and Service operators

	Proposal n°	KA	Acronym
Backbone networks	11577	CPA3	I2I
	10402	IV.2	METEOR
	10626	IV.2	ATLAS
	11742	IV.2	DAVID
	13305	IV	WINMAN
Corporate Networks	10025	IV.5	WIND-FLEX
	11316	IV.5	R-FIELDBUS
	10044		VIRTUE
	10050	IV.5	BRAIN
	11421		DIVIPRO
	12295	CPA1	SIRLAN
	13346		AIT-VEDOP
Fixed Network Operators	10044		VIRTUE
	10326	IV.8.1-2	ULTRAMOD
GSM/GPRS/Networks	10905	IV.2	NETGATE
	11385	IV.5	ARTIST
	12515	IV.5	DRIVE
Home Networks & Users	10358	IV.8.1-2	INSONET
	12295	CPA1	SIRLAN
	13313	IV.2	E-HOME
ISP& Operators	10028	IV.2	WINE
	10077	IV.2	AQUILA
	10206	IV.5	MOBIVAS
	10478	II.2	E-NTRY
	10504	IV.2	GCAP
	10921	IV.2.3	MANTRIP
	11111		VICLA
	13305	IV	WINMAN
Local Loop Networks	10031	IV.2	XSPAN
	10731	IV.5	ADAMAS
	11379	CPA1	PALAS
	11719	IV.2	HARMONICS
	11956	IV.2	BASS
Network and Service Operators	10299	IV	ANDROID
	10302	IV.2	DSE
	10357	IV	FORM
	10440	IV.5	BRAHMS
	10504	IV.2	GCAP
	10561	IV	FAIN
	10667	III.3.4.4	SMADA
	10684	IV	STARLITE
	10905	IV.2	NETGATE
	11017	IV.2	CADENUS
	13046	IV.5	MCP
	10440	IV.5	BRAHMS
Satellite	10669	IV.5	WINE GLASS
UMTS	10825	IV	VESPER
	11014	IV	SHUFFLE
	12515	IV.5	DRIVE

Telecom Manufacturers

	Proposal n°	KA	Acronym
Corporate Networks	10044		VIRTUE
	10050	IV.5	BRAIN
	11421		DIVIPRO
	12295	CPA1	SIRLAN
	13346		AIT-VEDOP
GSM	10003	III.3.1	SPEECON
Home Networks	10003	III.3.1	SPEECON
Satellite Networks	10358	IV.8.1	INSONET
	10440	IV.5	BRAHMS
	12319	IV.5	MULTIKARA
Telecom	10243		SLIP
	10356	IV.8.4	ULTRABRIGHT
	10444	IV.8.4	SIGMUND
	10561	IV	FAIN
	10626	IV.2	ATLAS
	10731	IV.5	ADAMAS
	10787	IV.8.4	WILD
	10852	IV.7.2	LIDCAT
	10905	IV.2	NETGATE
	10945	IV.7.3	MELODICT
	11051	IV.8.4	TUNVIC
	11081	IV.8.1	LEMON
	11376	I.5	ROBOSENSE
	11379	CPA.1	PALAS
	11411	IV.7.2	MEDCOM
	11449	IV.8.1-2	PRO3
	11557	IV.2	INTERVAL
	11719	IV.2	HARMONICS
	11742	IV.2	DAVID
	11807	IV.8.4	FACT
	11956	IV.2	BASS
	12659	IV.5	SHARP PMR
	12700	IV.8.4	GIFT
	13046	IV.5	MCP
	13322	IV.8.4	LOBSTER
UMTS	10003	III.3.1	SPEECON
	10287	IV.5	CAST
	10322	II.1	SATURN
	10741	IV.5	ASILUM
	10825	IV	VESPER
	11014	IV	SHUFFLE
	11243	IV.5	SODERA
	11251	IV.5	PASTORAL
	11729	IV.5	METRA
	12070	IV.5	TRUST

**Emergency Service operators and Manufacturers**

	Proposal n°	KA	Acronym
Emergency Service providers	10176	IV.3.3	A-TEAM
	10178	IV.8.1-2	TIGRA
	12581	I.2	JUST
	12659	IV.5	SHARP PMR
	13036	I.6	PRIME

**Auto Industry Manufacturers and users**

	Proposal n°	KA	Acronym
Auto-industry Manufacturers	10043	IV.2	SETTA
	10107		PROTECTOR
	10108		CHAMELEON
	10235	IV.7.3	ISA
	10292	IV.8.4	AGETHA
	10312	I.6	RADARNET
	10319	III.2	ODISSEA
	10333	IV.7	GATE
	10448	I.6	CHAUFFEURII
	11138	I.6	ITSWAP
	11161		DIAMOND
	11206	I.6	NEXTMAP
	11686		SICS
	12128	IV.7.2	BRAKE
	11137	II.3	AWARDIS
	12224	I.6	CARSENSE
	12288	IV.7.2	FLEXIL
	12339		HIGHLIGHT
	12504	IV.2	AJACS
	13046	IV.5	MCP
Auto-end Users	10194		ADCIS

**Non-telecom service providers**

	Proposal n°	KA	Acronym
Non telecom	10057		MOCONT
	10667	III.3.4	SMADA
	10700	I.6	PARCELLCAL
	10744	I.4	SAMPLE
	11286	III.3.3	ASIMIL
	11425	I.6	ISCOM
	11641	III.2.2	HYPERGEO
	11780	II.1	DYCONET
	12516	III.2.1	I-TV
	12643	III.2.3	TOURBOT
	13046	IV.5	MCP
	13123	III.2.2	IMAGEN
	13391	III.2.4	THEMAPORT

**Transport service providers**

	Proposal n°	KA	Acronym
Airtraffic	12216	III.3.4	I-SAY
Automotive	10391	I.6	PEPTRAN
	12201	I.6	TPEG
Railway/aerospace	14049	I.6	DESCARTES
	11214	I.6	HELINET
	11287	I.6	ADVISOR
	12179	I.6	AIRFORCE
	12288	IV.7.2	FLEXIL

**Longer term and support proposals**

	Proposal n°	KA	Acronym
Support	12300	IV.5	WSI
Long term	12515	IV.5	DRIVE