CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS
(CE.R.T.H.)
HELLENIC INSTITUTE OF TRANSPORT
(H.I.T.)
6th km Charilaou Thermi Road
P.O. Box 361, 57001 Thermi, Thessaloniki
Tel. +302310498263 – Fax +302310498269
Email: hit@certh.gr - http://www.hit.certh.gr

ANNUAL REPORT
HELLENIC INSTITUTE OF TRANSPORT
2002

MARCH 2003

TABLE OF CONTENTS

LIST OF PICTURES

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

ADR	Regulations Concerning the International Transport of Dangerous Goods by Road (European law)
AGILE	AGed people Integration, mobility, safety and quality of Life Enhancement through driving.
AIT-FIA	International Assossiation of Tourism – International Federation of Automobile Clubs
AVERE	European Battery Hybrid and Fuel Cell Electric Road Vehicle Association
AWAKE	System for effective Assessment of driver vigilance and Warning According to traffic risK Estimation
BAST	Bundesantait fur Strassenwesen
BIVV	Belgian Roaf Safety Institute
CERTH	Centre for Research and Technology Hellas
CONSENSUS	Promoting CONSENSUS in Assessing Driving Ability of PSN Through Common Methodologies and Normative Tools.
CROW	Centre for Research and Contract Standardization in Civil and Traffic Engineering
DWS	Driver Warning System
GIFTS	Global Intermodal Freight Transport System
GPRS	General Packet Radio Service
GPS	Global positioning system
GSM	Global System for Mobile Communications
GSRT	General Secretariat for Research and Technology
HDM	Hypovigilance Diagnosis Module
HIT	Hellenic Institute of Transport
HTML	Hyper Text Multimedia Language
ICCS/NTUA	Institute of Communications and Computer Systems/ National Technical University of Athens
ICT	Information & Communication Technologies
IMAGE	Intelligent Mobility Agent for complex Geographic Environments.
IMMACULATE	IMprovement of Urban EnvironMent Quality of Air and Noise Levels by an Integrated, Cost Effective and MUlti-Level Application of Clean Vehicle TEchnologies.
INFSO	Information Society
IST	Information Society Technologies
RURAL WINS	Roadmap for ICT Solutions for Rural Areas and Maritime Regions
SETREF	South East European Transport Research Forum
TRL	Transport and Road Laboratory
UMTS	Universal Mobile Telecommunications System
UPTUN	Low-cost durable innovative UPgrading methods for fire safety in existing TUNnels.
VR	Virtual Reality
VSS	Vereinigung Schweizerischer Strassenfachte
VTI	Swedish National Road and Transport Research Institute
VTT	Finish National Road and Transport Research Institute

LIST OF GREEK ABBREVIATIONS

ΑΕ	Ανώνυμος Εταιρεία
ΑΕΙ	Ανώτατο Εκπαιδευτικό Ίδρυμα
ΑΜΕΑ	Άτομα με Ειδικές Ανάγκες
ΑΠΘ	Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης
ΓΓΕΤ	Γ.Γ. Έρευνας & Τεχνολογίας
ΔΕΠ	Διδακτικό Ερευνητικό Προσωπικό
ΔΠΘ	Δημοκρίτειο Πανεπιστήμιο Θράκης
ΕΕ	Ευρωπαϊκή Ένωση
ΕΚΣΤΡΑΤΕΙΑ ΒΟΒ	ΕΚΣΤΡΑΤΕΙΑ ενημέρωσης κατά της οδήγησης υπό την επήρεια αλκοόλ με στόχο τη Βελτίωση της Οδικής ασφάλειας, λαμΒάνοντας υπόψη τα σχετικά κοινωνικά πρότυπα.
ΕΛΟΤ	Ελληνικός Οργανισμός Τυποποίησης
ΕΛΠΑ	Ελληνική Λέσχη Αυτοκινήτου και Περιηγήσεων
ΕΜΠ	Εθνικό Μετσόβιο Πολυτεχνείο
ΚΕΔΕ	Κέντρα Έρευνας Δημοσίων Έργων
ΝΠΙΔ	Νομικό Πρόσωπο Ιδιωτικού Δικαίου
ΟΑΣΘ	Οργανισμός Αστικών Συγκοινωνιών Θεσσαλονίκης
ΟΛΘ	Οργανισμός Λιμένος Θεσσαλονίκης
ΟΛΠ	Οργανισμός Λιμένος Πειραιώς
ΟΣΕ	Οργανισμός Σιδηροδρόμων Ελλάδος
ΠΑΘΕ	Πάτρα-Αθήνα-Θεσσαλονίκη-Εύζωνοι
ΠΟΕΕΟΑ	Πανελλήνια Ομοσπονδία Επαγγελματιών Εκπαιδευτών Οδηγών Αυτοκινήτου
ΠΚΜ	Περιφέρεια Κεντρικής Μακεδονίας
ΤΕΕ	Τεχνικό Επιμελητήριο Ελλάδος
ΤΕΙ	Τεχνικό Εκπαιδευτικό Ίδρυμα
ΤΕΟ	Ταμείο Εθνικής Οδοποιίας
ΥΜΕ	Υπουργείο Μεταφορών & Επικοινωνιών
ΥΠΕΘΟ	Υπουργείο Εθνικής Οικονομίας
ΥΠΕΠΘ	Υπουργείο Εθνικής Παιδείας & Θρησκευμάτων
ΥΠΕΧΩΔΕ	Υπουργείο Περιβάλλοντος Χωροταξίας & Δημοσίων Έργων

1. INTRODUCTION

The Hellenic Institute of Transport (HIT) is an Organization devoted to the promotion and execution of Transport research in Greece. It was established in March 2000, by Presidential Decree 77/2000 as part of the National Centre for Research and Technology Hellas (CERTH). It is a "private status" legal entity under the supervision of the General Secretariat for Research and Technology of the Ministry of Industry. It is based in Thessaloniki, Greece.

The present report concerns year 2002 and is composed by 7 Chapters.

The second chapter illustrates the objectives and the mission of HIT as well as the sectors in which its scientific activities are developed. Also, HIT's organisational structure and the institutional frame that concerns its personnel are reported.

The third chapter presents an overview of the research work for the period 2001-2002, HIT's outlining current projects and proposals.

In the fourth chapter the financial review and the concise administrative picture of HIT for 2002 are presented.

The fifth chapter presents the effort for the creation of research infrastructures, both stationary (installation of virtual reality, semi-dynamic driving simulator) and mobile (equipped test drive vehicle, electrically aided bicycles, electric mopeds, hybrid car).

The sixth chapter outlines international promotion and the relations of HIT with research centres, universities and other institutions at national and international level.

Finally, the seventh chapter presents the publications and the dissemination of research results through congresses and other relevant events.

In Annex A brief curriculum vitae of the main participants of HIT are included, while Annex B provides detailed data for the research projects of HIT.

2. SCOPE OF SERVICES – ORGANISATIONAL STRUCTURE – LEGAL FRAMEWORK - PERSONNEL

2.1 SCOPE OF SERVICES

The basic scope of HIT is to provide a centre of excellence in the field of Transport with highly specialized research services offered to government and other public and private organizations and bodies, and to provide support for the conduct of Transport research in Greece. It is also devoted to providing support to Ministries and other government bodies for the formulation of Transport policy.

The scope of services covers all areas of Transport and in particular the organization, operation, planning and development of infrastructure, and standardization, economic analysis, management, vehicle technology, and impact assessment of land, maritime, air, and multimodal transport services. HIT co-operates and interacts with similar organizations and Institutes in the EU and other countries, and represents Greece in relevant international fora.

The specific areas of HIT's priority activities, can be described as follows :

1. Scientific and research support for *transport policy* formulation, to Ministries and other Organizations involved in Transport Policy and control in Greece.
2. *Specialized research* in the field of Transport.
3. Organization and operation of a *documentation centre* in the field of Transport.
4. Development and maintenance of *databases* covering important areas of Transport Operation in Greece.
5. Transport research *evaluation* and *appraisal*.
6. Support of *standardization* work in the field of Transport, and issuance of handbooks, rules and guidelines concerning the operation of the Transport system.
7. Representation of Greece, in Transport Research and other relevant *scientific fora* abroad.
8. Investigation of *user requirements*, and adaptation of (transport) research results to industry.
9. *Technology transfer and disse*mination of research results to the transport industry and the transport users.
10. Organization of t*raining* and *professional education* Seminars and Programmes.

11. Contribution to *quality control* in the field of Transport.
12. *Publication* and *dissemination* activities (including Conferences and regular publications).
13. Promotion of bilateral as well as multilateral *co-operation* between Greece and other countries in the field of Transport, with emphasis in the countries of South East Europe.
14. Facilitate *exchange of personnel*, especially young scientists, between relevant organizations and companies.

Although all areas of Transport research are "covered" by the Institute's activity and scope, special attention is given to problems addressing Greek conditions and requirements that influence the development and operation of transport infrastructure in Greece.

2.2 OPERATIONAL SECTORS

HIT has 5 Operational Sectors and 2 Supporting Units. The notion of an "Operational Sector" is that of a work unit dedicated to in specific field and equipped and staffed appropriately for this purpose. The size of an Operational Sector depends on the number of projects it has at any given point in time. The 5 Sectors are the following:

A. Documentation and Databases. The basic object of this Sector is to create and maintain databases with information on the whole spectrum of transport services (freight and passenger) and all modes of transport. The main users of these data are Government agencies and other bodies and individual or legal entities. The Sector's responsibilities include the following:

- Selecting the type and format of the databases to be kept by the Institute, on the basis of market needs.
- Developing relevant software.
- Collecting data and updating the databases. To this end, the Institute cooperates with other bodies, such as the National Statistics Bureau, various Ministries, etc. The data collection may be outsourced to other bodies or private companies and be financed by own funds or by other bodies directly interested in these data.
- Ensuring the maintenance and reliability of the databases.

<u>This Sector during 2002 has been involved in the following activities:</u>

1. Creating a library, which today consists of approximately 50 books and 20 periodicals.

2. Creating an accident database covering partial areas of the Greek road network, in cooperation with the National Technical University of Athens and the Aristotle University of Thessaloniki.

3. Developing permanent cooperation with the traffic police at the level of continuous updating of the accident database. This updating takes the form of quarterly entries which include accurate descriptions of the accident location (kilometer mark or street name), date, number of casualties classified according to fatalities and injuries (slight or severe), cause, type of collision, type of vehicles involved (passenger car, public service vehicle, etc.). The database is being developed for the Prefecture of Thessaloniki and is to be expanded over the next few years to cover the other prefectures of Northern Greece.

4. Creating the infrastructure both hardware and software for the expansion of the existing and the creation of new databases.

5. Creating an Internet portal to provide transport related information.

B. Dissemination of research results, evaluation, and training. This Sector is concerned with the evaluation and dissemination of research results in the field of Transport in Greece and also with training activities.

The scope of this sector is to disseminate research results and is in contact and collaboration with the relevant Greek and European bodies.

In addition, this Sector organises training courses, focusing on the practical training of staff working in transport organisations. In the field of training, the Institute is planning the relevant courses, creating the relevant handbooks and organising and carrying out the seminars.

<u>This Sector during 2002 has been involved in the following activities:</u>

1. "**BOB-Campaign"** in Greece entitled "Alcohol – Not Tonight – I'm driving". The objective of this campaign is to enhance public awareness on the problem of drunk driving and gain public acceptance in a series of measures to aver this phenomenon. This campaign is being realised in Greece according to the specifications for implementing the BOB-campaign in European Union countries (developed by BIVV).

In its year of implementation" in Greece, the "BOB-Campaign was assisted by the following sponsors:

- The company "TECHNICAL PRESS S.A." publishing the specialised car magazine with the biggest circulation in Greece ("4 wheels" magazine) acted as a

sponsor to the project by including a full-page color advertisement of the campaign in the "4 wheels" magazine for a period of two months.

- The Non-Profit Association of Greek Driving Schools (POEEOA) realised the wide dissemination of the "BOB-Campaign's" information to the trainee drivers all over Greece.
- The Automobile and Touring Club of Greece (ELPA) disseminated information material at all toll plazas throughout Greece, to drivers who needed road assistance, and during happenings related to motor sports. ELPA also promoted the campaign by disseminating material at "EKO-Oil gas" stations and via press releases in all major and local Greek newspapers.
- AVIS, the car rental company, disseminated project material at rent-a-car kiosks nationwide. It also promoted the campaign from its almost 150 branch offices, in major hotels and at its desks in Greek airports.
- Thessaloniki's Public Transport Organisation (O.A.S.TH.) agreed to sponsor the campaign, by putting posters in its fleet of 500 vehicles for a period of two months (August – September 2002). O.A.S.TH. also disseminated the material through its ticket offices in Thessaloniki.

HIT also made the necessary contacts and achieved dissemination of the information material with the assistance of the following organisations:

- The "Eleftherios Venizelos" International Airport of Athens.
- The "Macedonia" International Airport of Thessaloniki.
- Attiko Metro (Athens Metro).
- Air line Companies, which disseminated "BOB"-related material at their airport desks.
- Aristotle University of Thessaloniki and National Technical University of Athens.

Further information about BOB-Campaign is provided in Annex B.

C. Standards and standardization activities. This sector develops, disseminates, and supports, standards, as well as guidelines, rules, and standard procedures in the field of Transport in Greece. This Sector supports and promotes in any possible way, the efforts to standardize transport services in Greece. With its experience in transport services, the Institute proposes the standardization of practices, materials and parts in the transport system. It cooperates with and conforms to the corresponding Community or European transport standardization bodies.

Furthermore, this Section is responsible for the translation of foreign standards relevant to Greece into Greek, and for the conformity to international transport regulations and standards accepted by Greece.

This Sector during 2002 has been involved in the following activities:

1. 2002 saw the commencement of **the translation into Greek of the ADR outlines** on the carriage of dangerous materials and goods. This translation and its adaptation to the Greek state of affairs is anticipated to be completed before the end of 2003.
2. In 2002 H.I.T. put forward an idea for the **creation of a laboratory for testing of road-marking and signage materials with respect to their adherence to the existing standards.** This proposal represents a highly significant pioneering effort.
3. A proposal on the **development of work zone safety standards** and best practices has been submitted for funding.

D. Quality control and safety promotion. The scope of this sector regarding quality control is to assist organisation in controlling the quality of the services offered by the transport system or parts of it. This assistance includes providing scientific evidence for assessing the quality of the offered services (service quality, living up to the users' expectations, etc.) by the various transport modes or bodies, and also collecting and analyzing the necessary data, and providing the official reports required.

Apart from quality control, this Sector will be responsible for carrying out research on issues concerning transport safety in all sectors. More specifically, it will analyse the conditions and factors affecting transport safety in all modes of transport, the application of international regulations and decisions regarding transport safety, etc.

This Sector during 2002 has been involved in the following activities:

1. Development of a **Centre of Excellence on Driver Behavior Issues**, which is a key element of road safety. In order to achieve this goal, the Centre will be equipped with a series of sophisticated research tools.
2. Improvement of traffic safety by reducing the number and the consequences of traffic accidents caused by driver hypovigilance. **Development of an unobtrusive, reliable system, which will monitor the driver and the environment and will detect in real time hypovigilance, based on multiple parameters.**

3. **Development of a new set of training, information, counseling and driving ability assessment and support tools for the elderly**, evaluating their full range of physical, cognitive, behavioral and interactional abilities and not just checking a few sensory and motor functions (as is currently the case).
4. Project **CONSENSUS.** It aims to develop a **Network of Excellence** to systematically exchange information on driving ability assessment of Disabled people, promote relevant technology transfer within EU and provide access to expertise and resources of highly specialised Centres by other less specialised country authorities, using state of the art Telematics tools and procedures and experimenting with new IT support tools.

Further information for the above projects is provided in Annex B.

E. Specialized research and analyses. This Sector undertakes the execution of specialized research projects within the scope of the Institute's services. Special emphasis is given to new technologies applications in the field of Transport (e.g. Telematics, new materials for road construction, new management and control techniques, etc). The main criterion for selecting the research projects undertaken by this Sector, is the existence of immediate and pressing need for specific results by the assigning bodies, lack of research in the specific scientific field, or high specialization on the relevant subjects.

This Sector during 2002 has been involved in the following activities:

1. Project **IMAGE.** It aims to develop and evaluate a series of transport– and tourism-related services to citizens, including drivers and the impact of those services to traffic safety (i.e. their impact to driver's workload).
2. Project **GIFTS**. It aims to offer under one "roof" and making accessible to all elements and applications for the seamless door-to-door Transport of Freight.
3. Project **TRANSLOGNET.** It aims to develop an international consortium in the corridor of Adriatic – Ionian Seas. It will study and describe the existing environment in the field of multi-modal transportation in Greece and in relation to other countries participating in the project.
4. Project "**Observatory For The Spatial Impacts Of Egnatia Motorway".** The aim of this research project is to evaluate the direct and indirect impacts from the construction and operation of Egnatia Motorway in the spatial development of the country and more specifically of Northern Greece. The project develops a system

of indices, which are used as a tool for the investigation of the impacts.

5. Project **DISTINCT.** The objective of this project is the implementation of some improvements to achieve a fully integrated system of smart cards at electronic stations of information, which were initially developed in the framework of the IST 4FP Project DISTINCT.

6. **Project "Feasibility study for the organization of shipping links for the small Aegean islands".** The aim of this project is to perform a feasibility study the alternative organization of frameworks of the shipping links for the small and "isolated" Aegean islands, and to advice the government (Ministry of the Aegean) on the most cost effective options.

7. Project **SPORT4ALL.** It aims to take advantage of the advances in the telecommunications sector to provide user-oriented and value added services, targeted at the disabled and elderly population and contributing, under this perspective, to their inclusion in the e-society in correlation to athletic events.

8. Project **Consultant Role to the Greek Ministry of Transport**. This project aims to consult the Greek Ministry of Transport on research topics and analysis related to Thessaloniki's transport system.

9. Project **UPTUN**. It aims to present cost efficient methods for fire safety in existing tunnels. The project is especially relevant to situations in European tunnels, related to life threatening fires and infra-structural damage.

10. Project **RURAL WINS**. It aims to build a strategic RTD roadmap developing a Information and Communication Technologies vision which will ensure the economically and technically feasible deployment of information and communications solutions for rural areas (including also maritime regions and islands).

11. Project **IMMACULATE.** It aims to promote the improvement of the quality of air and noise levels in urban environments by an innovative combination of clean vehicle technologies for different vehicle types (electric power-assisted bicycles, electric scooters, hybrid passenger cars and natural gas mini buses) with other recent advances in urban transportation schemes (such as application of transport information, management and telematic systems, smart cards technology, mobility management schemes).

Further information for the above projects is provided in Annex B.

In addition, there are two independent Departments, which mainly carry out 'horizontal', inter-sector support. These are: Library and Public Relations and the Secretariat - Administrative Support Departments.

The **Library & Public Relations Section** is responsible for developing the Institute's Public and International Relations, and organising conferences and other related events so as to promote the aims and other activities of the Institute. The same Department is responsible for organising and managing the library, which is open to users not necessarily affiliated with HIT. This Department is responsible for all the Institute's publications and their distribution to the greatest number of receivers possible.

The **Administrative Support Section** is responsible for the Institute's administrative and accounting matters.

2.3 FLOW CHART

The organisational structure is shown graphically in Figure 1.

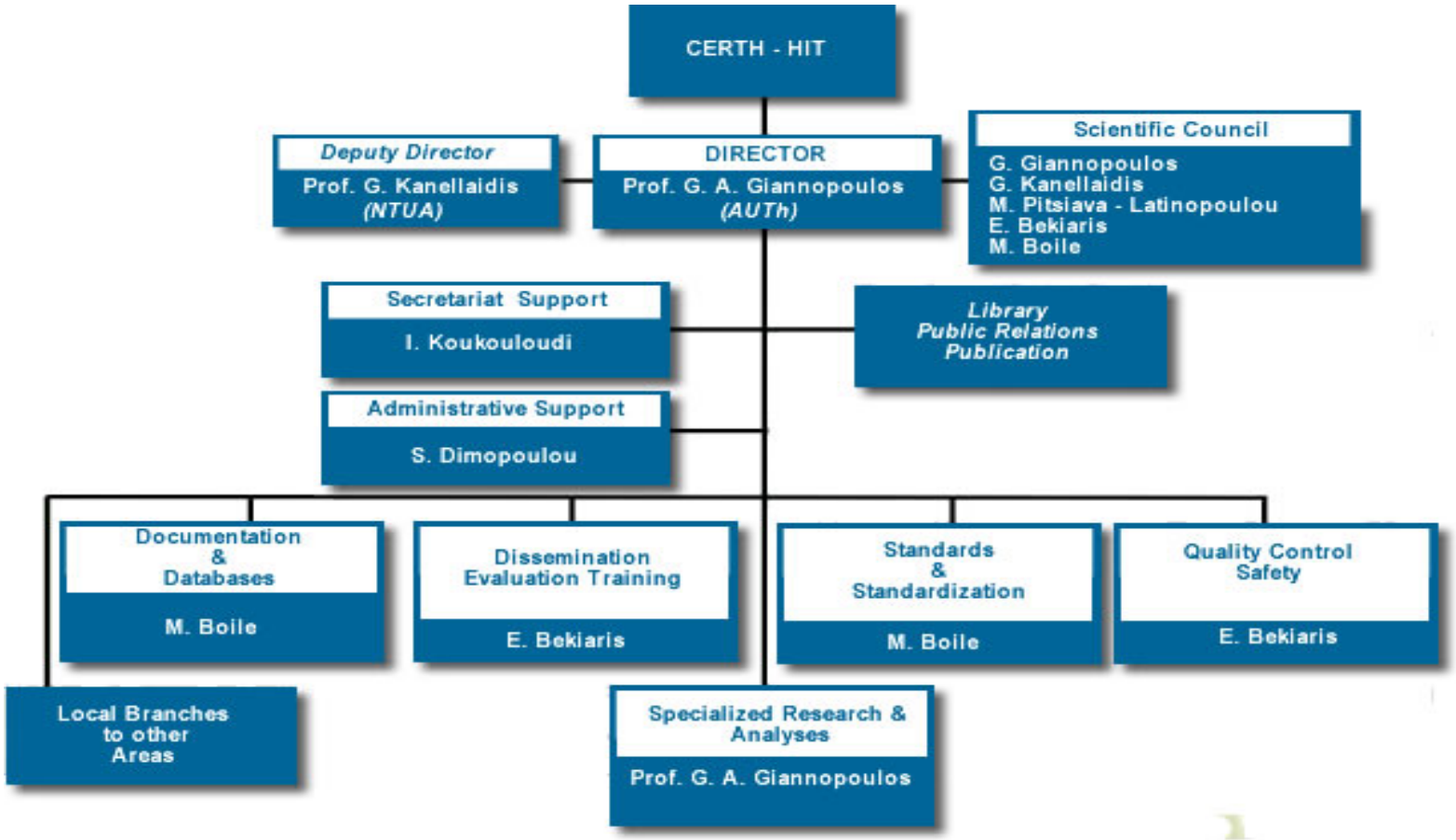


Figure 1: Flow Chart of HIT.

2.4 PERSONNEL

2.4.1 Ranks and legislative frame

The Institute is managed by its Director, substituted by a deputy Director. The Institute's policy is formulated in consultation with a five member Scientific Council of the Institute (SCI), which includes senior members of the Institute's personnel. The ultimate deciding body is the Board of Directors of the CERTH.

HIT's internal organisation reflects the priorities and scope of its services, providing at the same time the necessary flexibility to pursue new directions of research to match the changing requirements of Transport users in the country. It employs permanent personnel (Researchers of A, B, C, and D category), and personnel under research contracts of specific or unspecified time duration. It also employs outside experts and counsellors, and has permanent co-operation with the country's major University research centres and Laboratories. It benefits from the administration services of CERTH and it is subject to an annual audit by registered auditors.

It has 5 Operational Sectors and 2 supporting Units (see Figure 1), as these were described in a previous section.

Research personnel categories

The research personnel are classified in four categories: A (Research director), B (Principal researcher), C (Associate researcher), and D (Assistant researcher).

The hiring of researchers is conducted with contracts of unspecified duration for categories A and B and fixed duration contracts for categories C and D, after proclamation, stating in which the ranks which the employed researchers will have.

The number of posts per speciality is specified by the corresponding proclamation of fulfillment of posts based on the number of projects that are performed.

The proclamation for the employment of researchers is carried out with the decision of the Board of Directors of CERTH, after proposal of the Director of the Institute and the Scientific Council.

Necessary precondition for the employment in any category (Researcher A, B, C, D) in HIT is the possession of a PhD in a field corresponding to the scientific sectors of the Institute. The specialty is more specifically defined with the relevant proclamation, as well as the subscription of qualifications that is required for each category of researcher, according to the provisions of paragraphs 2 and 3 of the article of 15 N.

As for the process of selection, time of stay in each category, salaries, the sabbaticals, engagement and the appointment of Greek scientists in a vacant research post the provisions of articles 16,17 and 18 N.1514/85 are implemented accordingly.

For the needs of the research projects of the Institute, the following can be employed:

Researchers in any of the above 4 mentioned employee categories, regulated by the provisions of article 19 N. 1514/85.

Visitors-expert researchers

Associate researchers

Postgraduate students

Faculty Members from institutes of higher education.

Grades of Technical Personnel

For the performance of special scientific and technical work, research support, technology development and the rendering of services to third parties, the Institute may employ after a proclamation and with private contracts of specified or unspecified time, the following categories of personnel with the described formal qualifications.

Specialised Operational Scientists

Qualifications that are required for the engagement in posts of Specialised Operational Scientists are defined in the article of 20 N. 1514/85. The Specialised Operational Scientists are classified in categories A, B, C and D. Their qualifications, obligations and benefits are outlined in the relevant statutory for the Specialised Operational Scientists of Research Institutes– Legal Entities of Public Status which are superintended by the General Secretariat of Research and Technology of the Ministry of Development. The number of posts per speciality is determined by the corresponding proclamation of fulfillment of vacancies based on the number of ongoing research projects that are running.

Specialised Technical Scientists

Qualifications for the employment in posts of specialised technical scientists are the corresponding per speciality degrees or diplomas of domestic or equivalent foreign higher education institutes, as well as knowledge and experience on issues of infrastructure and support of research and technology, which are proved by certification of relative previous experience. Excellent knowledge of English, French or German language is a necessary requirement. The number of posts per specialty is defined by the corresponding proclamation of fulfillment of vacancies based on the number of research projects, which are running.

Technology Application Specialists

The qualifications for employment in posts of technology application are determined according to the ones anticipated in P.D. 194/88 and 172/92, as well as knowledge and experience on issues of infrastructure and support of research and technology that is proved by certifications of their relative previous experience. Essential is the excellent knowledge of English, French or German language. The number of posts per specialty is determined with

the corresponding proclamation of fulfillment of vacancies based on the number of research projects that are executed.

Technicians

Qualifications for the employment in posts of technicians per speciality are defined according to provisions in P.D. 194/88 and 172/92 as well as expert knowledge that is proved by certification of previous experience. The number of posts per specialty is determined with the corresponding proclamation of fulfillment of vacancies based on the number of ongoing research projects.

Administrative Personnel

For the staffing of the administrative and financial departments of the Institute, the following categories of personnel with the described formal qualifications may be employed under can be employed under a private contract of specified or unspecified period time, after proclamation with which the number of posts to be fulfilled are determined:

Administrative – Economic Sector of Academic Education (PE)

Qualifications of positions in this sector are determined according to the provisions of P.D. 194/88 and 172/92.

Administrative – Accounting Sector of Third degree Education (TE)

Qualifications of positions in this sector are determined according to the provisions of P.D. 194/88 and 172/92.

Qualifications or the above positions also include knowledge of languages, which is certified with the First Certificate in English from Cambridge or Michigan Universities for the English language or corresponding title for another foreign language.

Administrative Sector of Secondary Education (DE)

Qualifications for positions in this sector are determined according to the provisions of P.D. 194/88 and 172/92.

Individuals employed as secretaries are required to be fluent in one of the English, French, German or Italian languages.

Sector of Auxiliary Personnel (YE)

Qualifications for positions in this sector are determined according to the provisions of P.D. 194/88 and 172/92

Where excellent knowledge of a foreign language is required, this is certified according to the provisions of article 5 P.D. 172/92 (OFFICIAL JOURNAL OF THE HELLENIC REPUBLIC 81 A).

The processes of engagement for personnel of bodies in the public sector apply for the

engagement of the above mentioned personnel.

Finally the secondment to and from the Institute of researchers, specialised scientists, technical and administrative employees, of other Research Institutes is permitted, according to the provisions of article of 22 N. 1514/85. The secondment is performed either for reasons of smooth operation of research or rational exploitation of the research personnel and establishments or after application by the reassigned individual with the accordant decision of the Minister of Growth, after the concordant opinion of the Board of Directors of the Centre or Director of the Institute concerned. The duration of secondment is determined by a relative ministerial decision depending on the duration of the project, at deviation of provisions in effect.

2.4.2 Scientific personnel of HIT for year 2002

The scientific personnel of HIT for year 2002 consists of:

- Pr. G.. Giannopoulos, Civil Engineer – Transport Planner, Director of H.I.T.
- Pr. G. Kanellaidis, Civil Engineer – Transport Planner, Deputy Director of H.I.T.
- Dr. E. Bekiaris, Mechanical Engineer – Transport Planner, Principal Researcher of H.I.T. (Researcher B).
- Dr. M. Boile, Civil Engineer – Transport Planner, Principal Researcher of H.I.T. (Researcher B).
- Dr. F. Stergiopoulos, Electrical Engineer.
- M. Morfoulaki, Graduate Civil Engineer - Transport Planner
- A. Tsioutras, Graduate Civil Engineer, MSc Environmental – Transport Planner.

Detailed CVs of the main scientific personnel of HIT are presented in Annex A.

The remaining personnel of HIT for the year 2002 were constituted by:

- 34 Scientific Associates on a project employment basis
- One Administrative and Financial manager, with the degree of the Law School
- Two secretaries, from private colleges
- A graduate student from the Civil Engineering Department of the University of Thessaly

2.4.3 Human Resources Policy

The needs in human resources are estimated according to the planned activities and Sectors of work, as follows (the numbers are accumulative):

2003: 10 scientists, 2 financial service specialists (project financial manager), 2 technical assistants, 2 secretaries, 1 librarian.

2004: 15 scientists, 2 financial service specialists (project financial manager), 2 technical assistants, 3 secretaries, 1 librarian.

2005-2006: Gradual increase of the scientific personnel up to 25 persons, 3 persons for financial services and project financial management, 4 persons as technical assistants, 3 secretaries, 1 librarian.

The scientific personnel will have the following specializations, depending on the needs. The specializations are presented in decreasing order according to their estimated participation rate:

- Traffic/Transportation Engineers
- Civil engineers, surveying engineers specialised in road construction, port or other transport construction works.
- Mechanical engineers
- Environmental scientists (Chemical engineers or Environmental engineers)
- Economists
- Statisticians

3. RESEARCH ACTIVITIES OF HIT

3.1 RESEARCH PROJECTS OF HIT FOR THE PERIOD 2001-2003

Table 1 presents the research projects of HIT for the period 2001-2002. Symbol ✓ is for the projects that are still active while symbol - is for those which are not active.

Table 1: The research projects of HIT for the period 2001-2002

PROJECT NAME	2001	2002
GIFTS	✓	✓
AWAKE	✓	✓
TRANSLOGNET	✓	✓
OBSERVATORY FOR SPATIAL IMPACTS OF THE OPERATION OF EGNATIA MOTORWAY	✓	-
DISTINCT	✓	-
IMAGE	✓	✓
UNPROFITABLE SHIPPING LINES	✓	✓
BOB-CAMPAIGN	✓	✓
NOVEL	-	✓
AGILE	-	✓
SPORT4ALL	-	✓
SERVICES TOWARDS MINISTRY OF TRANSPORT	-	✓
UPTUN	-	✓
CONSENSUS	-	✓
RURAL WINS	-	✓
IMMACULATE	-	✓

3.2 PROPOSALS FOR NEW RESEARCH PROJECTS

Twenty-five proposals for new projects have been prepared and submitted during the period of 2002. Twelve of them were submitted to the EU while six of them will be financed by national funds. Seven more proposals were submitted in the Information Society Programme for the Region of Central Macedonia.

More information about the proposals for the new research projects is given in the tables 2-6 below. More precisely they present the following:

- Proposals for EU funded projects. The relevant table presents twelve (12) proposals, with total budget of 3,85 MEuro.
- Proposals for national funded projects. The relevant table presents six (6) proposals, with total budget of 1,17 MEuro.
- Proposals that were submitted during the first year (2000-2001) of HIT's establishment.
- Proposals submitted to the Region of Central Macedonia under the Information Society Programme. The relevant table presents seven (7) proposals, with total budget of 7,38 MEuro.
- From the 18 proposals submitted during the year 2002, ten have been approved while the four of them with total budget of 2,92MEuro are under the procedure of contract agreement. The remaining seven proposals were submitted "unofficially" to the responsible organizations of the Information Society Programme for the preparation of their invitation to tender.

Table 2: H.I.T proposals for research projects during 2002

No	ACRONYM	PROGRAMME	PROPOSAL SUBMISSION DATE	PROJECT TITLE	ROLE	BUBGET (Euro)	SPONSORSHIP
1	VOLUNTEER	Leonardo da Vinci	11/01/02	For driving school instructors and professional drivers	Coordinator	160.000	75%
2	e-BIT	IST	20/02/02	E-Business Interoperability for Transport	Contractor	39.434	100%
3	IMONODE	INTERREG IIIB CADSES	23/07/02	Integration of cargo transport Modes and Nodes in the CADSES area	Leading Partner	1.200.000	75%
4	CITY PORTS	INTERREG IIIB CADSES	23/07/02	Network pilot logistics project for distribution of goods in city systems	Project partner	425.000	75%
5	GILDANET	INTERREG IIIB	24/07/02	GILDANET	Project partner	1.000.000	75%
6	IMAGINE	eTen (1.3) DGINFSO	17/09/02	IMAGINE	Contractor	442.000	50%
7	TESEUS	Alis	09/10/02	Telematic Services Using Self-Organising Practices in Disadvantaged Areas and Communities	Partner	145.000	80%
8	ASSIST	Asia IT&C	10/10/02	Asia-Europe Liaison Activities for IT&C in intermodal Freight transport with emphasis on port Management & organization (ASSIST)			
9	VETERAN	Leonardo da Vinci	25/10/02	Pan European Vocational Understanding and life-long training scheme on clean vehicles for driving school instructors and car mechanics	CO	160.000	75%
10	CREDIT	SOKRATES PROGRAMME	25/10/02	Valuing Knowledge and competencies acquired through experience and their accreditation for elderly workers	CO	67.000	75%
11	VIRTUE	SOKRATES PROGRAMME	29/10/02	Virtual and augmented reality use for cross-curricular, open and distance learning	Partner	54.000	75%
12	PREVENT	Leonardo da Vinci	30/10/02	Develop a training programme to improve work zone safety	CO	160.000	75%
TOTAL						3.852.434	

Table 3:Proposals submitted outside the E.C during 2001-2002.

No	ACRONYM	PROGRAMME	PROPOSAL SUBMISSION DATE	PROJECT TITLE	ROLE	BUDGET (Euro)
1	WEB PORTAL	GSRT	31/07/01	Realisation of an internet gate on telematics Transport issues	Coordinator	299.586
2	ITE	GSRT	25/09/01	Technological Prospect Exploration in Greece	Subcontractor	20.543
3	System of Data	YEO Step 3.3 Act 3	03/12/01	A Complete Digital system for Recording and Organising Traffic Data	Leading partner	570.000
4	Telematics Service to people with special needs	GSRT	07/06/02	Telematic service to people with special needs for the dissemination of Information regarding athletic shows	Subcontractor of INA S.A	35.000
5	POLCORRIDOR	GSRT	17/06/02	POLCORRIDOR LOGCHAIN STUDY	Subcontractor του ΟΣΕ S.A	50.146
6	Laboratory creation	GSRT	17/09/02	Creation of a laboratory regarding the brightness control and reflexability of roads' vertical labelling materials	Leading partner	29.000
7	IMAGE	GSRT	20/12/02	Human network EkT of training in technologies of virtual reality	Partner	32.628
8	ADHRITO	GSRT	20/12/02	Human Network for the Strong Promotion of Road Safety in Greece	Leading partner	70.000
9	Albanian Center	GSRT	20/12/02	Creation of a National Albanian Centre for the Transports' Planning	Partner	11.098
10	Intelligent system		17/02/03	Intelligent travel system, informing the passenger and booking seats in combined	Partner	61.833
11	ANKO-CERTH/HIT	ΠΕΠΕΡ 2	28/02/03	A Complete Logistics system for the Organisation and Operation of the Supply Chain	Subcontractor	97.000
TOTAL						1.179.834

Table 4: Proposals submitted during the period 2000-2001

No	ACRONYM	PROGRAMME	PROPOSAL SUBMISSION DATE	PROJECT TITLE	ROLE	BUDGET (Euro)
1	ΠΕΠΕΡ	ΠΕΠΕΡ	20/11/00	Creation of an informative system about the completion of the supply chain		45.000
2	ISCBS	EUREKA	10/05/01	Intermodal Supply Chain Brokerage System	Coordinator	24.000
3	BCSE	EUREKA	10/05/01	Border crossing optimisation for railway freight flown in SE Europe	Coordinator	22.750
4	MATE	DG TREN	08/09/01	System development for damage diagnosis on naval machines and systems	Partner	500.000
5	MEDIATION	INCO-MED	10/09/01	Port-related interoperability between medit…	Contractor	150.900
6	ENVITRANS	LIFE	09/10/01	Methodology of homogenous application of the EU/ 94/62/CE directive	Partner	37.000
TOTAL						

Table 5: Proposals in expectation of contract

No	NAME	PROJECT TITLE	TOTAL BUDGET IN EUROS
1	WEB PORTAL (GGET)	Realisation of an internet gate on Transport telematics issues	299.586
2	IMONODE	Integration of cargo transport Modes and Nodes in the CADSES area	1.200.000
3	CITY PORTS	Pilot project network for goods distribution logistics in city systems	425.000
4	GILDANET	INTERREG IIIB CADSES	1.000.000
TOTAL			2.924.586

Table 6: Proposals for actions in the Society of Information towards P.C.M.

No	PROJECT TITLE	BUDGET (EURO)	% PUBLIC EXPENSE
1	Creation of a Dynamic Driving Simulator for the Education and Study of Drivers' Behaviour	550.000	100%
2	A Complete Traffic Information Management for the Handling of the Urban and Suburban Road Network in the Metropolitan Group of Thessaloniki	571.000	100%
3	Expansion of the telematic system f or the automatic localisation of vehicles and the management of the buses of O.U.T.T. (*)	1.900.000	70%
4	Planning, realisation and operation of a special electronic internet junction, for complete information services on issues of technologies and operation of the transport system in the Region of Central Macedonia	526.000	100%
5	Growth of system of dynamic information of passengers in the Public Transport of P.G. Thessalonica	2.300.000	80%
6	Automatic Mobile Unit for Traffic and Environmental Measurings	330.000	100%
7	Open management system of merchandising transportations (OMSMT) in the Region of Central Macedonia	1.200.000	
TOTAL		7.377.000	

4. RESULTS FROM FINANCIAL - MANAGEMENTAL ADMINISTRATION

4.1 FINANCIAL PROFILE

Table 7 presents the financial profile of HIT for the year 2002.

Table 7: Financial profile of HIT for the year 2002.

Active projects (number of projects)	14
Total Annual turnover for 2002 (MEU)	1,116
Income from EU funded research projects (MEU)	0,338
Income from GSRT funded research projects (MEU)	0,652
Income from national research projects (MEU)	0,089
Income from other services (MEU)	0,037

Figure 2 presents the income of HIT for the year 2002 that comes primarily from GSRT funded research projects and national project (67%), while the income from other services for the year 2002 was 3% of the total turnover.

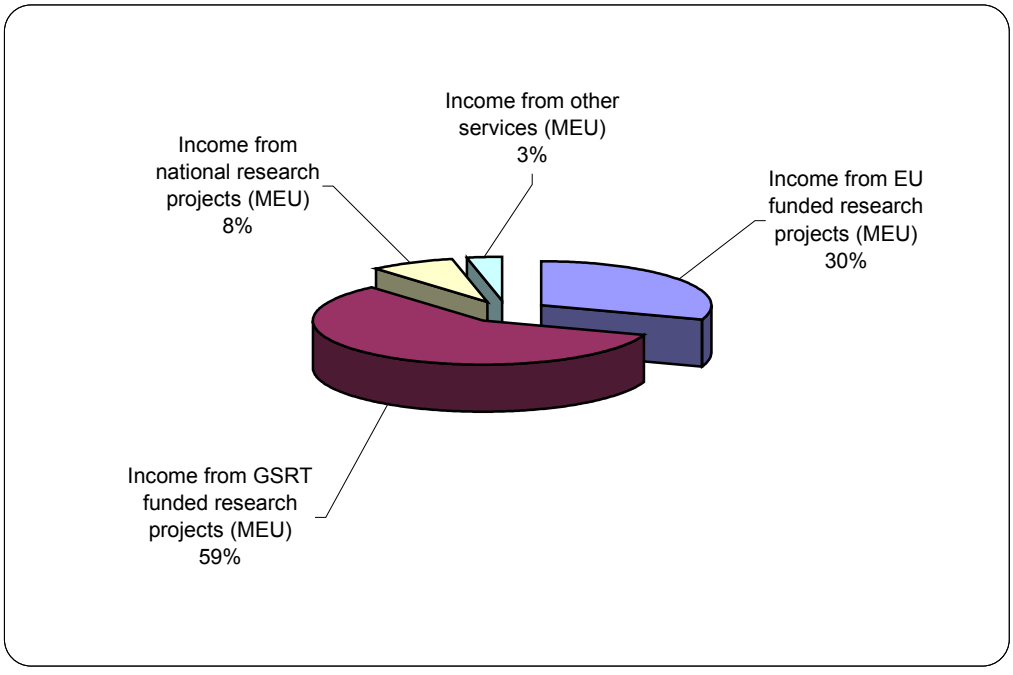


Figure 2: Financial view of HIT for the year 2002

4.2 MANAGEMENT PROFILE

Table 8 presents the management and scientific profile of HIT for the year 2002.

Table 8: Management and scientific picture of HIT for the year 2002

Personnel (full time)	11
Personnel (part time)	34
Publications in journals with referees	18
Publications in international Conferences	42
Citations	245
Other publications	104
Doctoral thesis in progress	4

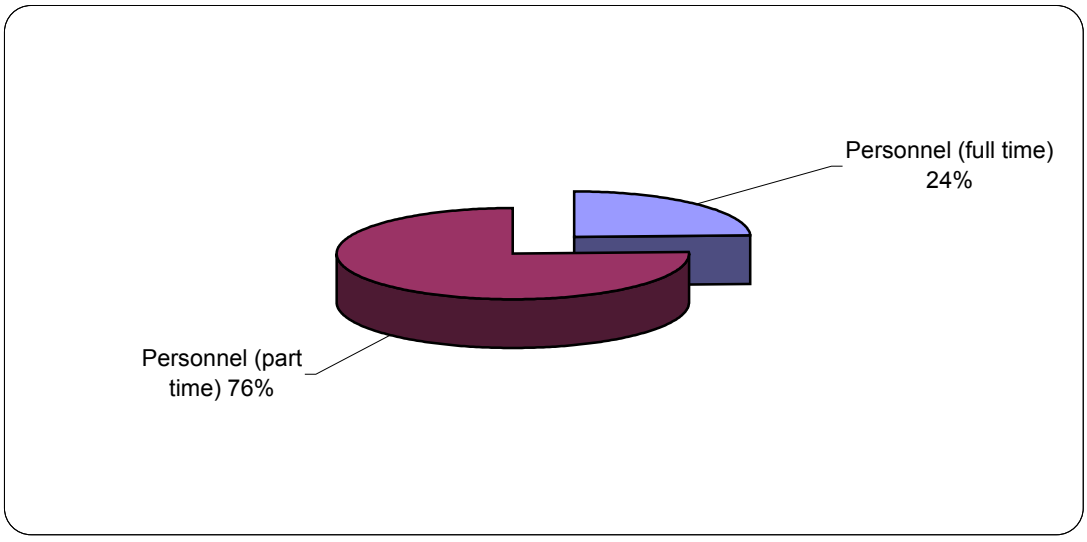


Figure 3: Management picture of HIT for the year 2002

During year 2002 (the second year of HIT's operation) HIT's progress in the Sector of Service Provision was still in an initial phase.

For the year 2002, the personnel constitute at its ¾ from outside partners and generally from part time personnel. Besides, the lack of adequate building installations for the housing of the full time personnel is substantial.

Figure 4 presents the allocation of the scientific work of HIT.

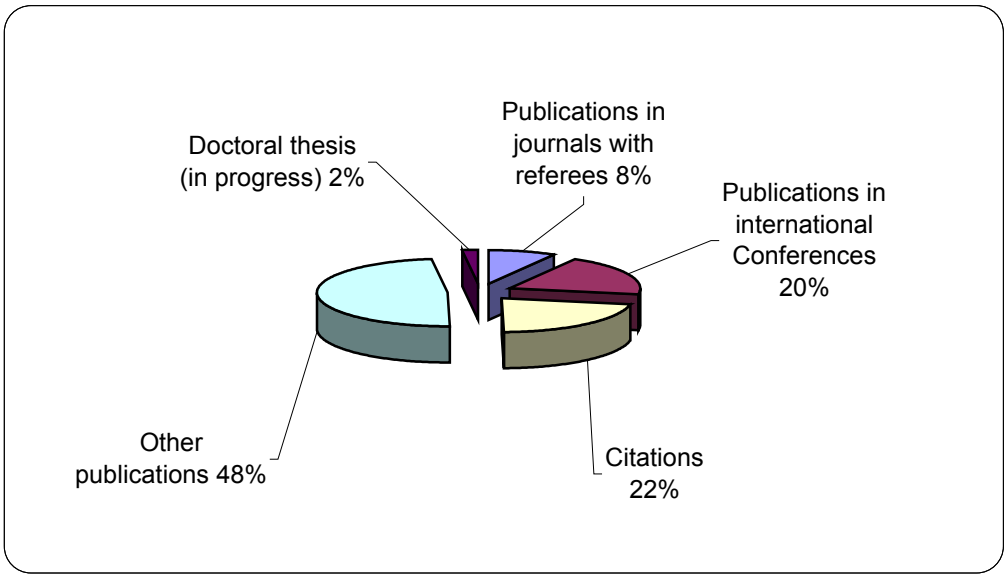


Figure 4: Scientific profile of HIT for the year 2002

Last, during the year 2002, HIT supports the development of four Doctoral Thesis.

5. DEVELOPMENT AND INFRASTRUCTURE

5.1 INFRASTRUCTURE

HIT is housed in the Thessaloniki Technology Park (foto) located on the 6th km of the Thessaloniki - Thermi road and only 5 kms from the Thessaloniki international airport. CERTH infrastructure are represented in the following pictures:

Picture 1: The infrastructure of Centre for Research and Technology Hellas.
HIT is housed in the middle building.

Picture 2: Administration Building CERTH

More specifically, HIT is housed in the B' floor of the middle building.

The current housing is considered temporary and the necessary procedures (through the Centre for Research and Technology Hellas) for the construction of new modern buildings in an area of 20 acres that has been purchased next to the premises of the Technological Park are under way.

The **new buildings** will contain 1500 square meters of office space and 1500 square meters of underground laboratories. The acquisition of 6.000 square meters of open space is foreseen in the future for the development of laboratories for traffic simulation and quality control of materials used in construction of transport infrastructure.

5.2 RESEARCH INFRASTRUCTURE

HIT is equipped with modern powerful PCs, relevant peripherals, etc., that allow accomplishment of its objectives in all sectors.

Additional infrastructure is being developed since the end of 2002 and mainly consists of:

5.2.1 Clean vehicles

This equipment consists of:

A. Electrically assisted bicycles

Picture 3: The two electrically assisted bicycles of HIT.

Picture 4: The battery is removable and can be recharged using a common household socket.

B. Electric Scooters

Picture 5: One of the two electric scooters of HIT

Picture 6: Electric scooter during recharging. The electric motor can be seen on the left hand side of the picture.

C. The Toyota Prius hybrid vehicle

HIT acquired a hybrid vehicle Toyota Prius which will be used – together with the two wheelers – for measurements and field studies within research projects in the area of clean vehicle technologies, and in pilot driver training.

Picture 7: The TOYOTA PRIUS hybrid vehicle of HIT (A)

Picture 8: The TOYOTA PRIUS hybrid vehicle of HIT (B)

5.2.2 Single Wall Virtual Environment System– Power Wall

A call for tender has been issued for the acquisition of a Virtual Environment system. The installation of the Power Wall system of Virtual Environment will be completed within 2003.

The general configuration of such a system is shown below:

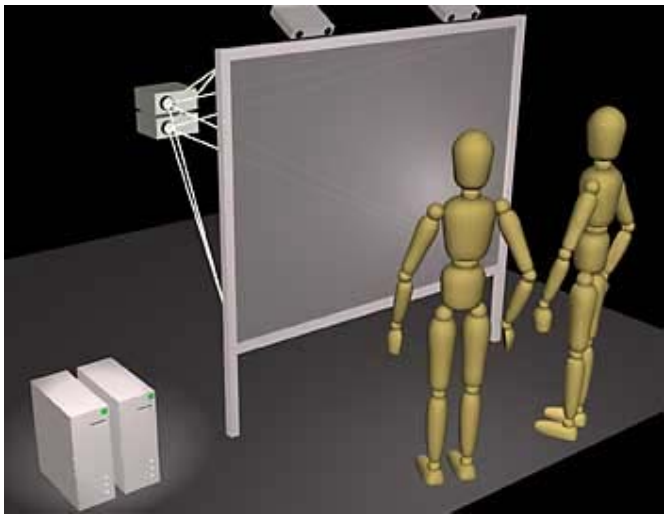


Figure 5: Example of a single-wall CAVE system

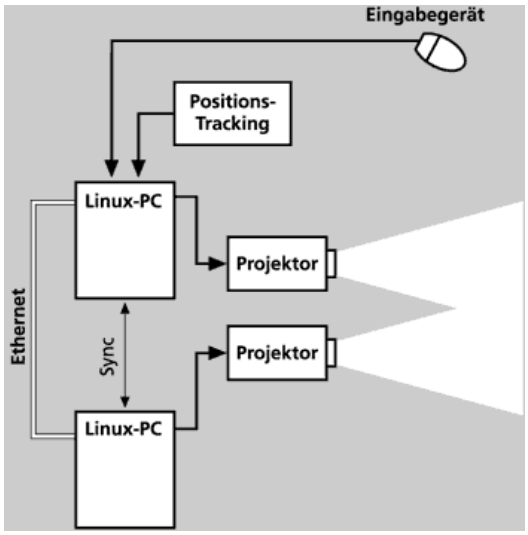
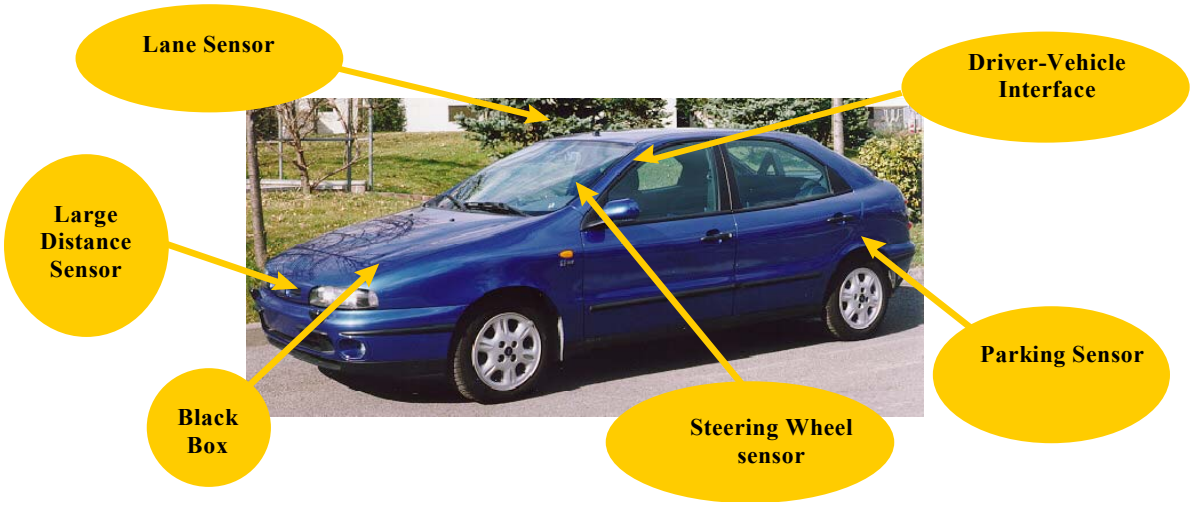


Figure 6: Planned topology and architecture of HIT CAVE system

5.2.3 A Research Vehicle equipped with Advanced Driver Assistance Systems (ADAS)

The physical layout of the sensors is displayed below:



Picture 9: Natural architecture of the sensors in an equipped research vehicle

5.2.4 Semi-Dynamic Driving Simulator

HIT will be equipped, by the end of 2003, with a semi-dynamic driving simulator. This simulator is developed in the framework of the EU project AGILE (QLRT-2001-00118), in which CERTH/HIT is the coordinator. The simulator will be equipped with a motion system that simulates the seat movements and vibrations that a driver is subject to. It will simulate various driving conditions that would be difficult, or even dangerous, to be tested in real conditions (e.g. driving in a highway or city environment, driving in rain, snow, ice, etc).

The simulator will use a data base which will include 300 kms of road network (highways, city roads, rural roads, etc), adapted to the Greek situation. It can be used by various "groups" of drivers, e.g. frequent offenders of traffic laws, candidate drivers, new drivers, professional drivers, including situations of simulations of pedestrians, children, drivers of two wheelers, animals, etc.

A typical simulator has an optical view of 120° which is implemented using 3 screens of 34" each. Visual and audio messages are produced by 3 Personal Computers (PC), with ATHLON XP 2000+ processors and NVIDIA GeForce4 Ti4200 graphical cards. The cabin of the vehicle

is an accurate replica of the Mercedes Smart vehicle.

The software of the simulator consists of various cases of driving scenarios and can, at a first stage, be used for the pilot training of drivers.

Picture 10: A driving simulator similar to the one that HIT will be equipped with within 2003.

5.3 RESEARCH AND INFORMATION DISSEMENATION ACTIVITIES.

There is a growing need for use of High Technology Systems in providing services such as: routing and scheduling, and special geographic and transport information systems, especially in urban areas where the quality of transportation services is reduced every day due to heavy traffic congestion.

A web portal will be developed by HIT, which will provide information services to public authorities, private companies and single users in the field of transportation. This portal will give users the opportunity to electronically exchange information and opinions. In addition there will be advanced use of the portal as specialized data services will be offered. Finally, transport organizations and authorities will be able to advertise their services and collaboration between public and private sectors will be facilitated.

Figure 7: Presentation of a network in G.I.S environment used in a road construction project.

6. INTERNATIONAL PROMOTION AND RELATIONS

6.1 MEMBERSHIP OF HIT IN ECTRI AND SETREF

- ***ECTRI - European Conference of Transport Research Institutes***

On September 17th and 18th 2001, on the initiative of INRETS, directors and representatives of 15 institutes from the European Union member states and associated countries decided to set up the European Conference of Transport Research Institutes (ECTRI).

ECTRI brings together 3.000 researchers and covers a wide range of research areas of common interest in the context of the European Research Area (ERA).

Today ECTRI is an international association covered by statutes and cooperation agreement.

The mission of ECTRI is:

- To actively promote cooperation in the field of surface transport and participate in the creation of the European Research Area.
- To provide a platform for the development of research networks.
- To participate in the structuring of the European Research Area with networks of mobility and training, and research infrastructures
- To participate in the integration of the European Research Area by preparing networks of excellence.
- To stimulate and facilitate the participation of its members in European R&D projects in the field of transport.

In the long term ECTRI will develop a European Network of Excellence (NOE), in a broader sense than the NOEs of the 6th FRDP but in line with the concept developed by the European Commission, where integration and common activities are dynamic. ECTRI is already working towards setting up a European Certification Laboratory in the field of Advanced Driver-Vehicle Systems by utilizing the infrastructure of all its members.

HIT is founding member of ECTRI. In January 2003 the director of HIT, Prof. G. Giannopoulos, was elected President of ECTRI for a two-year term, 2003-2005.

For further details please visit the website of ECTRI: http://www.ectri.org

- ***SETREF - South East European Transport Research Forum***

The South East European Transport Research Forum is an international non-governmental non-profit association of organisations in South East European countries devoted to the promotion of transport research and education. Its scope covers all forms of transport activity, i.e. planning, evaluation, design, construction and operation of the transport systems and all transport modes (road, rail, air, maritime, and inland waterways). SETREF was established in Thessaloniki, Greece, on April 1997. Its offices are in Thessaloniki within the building of HIT.

The principal objectives of SETREF are to:

- Advance co-operation in transport research and education.
- Promote intermodal transport concepts in S.E. Europe.
- Promote exchange of research personnel.
- Facilitate exchange of information and ideas.
- Facilitate the harmonisation of the basic research and education activities.
- Provide support services for transport studies and policy formulation in the area of S.E. Europe, including formulation and maintenance of data-banks for traffic and transport related data.
- Provide specialised advisory services.

Its focus area is S.E. Europe but its activities extend to all Eastern European and Black Sea Countries.

Further objectives of the Forum are, to:

- Facilitate co-operation in the use of existing research facilities;
- Facilitate co-operation in assessing and/or executing research
- Facilitate co-operation in the provision of specialised services
- Cooperate and interact with other similar European or Interantional Organisations.

To pursue its objectives SETREF is involved in a number of activities, which include:

- Organisation of, or participation in, Conferences, Seminars, Workshops and other similar

activities for know how and innovation dissemination in the field of Transport.

- Co-operation with other Organisations and bodies with similar interests in the field of Transport.
- Undertaking of paid co-operative research projects with joint participation of its members.
- Participation in studies and research activities with other Organisations.
- Creation and maintenance of transport related data bases and other material that can be used as a basis by third parties for transport studies and research.
- Provision of specialised technical expertise and/or consulting to Governments and other Organisations in the field of Transport.

The Forum abstains from any political activity.

The Forum is composed of the founding member organisations and other member organisations elected to membership by the SETREF assembly following their application.

Eligible organisations are any public, semi-public or privately owned organisations or companies that are involved regularly in research or research related activities in the field of transport, or are interested in research, and are based in the countries of the S.E. Europe (i.e. within the area defined by Slovakia, Romania and the Black sea in the North, Turkey in the East, Cyprus and Greece in the South, and Italy and Austria in the West).

Currently SETREF has 32 member Organisations.

HIT had been a member of SETREF since March 2001. The Director of HIT Prof. G. Giannopoulos, has been President of SETREF since December 1997.

For further details please visit the website of SETREF: http://hermes.civil.auth.gr/setref

6.2 FOREIGN RESEARCH CENTERS

HIT cooperates on a permanent basis with a large number of foreign research centers and universities. The main bodies HIT is cooperating with are reported in Table 9.

Table 9: Cooperating bodies in member states of EU

COUNTRY	NAME AND CHARACTERISTICS OF THE BODY
Belgium	**Centre de Recherches Routières.** A public organization. It deals with matters related to transport sector as well as with matters of road engineering sector regarding materials, road construction and quality control. The center prepares the relative specifications and technical instructions in road engineering sector.
	AVERE (European Battery Hybrid and Fuel Cell Electric Road Vehicle Association). The objective of this association is the promotion of new technology vehicles. It consists of 13 National Organizations and more than 500 specialized members in the sector of new technology vehicles.
	BIVV (Belgian Road Safety Institute) A private non profit organization that executes and supervises actions related to road safety in Belgium.
Gr. Britain	**TRL (Transport and Road Laboratory).** The well-known Research Institute for Transport and Road Engineering. Recently, it has been privatized.
Germany	**Bast (Bundesantait fur Strassenwesen).** A public institute dealing with the whole of research activities in the transport sector. **DLR (Dutsches Zentrum Fur Luft – und Raumfahrt)**
Sweden	**VTI (Swedish Road and Transport Research Institute).** A public institute that covers transport and road engineering sector.
Switzerland	**VSS (Vereinigung Schweizerischer Strassenfachte).** A private organisation under the supervision of the Federal government of Switzerland. It deals mainly with road engineering research and less with transport/traffic engineering. It is responsible for the road engineering specifications in Switzerland.
Luxembourg	**Institut National de Recherche Routière.** A public Institute dealing with transport and road engineering.
Holland	**CROW (Centre for Research and Contract Standardization in Civil and Traffic Engineering).** It is a private status organization under the supervision of the Transport Ministry, the Ministry of Public Works, the Union of Municipalities and Communities and the Association of

COUNTRY	NAME AND CHARACTERISTICS OF THE BODY
	engineers-constructors of public works (for road construction). It covers the activities of civil engineering, focusing on transport, road engineering and hydraulic engineering for research activities and specifications. **TNO (Netherlands Organisation for Applied Scientific Research)**
Denmark	**Danish Road Institute.** It is a public institute that deals with transport and road engineering, under the supervision of the Road Directorate of Transport Ministry.
France	**INRETS (Institut National de REcherche sur les Transports et leur Sécurité)** It is a national institute for transport and safety research. **LCPC (Laboratoire Central des Ponts et Chaussées)** a research laboratory for road engineering. Both institutes are public.
Finland	**VTT (Finnish Transport Research Institute).** Covers all Transport sector.

6.3 COOPERATION WITH UNIVERSITIES

HIT has developed close cooperation with the following Laboratories or Departments of Universities:

1. Laboratory of Traffic Engineering, Division of Transport, Infrastructure, Management and Regional Planning, Civil Engineering Department, Aristotle University of Thessaloniki.
2. Laboratory of Highway Engineering, Division of Transport, Infrastructure, Management and Regional Planning, Civil Engineering Department, Aristotle University of Thessaloniki.
3. Design and Construction Division, Mechanical Engineering Department, Engineering Department, Aristotle University of Thessaloniki.
4. Laboratory of highway engineering and geotechnical works, School of Civil engineering, University of Thessaly
5. Department of Transportation Planning and engineering, School of Civil Engineering, National Technical University of Athens.
6. Laboratory of Transport Economics, Department of Maritime Studies, University of Piraeus

7. Laboratory of Transport Engineering, Department of Civil Engineering, Demokritos University of Thrace
8. Department of shipping, trade and transport, University of the Aegean
9. University of California, Berkeley (United States of America)
10. Politecnico di Torino (Italy)
11. Universidad Politecnica de Madrid (Spain)
12. Ministerie van verkeer en waterstat, rijkswaterstaat (Belgium)
13. Adviesdienst verkeer en vervoer (Holland)
14. Transportokonomisk institutt (Norway)
15. Fraunhofer gesellschaft zur förderung der angewandten (Germany)

6.4 OTHER ORGANISATIONS

HIT is also cooperating with other Greek and foreign organizations, both public and private, in the frame of research programmes or contracts for provision of services.

As far as Greek organisations are concerned, we briefly mention the following ones:

- Governmental and other public organizations (Ministry of Transport, Ministry of the Aegean, National Railway Organization, Piraeus Port Authority, Thessaloniki Port Authority, National Highway Fund).
- Local authorities.
- Construction Companies of Transport infrastructure.
- Research organizations.
- Companies providing passenger or freight transport services

7. PUBLICATIONS – CONFERENCES – DIFFUSION OF RESEARCH RESULTS

7.1 PUBLICATIONS

The Publications of Institute's basic executives constitute the scientific projection of HIT. These publications are listed below:

- **Prof. G. A. Giannopoulos**

1. **Giannopoulos, G.A.,** and Pyrgidis, Ch., (2002), *"The south-east section of Rail Corridor IX: current status and prospects for development"*, Rail Engineering International, No.2., 2002, pp 12-16.
2. **Giannopoulos, G.A.,** (2002) "*Issues of the European Transport Policy and current state of the EU Funded Transport Research*", Yugoslav Journal of Operations Research, 12 (2002), No. 1, 109-120.
3. **Giannopoulos, G.A.,** and Durr Eugene, (2002), "*SITS: A system for uniform Intermodal Freight Transport Information Exchange",* International Journal of Transport Management, (under publication).
4. **Giannopoulos, G.A.,** (2002*), "Integrating Freight Transport with its: Some European Issues and Priorities",* Transportation Research, US Transportation Research Board, Washington DC (under publication).
5. **Giannopoulos, G.A.,** and Papageorgiou K., (2002), "*An application of the techniques of re-engineering in re-designing port processes",* Transportation Research, US Transportation Research Board, Washington DC (under publication).
6. **Giannopoulos, G.A.** (2002), *"The application of new Technologies in Transport", keynote (invited)* paper in the special edition of the European Journal of Operational Research with the same subject, *Elsevier* (under publication).
7. **Giannopoulos, G.A.,** and Mikoulik J., (2002), *"Integrating Research from Accession Countries: The case of Transport Research",* Proceedings, Session F3 of the EU's Conference on "Surface Transport Technologies for Sustainable Development" Valencia, Spain 4-6 June 2002.
8. **Giannopoulos, G.A.,** (2002), "*Opportunities and Prospects for Transport in S.E.Europe",* Keynote Speech, Proceedings 2nd TES Conference, Sombor, Yugoslavia, April, 2002.
9. **Giannopoulos, G.A.,** (2002), «*Towards a Transportation Planning Process that takes into account environment impacts*», Presentation in the Workshop for the Environmental Design, Thessaloniki, April 2002.
10. **Giannopoulos, G.A.,** (2002), *«The main elements of the new EU transport policy – Provisions for the promotion of intermodality",* Proceedings International Conference of

the GILDA Network, Ravenna, Italy 17th June, 2002.

11. **Giannopoulos, G.A**., and Pyrgidis, Ch.,(2001), *"The prospects for the development of rail axis IX and X:An exercise international co-operation"*, 8th Scientific Conference MOBILITA 2001, Bratislava, September 2001.
12. **Giannopoulos, G.A.,** and Pyrgidis, Ch., (2001), *"Corridor IX Perspectives for freight and passenger transport"*, International Conference on Cost Effective Infrastructure and systems to improve cargo and passenger transport in S.E.Europe, Budapest, 17-19, October 2001.
13. **Giannopoulos, G.A.,** and Theofanis, S., (2001), *"A port Community information and Data Communication Platform: Implementation of a system for the Adriatic – Ioanian Sea area"*, 8th World Congress on ITS, Sydney Australia, October 2001.
14. **Giannopoulos, G.A.,** Shinakis, M., and Koukouloudi E., (2001), *"Development and operation of an Integrated Container Terminal Management System in the Port of Thessaloniki, Greece"*, 8th World Congress on ITS, Sydney Australia, October 2001.
15. **Giannopoulos, G.A.,** (2001), *"The port of Volos: A proposal for the development of its central queue"*, Proceedings, 2nd Pan-Hellenic Conference on Port Infrastructure, NTUA, Athens, November 2001.
16. **Giannopoulos, G.A.,** (2001), *"Towards a European ITS based freight transport Architecture: The THEMIS Thematic network approach",* Conference on ITS in Transport, Prague ITS 01, Prague 2001.
17. **Giannopoulos, G.A.,** 2001, "Proceedings 2nd International Conference, on Safety of Maritime Transport University of the Aegean", Chios 7-9 June 2001
18. **Giannopoulos, G.A.,** (2001*), "Elements of an ITS Based European Freight Architecture: The THEMIS Approach"*, Proceedings SETREF 1st International Conference on "Cost Effective Infrastructure and Systems to improve Cargo and Passenger Transport in South Eastern Europe" , Budapest, October 2001.
19. **Giannopoulos, G.A.,** Bekiaris, E., and Boile, (2001) M., *"Development of an internet portal for Transport data und functions in Greece"*, Proceedings 1st International Conference on Transport Research in Greece,. Hellenic Institute of Transport, October 2001.
20. **Giannopoulos G.A.** (2001), *"Transport Research in Greece*", Keynote speech, Proceedings 1st International Conference on Transport Research in Greece,. Hellenic Institute of Transport, October 2001.
21. **Giannopoulos G.A.,** and Fokas, Ch., (2001*), "The project SETHAM: Results of the surveys on Passenger trip characteristics in the Aegean sea*", in the Xenia Conference on the Prospects of Greek coastal shipping, Piraeus, January 2001.
22. **Giannopoulos, G.A.,** (2001*), "Transport in Greece: The prospects after the introduction of the EURO (in Greek)"*, in Special edition of the newspaper Express, January 2001.
23. **Giannopoulos, G.A.,** (2001), "*Prospects and possibilities of cooperation in Southeastern*

Europe and the Eurasian Area", Istanbul Seminar at Istanbul Technical University, 3rd May, 2001.

24. **Giannopoulos, G.A.,** (2001), "*An evaluation of the impacts of Transport Infrastructure in the cross-border area of Greece with Bulgaria and FYROM"*, Workshop Minutes of Egnatia S.A, Thessaloniki, May 2001.

- **Dr. E. Bekiaris**

1. Cacciabue, P.C., Amditis, A., **Bekiaris, E.,** Andreone, L., Tango, F., *"The importance of user needs analysis on HMI design. The EUCLIDE example"*, Panhellenic Conference with International Participation on Human-Computer Interaction – 2001, [PC-HCI 2001], Conference and Cultural Center, University of Patras, Rio Patras, Greece - December 7-9, 2001, www.ee.upatras.gr/pchci2001

2. Uneken, E., Brookhuis, K.A., Roskam, A.J., Naniopoulos, A**., Bekiaris, E.,** *"The European project TRAVELGUIDE (TRAVELler and traffic information systems: GUIDElines for the enhancement of integrated information provision services)"*. Human Factors & Ergonomics Society (HFES) Annual Conference of the Europe.

3. Roskam, A.J., de Waard, D., Uneken, E., Brookhuis, K.A., Breker, S., Verwey, W., Naniopoulos, A., **Bekiaris, E.,** *"Graphical information provision to drivers; A simulator study in the EU project TRAVELGUIDE"*. Human Factors & Ergonomics Society (HFES) Annual Conference of the Europe Chapter, November 2001, Turin.

4. Bekiaris, E., *"Towards Keeping Elderly Safe and for longer behind the Steering Wheel"*, 14th ICTCT workshop on road user characteristics with emphasis on life-styles, quality of life and safety, Caserta, Italy, October 25th & 26th 2001

5. Bekiaris, E., *"Major Road Safety Innovations"*, 1st Annual European Energy andTransport Conference, Barcelona, World Trade Centre 18-19 October 2001

6. Bekiaris, E., Amditis, A., Wevers, K., *"Advanced Driver Monitoring - the AWAKE project -"*, 8th WORLD CONGRESS ON ITS, Sydney, Australia, 30/9-4/10 2001

7. Bekiaris, E., Parkes, A., Stevens, A., Wiethoff, M., *"A Structured Methodology and Preliminary Results of ADAS Risk Assessment, including Technical, Behavioural, Liability and Organisational Risks"*, 8th WORLD CONGRESS ON ITS, Sydney, Australia, 30/9-4/10 2001

8. Amditis, A., **Bekiaris, E.,** Montanari, R., Baligand, B. & Perisse, J, Belotti, F., Kuhn, F., "An Innovative In-Vehicle Multimedia HMI based on an Intelligent Information Manager Approach: The Comunicar Design Process", 8th WORLD CONGRESS ON ITS, Sydney, Australia, 30/9-4/10 2001

9. Breker, S., Wervey, W., Naniopoulos, A., **Bekiaris, E.**, Lilli, F., Wevers, K., Brookhuis, K.,

"Adapting advanced traffic information provision to road users needs in TRAVEL-GUIDE, A progress report", 8th World Congress on Intelligent Transport Systems, Sydney Australia, 30 Sept – 4 Oct 2001

10. Bekiaris, E., Amditis, A., Bullinger, A., *"The use of new technologies in the aetiological and structured analysis of aged workers' problems***",** NES 2001 Conference, Tampere, Finland, 5-6/9/01, http://www.uta.fi/laitokset/tsph/nes2001

11. Andreone, L., Amditis, A., **Bekiaris, E.,** Laurentini, A., *"EUCLIDE: Fusing data from radar and IR sensors for enhancing automotive driver's vision under night and adverse weather conditions, IEEE Conference "* Mechatronics and Machine Vision in Practice, 2001, 27-29/8/01

12. Herregods, D., Nowé H., **Bekiaris, E**., Baten, G., Knoll, C., "*The TRAINER Project: Matching training curricula to drivers real needs using multimedia tools",* DRIVING ASSESSMENT 2001 – INTERNATIONAL DRIVING SYMPOSIUM ON HUMAN FACTORS IN DRIVER ASSESSMENT, TRAINING AND VEHICLE DESIGN, Aspen, Colorado, USA, August 14-17, 2001

13. Amditis, A., Andreone, L., **Bekiaris. E.,** *"Using Aerospace Technology to improve obstacle detection under adverse environmental conditions for car drivers",* Universal Access in Human-Computer Interaction, New Orleans, Louisiana, USA, 5-10 August 2001

14. Amditis, A., **Bekiaris. E.,** Sartor, S., *"HCI applications for professional driver seats and their impact to driver's health and efficiency"*, Universal Access in Human-Computer Interaction, New Orleans, Louisiana, USA, 5-10 August 2001

15. Boverie, S., **Bekiaris. E., "Driver vigilance monitoring. A Challenge."**, New Concepts for Automotive Safety, 27-28 March 2001, Muenchen, Germany

- **Dr. M. Boile**

1. Theofanis, S. and **Boilé M.P**. (2001) "Institutional Framework and Market Deregulation in the United States and Western Europe Port Industry – A Comparative Analysis" *Proceedings of the 43rd Annual Meeting of the Transportation Research Forum.*

2. Sideris, A., Spasovic L.N., and **Boilé M.P.** (2001) "Development of a Logistics information Tool for Marine Terminal Operations" *Proceedings of the 43rd Annual Meeting of the Transportation Research Forum.*

3. Boile, M.P. (2001). "Evaluating the Efficiency of Transportation Services on Intermodal Commuter Networks" *Transportation Quarterly*. Vol. 56, No.1, Winter 2002.

4. Boilé, M.P. and Gaspard J.G. (2001) "A New Intermodal Transportation Paradigm" in *Writing the Wrongs*, a volume on current transportation issues, presented to the honorable Norman Mineta, Secretary, U.S. Department of Transportation, by WTS.

5. Profillidis V.A. and **Boile M.P.** (2001). "Evolutions et Restructurations au Transport de Frêt en Europe" *Transports,* no. 405, Janvier-Février.

6. Rowinski, J., **Boile M.P**., Spasovic L.N. and Wang Y. (2001). "A Multi-Commodity, Multi-Class Generalized Cost User Equilibrium Assignment Model" *Proceedings of the Transportation Research Board annual meeting,* on CD-ROM.

7. Boile, M.P. (2001). "Estimating Technical and Scale Inefficiencies of Public Transit Systems." *ASCE Journal of Transportation Engineering*, Vol. 127, No. 3, May-June.

7.2 CONFERENCES AND INTERNATIONAL FORA

OVERALL CONCLUSIONS OF THE FIRST CONFERENCE ON TRANSPORT RESEARCH IN GREECE

Greece, Athens 21st and 22nd of February 2002.

Co-Organizers:

Hellenic Institute of Transportation Engineers

Hellenic Institute of Transport (National Centre for Research and Technology Hellas)

The First Conference on Transport Research in Greece was held with great success in Athens, at the Holiday Inn Hotel on the 21st –22nd February 2002. The Conference was organised by the Hellenic Institute of Transportation Engineers (SES) and the Hellenic Institute of Transport (HIT).

Almost 200 participants from the academic and the research community (both from the E.U. and the U.S.A.) and form both public and private sector participated in this Conference, the main objective of which was the presentation of methodologies and findings of recent research in the field of transport, with emphasis on research activities in Greece.

About 51 papers were presented during the conference sessions. Additionally, 3 keynote speeches were made, including a speech from the Director of Maritime Policy, DG TREN. The Conference ended with a round table discussion on how close is transport research in Greece to the industry and the "needs" of the users. In this discussion managers and head staff from major Greek transport companies and organisations participated.

At the opening session, the Chairman of the Scientific Committee, Director of the Hellenic Institute of Transport (HIT) and Professor of the Aristotle University of Thessaloniki, Prof. G. Giannopoulos pointed out that the funding allocated to research in Greece, as a percentage of national gross product is the lowest in the E.U. Private funding for applied research amounts to 1/5 of the average private funding given to research in other European countries. The funding prospects in the transport research for the next decade are unfortunately very low. The prospects for Greek involvement in big research programs of the 6th Framework Program of the E.U. (2002-2006) are quite low, though new conditions that help the big research institutes with great financial strength apply. Another reason for this very optimistic view is

the entrance of the 12 associated countries to the E.U. with the same funding conditions and terms. On the other hand, the necessary infrastructure for applied research in the field of transport is being developed nowadays, an infrastructure that will promote a more effective and stepped-up activity in the field of transport research. A significant part of this infrastructure is the Hellenic Institute of Transport, based in Thessaloniki, Greece whose aim is to actively support transport research throughout Greece.

Speaking in the same session, the worldwide known transportation engineer, M.I.T. Professor M. Ben Akiva reported on the progress in the field of applied transport research in the U.S.A. during the past 30 years (1968-1998). He mentioned the most interesting fields, such as telematics applications in transport and especially the «human-machine interface», a way of user exploitation of the advantages of new technologies, such as new simple models of travel demand forecasting, network optimization, development of virtual laboratories for traffic simulation and new transport economic theories.

The Professor Emeritus of NTUA Dr. Frantzeskakis reported on today's structure of the Hellenic Services in the field of transport and related their impacts on the delays and the development of the transport infrastructure in Greece.

During the Conference a Honour Distinction was given to the Director of Maritime Policy (V1) DG TREN Mr. Fotis Karamitsos, whose contribution to the research development in the field of transport during the 90's was enormous. During the years 1989-2001, Mr. Karamitsos was responsible of the DG TREN XIII, the financing organisation for telematics research application in the transport field. His positive contribution is obvious, not only in Greece but also in the whole E.U. Therefore, the Hellenic Institute of Transport and the Hellenic Institute of Transportation Engineers decided to honour Mr. Karamitsos.

After an announcement by the Director of HIT, Prof. G. Giannopoulos, Prof. Ben Akiva spoke to the audience in a full session about «The Policy for Research in the E.U. and its relation to the other E.U. policies and especially the transport policy».

At the end of the Conference a round table discussion took place with the subject «How close is Transport Research in Greece to the industry and the needs of its users?».

In this discussion managers and head staff from the most important Greek transport companies and organisations participated, including Mr. Lampropoulos Managing Director of EGNATIA S.A, (Chairman of the Panel), Mr. I. Maniatis President of the Organisation of

Public Transport in Athens and former General Secretary of the Ministry for Transport and Communications, Mr. Al. Skampardonis Professor at the University of California at Berkeley, Mr. Kikiras, former President of ATTIKO METRO S.A., Mr. A. Kountras, representative of INTRACOM S.A., Mr. C. Tokamanis, head staff of the DG RESEARCH of the E.U., Mr. K. Ioannidis President of the PROODOS S.A. Transport Company and Mr. I. Paradeisopoulos head staff and representative of the Director of the Hellenic Railways Organisation.

The main conclusion from the discussion that followed was that, research in the field of transport is in a stage of establishment and attending to be acknowledged as a major factor for solving the major problems of the transport field in Greece. The main problem is the absence of the necessary implementation infrastructure of establishments and Ministries so that the results are included in the policies and actions taken by policy makers. Sectors, researchers and politicians must work together and in parallel, so that the former give more practical dimension of results concerning the user needs and the latter ask the researchers to give practical, reliable and straightforward applicable results.

All the participants acknowledged the important role of this first congress on transport research in Greece and agreed to organise the second one in two years and then biannually.

Picture 11: From the honourable distinction of the Director of Maritime Transport of DG TREN, Mr. F. Karamitsos.

The President of the Hellenic Institute of Transportation Engineers, Dr. G. Giannis (right), and

the Director of HIT, Prof. G. Giannopoulos (left), with Mr. F. Karamitsos.

Picture 12: View of the one of the two halls of the Congress during the parallel session 2A

In the first row, from the right hand side, the M.I.T. Prof. Ben Akiva, the General Secretary of the Ministry of Home Affairs Mr. I. Chrisoulakis, the Professor Emeritus of NTUA Dr. Frantzeskakis and the representatives of two political parties, Nea Democratia and Synaspismos can be seen.

7.3 DISSEMINATION OF RESULTS

Within the effects for broader dissemination and practical application of research results, HIT is gradually increasing its participation in educational and training programs.

One of the sectors that HIT is interested in is education of drivers and supervision/coordination and quality control, in matters related to transport of dangerous goods, as per the ADR code.

Another sector is the supportive contribution of HIT in the establishment of new rules for the training of candidate drivers and of their trainers. This sector is insufficient and old-fashioned in our country, while it constitutes one of the main reasons of traffic accidents. The training of the drivers of emergency vehicles (patrol, ambulance, fire brigade) is also of high priority for HIT in the near future.

HIT aims to participate in the development of new tools for the training and the evaluation of the drivers for all the above-mentioned categories (e.g. multimedia software, driver simulator, etc) as well as in the revision of the relevant training programs.

HIT is not planning to undertake the role for the institutional modernization but in cooperation with the Ministry of Transport it is planning – granted the know-how in matters of road safety – to help in the composition of new training and evaluation rules, and probably to undertake a pilot program for the training of the teachers, in which the effort for the modernization of the system will be based on, in order to improve the road safety.

ANNEX A

MAIN PERSONNEL OF H.I.T.

MAIN PERSONNEL OF H.I.T.

- **Prof. G. A. Giannopoulos, HIT Director.**

Prof. G. Giannopoulos is the Director of the Hellenic Institute of Transport (of the National Center for Research and Technology Hellas, Ministry of Development). He is also a Professor at the Transport Engineering Laboratory of the Aristotle University of Thessaloniki, Greece.

For the last 25 years he has been involved in a number of activities in the field of Transport in Greece and the EU, and has been widely known as an expert on a number of Transport fields (especially Public Transport, Freight Transport and and Intermodality) but in particular Telematics (ITS) applications in the field of Transport, and Transport policy issues especially European policies. He has participated in more than 70 studies and research projects in the field of Transport, in most of them as project manager. He is the author of more than 100 scientific articles and publications, and 8 books (2 in English, 6 in Greek).

For 6 years (at the beginning of the 80s) he was deputy to the Greek Minister of Transport for European affairs and the European Conference of Ministers of Transport, and head of the group of experts in Transport in the negotiations for Greece's entry to the EU. Since 1989 he is continuously representing Greece in the management committees of the various Transport Telematics research programmes of EU's DGXIII.

In 1997 he co-founded, and he is the Chairman since then, of the South East European Transport Research Forum (SETREF) an International non-governmental Organisation dedicated to promoting cooperation in the field of Transport in South East Europe. SETREF now has more than 30 member Organisations from 12 countries in the area. In 2000 he was also founding member of the European Transport Research Forum - ETRF which, with the support of the EU, is promoting cooperation and excellence in the field of Transport in Europe.

Prof. Giannopoulos is also acting as Consultant especially in the fields of Freight policy, operation, and Telematics applications in the field of Transport.

Since February 2003 Prof. Giannopoulos was elected chairman of the European Conference of Transport Research Institutes (ECTRI) for 2 years. This is a European Organisation based in France incorporating 17 major Transport Research Institutes and Organisations in Europe.

- **Prof. G. Kanellaidis, HIT Deputy Director.**

Deputy Director of the Hellenic Institute of Transport of the National Center for Research and Technology Hellas is G. Kanellaidis, a professor at the National Technical University of Athens (NTUA), who was born in the city of Aigio in October of 1946.

Professor G. Kanellaidis is a member of the Academic and Research Staff of NTUA since 1987, while since September 2000 he is the Head of the Department of Transportation Planning and Engineering of the Faculty of Civil Engineering of NTUA. He teaches two compulsory courses of "Highway Engineering" to all students and to the Department's students the compulsory course of "Special Chapters in Highway Engineering" and the elective course of "Special Topics for the Design of Highways and Streets". Among his academic tasks are the supervision of degree and doctoral thesis.

Research is one of his main activities, while since 1987 he participates in several research projects assigned to NTUA by Greek Organizations (such as "The Development of the Methodology of identifying black spots in the inter-urban road network of Greece", "The Development of the Strategic Plan for the improvement of road safety in Greece", "Guidelines for the implementation of Road Safety Audit in the Egnatia Motorway", etc.) and the European Union (such as "The Promotion of measures with regard to mobility integrated with safety, taking into account the inexperience of vulnerable user groups" - PROMISING, "Advanced Research on road workzone safety standards in Europe" - ARROWS, "Safety standards for road design and redesign" - SAFESTAR, etc.). He has participated in more than 20 research projects, while in most of them he was the research co-ordinator.

He has participated in more than 60 conferences related to Transportation issues presenting scientific papers, while a great number (55) of his scientific research has been published in well-known journals in Greece and internationally.

Professor G. Kanellaidis has more than 30 years of professional experience specializing in the area of Transportation Planning and Engineering, by providing consultancy services to organizations in Greece (Ministry of Environment, Town Planning and Public Works, PATHE Motorway, "Egnatia Odos") and internationally (European Commission, ARRB Transport Research, Danish Road Institute, etc.).

Among his other activities, Professor G. Kanellaidis is Chairman of the Technical Council of the National Technical University of Athens, member of the Committee on Geometric Design and Operations of the American Society of Civil Engineers (ASCE), reviewer in the Journal of Transportation Engineering of ASCE, etc.

- **Dr. E. Bekiaris, HIT Principal Researcher.**

Dr. E. Bekiaris, Dr. Mech. Engineer of the National Technical University of Athens, is a Principal Researcher (Level B) in the area of Telematics Applications for Transport in the Hellenic Institute of Transport of the Centre for Research and Technology Hellas (supervised by the Greek Ministry of Development, Research and Technology).

Dr. E. Bekiaris was born in Athens in 1965. He has graduated first from the Mechanical Engineering Department of the National Technical University of Athens. He has acquired his PhD thesis on Engineering Design in the same department. He speaks fluently English and German.

Until now he has been the Project Coordinator of 4 big research projects, co-funded by the European Commission, technical coordinator of 2 and administrative coordinator in another 3 projects.

His field of expertise ranges from Road Safety to specialized telematics applications for private vehicles, public transportation, even ships. He has also profound experience in technology for the integration of people with special needs, with emphasis on accessible transportation systems.

Dr. Bekiaris has been invited as expert evaluator in 3 different programmes of the European Commission. He has also been invited to speak in front of the European Parliament on the subject of mobility and transportation of disabled people.

In parallel, he is technical counselor to HELPA , the Greek branch of AIT/FIA, member of various social and scientific, Greek and international organizations, i.e. Greek Society for the Support of Road Victims, Association of Greek Transportation Engineers, Greek Institute for Electric Vehicles, Technical Chamber of Greece, SAE, etc.).

He has presented his work in 48 international scientific conferences (with review). He has been member of the organizing committee of 7 international conferences and he has chaired relevant sessions. He has 8 publications in renown scientific journals and has contributed to 7 scientific books. He has also edited various deliverables of research projects, some of which have been published

- **Dr. M. Boile, HIT Principal Researcher.**

Dr. Maria P. Boile is Principal Researcher with the Hellenic Institute for Transportation (HIT) of the Centre for Research and Technology Hellas (CERTH).

She received her diploma in Civil Engineering with specialization in Transportation Engineering from National Technical University of Athens, Greece in 1990, M.S. degree in Civil and Environmental Engineering from Rutgers University in 1992, and Ph.D. in Transportation Engineering from New Jersey Institute of Technology in 1995. Prior to joining HIT Dr. Boile held appointments as Assistant Professor of transportation in the Department Civil and Environmental Engineering at Rutgers University from July 2000, Assistant Professor with the Department of Civil and Environmental Engineering at Lafayette College from July 1995 through July 2000 and Visiting Assistant Professor with the Department of Industrial and Manufacturing Engineering and National Center for Transportation and Industrial Productivity, New Jersey Institute of Technology, from January through July 2000.

During 10 years of research and teaching Dr. Boile has addressed key methodological issues related to passenger and freight transportation modeling. Recognizing that the conventional travel forecasting paradigm focuses on the analysis of single-modal systems, which may be seen to obscure the interaction between modes and restrict combined travel choices, she has focused her research on the analysis of intermodal networks and the formulation and solution of related problems for both passenger and freight transport. She has been Principal and Co-Principal Investigator in several related sponsored research projects, including: “The Future of Transportation Modeling, Estimation of Truck Volumes and Flows”, “Multimodal Freight Transportation: Data Development and Analysis, Analysis and Evaluation of Intermodal Commuter Corridors in New Jersey, A Methodological Framework for Evaluating Benefits of Intelligent Transport Systems Technologies: A Case Study of the Raritan Valley Commuter Corridor, Container Port

Planning and Operations, Transportation Operations and Systems Research and Development Partnership.

In addition to her primary research theme, Dr. Boile has conducted research in the areas of geographic information system technologies in transportation, mass transit, transport economics, and the use of new technologies in transportation. Her research has been sponsored, among others, by NJDOT, PennDOT, USDOT, National Center for Transportation and Industrial Productivity, FHWA and the AT&T Foundation. She has published over 50 journal articles, reports and conference proceedings during the past 8 years.

She has received several honors and awards including the Student of the Year Award (1994) from the United States Department of Transportation, the Eno Transportation Foundation, Women's Transportation Seminar, and Intelligent Vehicle/Highway Society of America fellowship awards, and recently a best paper award from the Transportation Research Forum for her paper on Evaluating the Efficiency of Transportation Services on Intermodal Commuter Networks.

- **Dr. F.Stergiopoulos, Electrical Engineer / Assistant Researcher**

Dr. Fotis Stergiopoulos, an Assistant Researcher of HIT (Level D), was born in Veria, Greece in 1972. He obtained his degree with honours in Electrical Engineering in 1995 and his PhD in Electrical and Electronic Engineering from the University of Birmingham, UK in 1999, working on power electronics applications for electric drives and power transmission.

During 1998-1999 he worked as an R&D engineer at the Asea Brown Boveri (ABB) center in Sweden, in the area of power electronics. As a result of his work, he contributed in one patent and 3 other invention disclosures at ABB.

The research interests of Dr. Stergiopoulos, include among others the developments in the area of clean vehicles, where he is currently involved in the preparation and execution of research projects.

- **Maria Morfoulaki, Dipl. Civil Engineer - Transport / Research Associate (Postgraduate Scholar)**

Ms. Maria Morfoulaki, Dipl. Civil Engineer AUTh, Transport, is Research Associate of HIT, having also a Postgraduate Scholarship as she is working out her Thesis in the field of Public Transport.

Maria Morfoulaki was born in Thessaloniki in 1971 and she has graduated from the Polytechnic School of AUTh, Department of Civil Engineer, in 1995. In 1996 she undertook her Thesis in the Laboratory of Traffic Engineering of the above Department.

Until now she has worked in many Research Programs and Transport Studies as cooperator of AUTh, TRIAS S.A, TRUTH S.A and from October of 2001 as research associate of the Hellenic Institute of Transport (HIT)

She is specialized in traffic forecasts using transport models and network simulation but she is also interested in fields of Public Transport Systems, Road Safety and Freight Transports.

M. Morfoulaki has 4 publications in scientifically magazines and conferences, she speaks English and German and she has also excellent knowledge of many PC software programs.

- **Athanasios Tsioutras, M.Sc. Civil Engineer - Transport - Environmental / Research Associate (Postgraduate Scholar).**

Mr. Athanasios Tsioutras, Dipl. Civil Engineer AUTh, Transport, M.Sc. Environmental, is a Research Associate of HIT, having also a Postgraduate Scholarship as he is working out his Thesis in the field of Advanced Driving Assistance Systems (ADAS).

Athanasios Tsioutras was born in Thessaloniki in 1970 and he has graduated from the Polytechnic School of AUTh, Department of Civil Engineer, in 1996. In 1999 he got a M.Sc. degree in Environmental issues.

Until now he has worked in many Research Programs and Transport Studies as external cooperator of TRUTH S.A and TRD S.A. from February 2001 as a research associate of the Hellenic Institute of Transport (HIT).

He is being specialized in transport models and network simulation in the field of Advanced Driver Assistance Systems (ADAS) concerning transport and environmental conditions.

A. Tsioutras has 1 publication in a scientific conference, speaks and writes English and has also excellent knowledge of many PC software programs.

ANNEX B

RESEARCH PROJECTS OF THE PERIOD 2001 - 2002

B.1 ACTIVE RESEARCH PROJECTS OF H.I.T.

1. GIFTS: Global Intermodal Freight Transport System (GIFTS).

The overall scope of the GIFTS project is to offer under one "roof" and make accessible to all elements and applications for the seamless door to door Transport of Freight. This will be achieved by a primarily Communications oriented infrastructure that will be put in place, and from which the full number of Freight Transport related information and data will be available to all and especially the small and medium sized companies (operators, service providers, end-users).

The "seamless" of the operation will be achieved by covering all sides and stages of the Transportation chain i.c.:

- The initial commercial function, with the buyer and the seller of the goods including booking and reservations, billing and banking operations, etc.
- The "administrative" function, including registration, security, and authentication functions (e.g. weight and dimensions control), insurance and legal issues.
- The Operational function e.g. Fleet management services incorporating Tracking and Tracing, route choice, travel time prediction (through dynamic traffic management information),etc.
- The Cargo management function, including cargo/carrier matching, unit load handling and transfer, cargo quality monitoring, etc.
- The Strategic Planning function i.e. trip data collection and analysis, modelling and simulation, etc.

A number of two to three, pilot applications and/or demonstrators are planned to be set up along a number of corridors that will combine the following operations:

- Road / Rail
- Road / sea
- Road or Rail only

These will show the applicability of the concepts and tools to be developed.

Project acronym:	**GIFTS**
Project full title:	**Global Intermodal Freight Transport System**
Coordinator:	**TPZ (Telespazio S.p.A)**
Start date:	**1 July 2001**
Duration:	**30 months**
Person responsible for HIT:	**Prof. G.A. Giannopoulos**
Budget:	**392.462 Euros**

2. AWAKE: System for effective Assessment of driver vigilance and Warning According to traffic risK

A major focus of research over the last few years has been "driver hypovigilance" as a cause of road accidents. 10-20% of all accidents are related to driver fatigue. More precisely:

- Fatigue and/or drowsiness of the driver caused around 30% of accidents in French highways in the period 1979-1994, whereas about 40% of fatal accidents on US Highways are sleep-related.
- 1% to 10% of all accidents in the U.S.A. seem to be directly related to sleepiness.
- Regarding heavy vehicles crashes involving trucks and 15% to 36% of all crashes fatal to the truck driver. Fatigue is a factor affecting 30-40% of heavy truck crashes in US.
- A good detection of fatigue alone could concern between 40% and 60% of the crashes with ane vehicle and 37% of truck drivers fatalities.
- Expected involvement in such accidents of trucks is 4-5 times greater than for passenger vehicles due to exposure, operational life and night driving.

The objective of AWAKE is to increase traffic safety by reducing the number and the consequences of traffic accidents caused by driver hypovigilance. In order to achieve this objective, AWAKE intends to develop an unobtrusive, reliable system, which will monitor the driver and the environment and will detect in real time hypovigilance, based on multiple parameters. The system will achieve enhanced reliability and minimized false alarm rate, by supporting continuous, instead of discrete, event-related driver monitoring, strong system personalization to driver characteristics and traffic situation awareness. In case of hypovigilance, the system will provide an adequate warning to the driver, with various levels

of warnings, according to the estimated driver's hypovigilance state and also to the estimated level of traffic risk. This system will operate reliably and effectively in all highway scenarios.

More specifically, the objectives of AWAKE are:

- To develop a Hypovigilance Diagnosis Module (HDM), that will detect and diagnose in real-time driver hypovigilance. This system will fuse, via an artificial intelligence algorithm, data from on-board driver monitoring sensors (such as an eyelid and a steering grip sensor) as well as driver' s behavioural data (i.e. from lane tracking sensor, gas/brake and steering position sensors). HDM will then be strongly personalized to the driving characteristics of each driver (exerting continuous driver monitoring and expert- based adaptation) with the aim to achieve a diagnosis level over 90% and false alarm rate below 1% in all highway scenarios.

- To develop a Traffic Risk Estimation (TRE) module, to assess the risk of the traffic situation. This system will match data from an enhanced navigation map, anticollision radar, speedometer and driver' s gaze direction sensor, following a deterministic approach. It is mot meant as a new system to estimate traffic risk, but rather an expert combination of the output of existing system in order to rationalize HDM output and DWS warning strategies. The results of this system will be taken into consideration by the HDM for re-assessing the driver' s state as well as by the DWS, to decide on the level of warning to provide to the driver.

- To develop an optimum, modular, on-time Driver warning System (DWS), using acoustic, visual and haptic means. Various levels of warnings will be considered, according to the risk level estimation and driver' s estimated vigilance status.

- To develop a Hierarchical Manager with self-diagnosis capabilities, to co-ordinate all the above subsystems.

- To integrate all the above subsystems and sensors in a single unit (AWAKE unit), appropriate for real-life automotive applications (in terms of cost, dimensions, weight, reliability, robustness etc.).

- To diversify and adapt the sensors and subsystems to support: middle and an upper class passenger car and a heavy vehicle demonstrator, in order to cover all relevant application fields.

- To enhance traffic safety by reducing the number of drowsiness-related accidents.

- To enhance the quality of life and safety of European citizens through support during long-term and/or adverse condition driving.

- To enhance public awareness of the drivers' drowsiness problem and promote AWAKE concept through innovative dissemination strategies.

In order to achieve the above objectives a multidisciplinary Consortium has been engaged, composed of major actors in the field, namely major automotive system developers (Siemens, Actia, Autoliv, Navtech), important EU Research Institutes (HIT, TNO, VTI, ICCS-NTUA, CNRS-LAAS, CNRS-CEPA, BIVV-CARA), University Institutes (IAT, COAT), as intermediate users Car Manufactures (Fiat, Daimler-Chrysler) and End users (all the drivers), represented through the International Federation of Drivers (AIT/FIA).

Figure 8: AWAKE's Logo

Project acronym:	**AWAKE**
Project full title:	**System for effective Assessment of driver vigilance and Warning According to traffic risK Estimation**
Coordinator:	**HIT**
Start date:	**1 September 2001**
Duration:	**36 months**
Person responsible:	**Dr. E. Bekiaris**
Budget:	**579.941 Euros**

3. IMAGE: Intelligent Mobility Agent for Complex Geographic Environments.

IMAGE is aiming to develop an information environment (the AGENT) that will be the enabling tool for delivering third party electronic services/data to end users in order to cover their overall mobility needs in a certain complex geographic environment. To achieve that IMAGE will design and develop an open and modular service platform, which will act as the central point transparently coordinating both end users data (*user request*) and service provider data (*provider response*).

The information environment will consist of:

- An *intelligent module* that will "intelligently" manage, process and monitor end users' requests and individual profiles/preferences for geo-referenced and time-dependent servicing
- A *data management module* that will interface with external entities databases in order to deliver the required data
- A *GIS platform* that will provide reference of both end users' and service providers incoming data into geographic coordinates.
- The identified as the integral IMAGE-responsibility *services*:
- Localisation service, to acquire the position of the end user in the geographic environment
- Navigation service, to guide the end user to the required activity (end product) so as to satisfy his/her need
- E-commerce service, to delegate and link end user to external e-commerce services

Through the involved sub-systems all the different stakeholders are part of the IMAGE Services Operational Network (ISON). ISON integrates end users with service providers in an operational network and makes them elements of the geographic environment regardless of their location (i.e. indoor or outdoor). ISON takes advantage of the existing and new communication & information technologies (Internet, GSM, GPRS, UMTS, Mobile IP) to provide its users with an ubiquitous and adapted access to services and information. ISON will provide universal access through web-based development and IP-based communication networks. XML technology will be used so that contents are seamlessly published in a wide range of formats (for example WML, HTML) suitable for different kinds of terminals.

At the end of the day, IMAGE will make a difference compared to previous attempts due to its key elements:

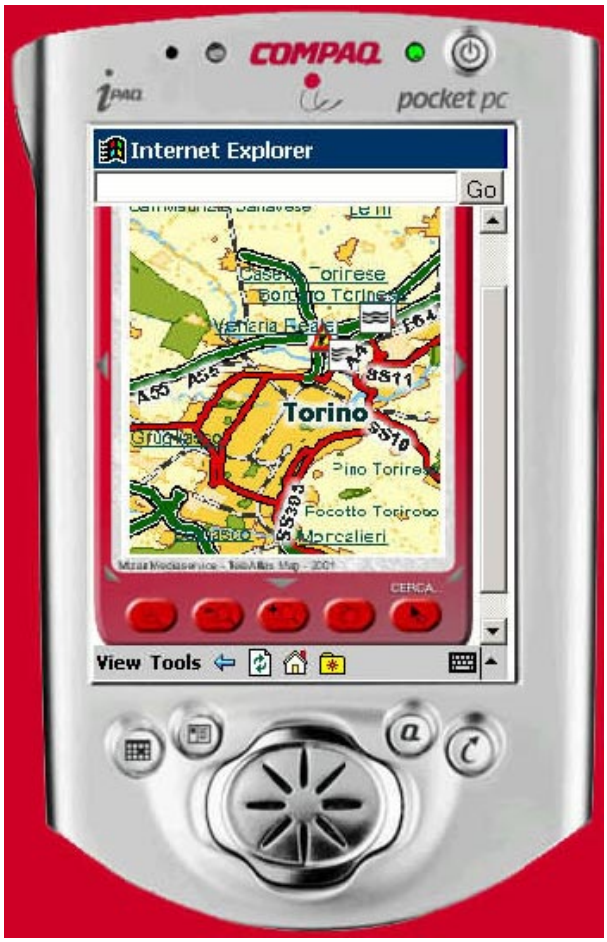
- Integrated service: users are not prepared to buy devices and subscribe if the overall service batch is poor;
- Personalised service: user needs in respect to mobility services and their interfaces are so diverse that a generic service suits no-one and that is paid by no-one. Thus, the accommodation of multiple user cohorts is not a luxury, is a prerequisite to service success.
- Interoperable and standardized service across Europe: mobile telephony succeeded because it followed a panEuropean (and now world-wide mobile UMTS) standard.
- Real-time, dynamic data: current services are based on static data mostly, because they lack either the information pool or the follow-up mechanisms to provide real-time dynamic data. Thus, users find out that the reality might be totally different and loose their trust to the system.
- Intuitive and yet low cost user interface: some mobile phone brands prevailed upon others based solely on their UI. The current mobile phone and PDA user interfaces are still not intuitive and flexible enough for proper delivery of IMAGE integrated service to the users.
- New organizational scheme, merging all stakeholders: still an unresolved issue in the area of traffic information / management system, where content providers ask more and more service developers for fees whereas service developers wish to exchange info for info.
- Cost minimization and simplification of available solutions: current solutions do not offer good value for money and thus their actual exploitation requires significant work on a more appropriate and modular system architecture, to bring down components cost without jeopardizing the functionalities.

IMAGE will check its system's technical efficiency and financial viability at two test beds, namely the cities of Turin (Italy) and Tampere (Finland). Although the conceivers of the project's concept envisage that IMAGE could potentially accommodate innumerous services and data items (easy expandability of the platform), the test bed scenario would be limited to the following (basic scenario) types of services:

- Public transport information
- Traffic information

- Tourist information

Figure 9: Logo of IMAGE



Picture 13: The IMAGE personal communication system

Project acronym:	**IMAGE**
Project full title:	**Intelligent Mobility Agent for Complex Geographic Environments.**
Coordinator:	**HIT**
Start date:	**1 November 2001**
Duration:	**24 months**
Person responsible:	**Dr. E. Bekiaris**
Budget:	**454.324 Euros**

4. NOVEL - CeNtre of Excellence On Driver BehaViour Issues in the CEntre for Research and TechnoLogy Hellas (CERTH) / Hellenic Institute of Transport (HIT).

NOVEL aims to develop a Centre of Excellence on driver behavior issues, which is a key element of road safety. In order to achieve this goal, the Centre will be equipped with a series of sophisticated research tools, such as:

- A Virtual Enviroment tool, for simulation of car systems and the surrounding environment.

The general configuration is shown below:

- A Research Vehicle equipped with Advanced Driver Assistance Systems (ADAS), (radars, cameras, sensors etc).

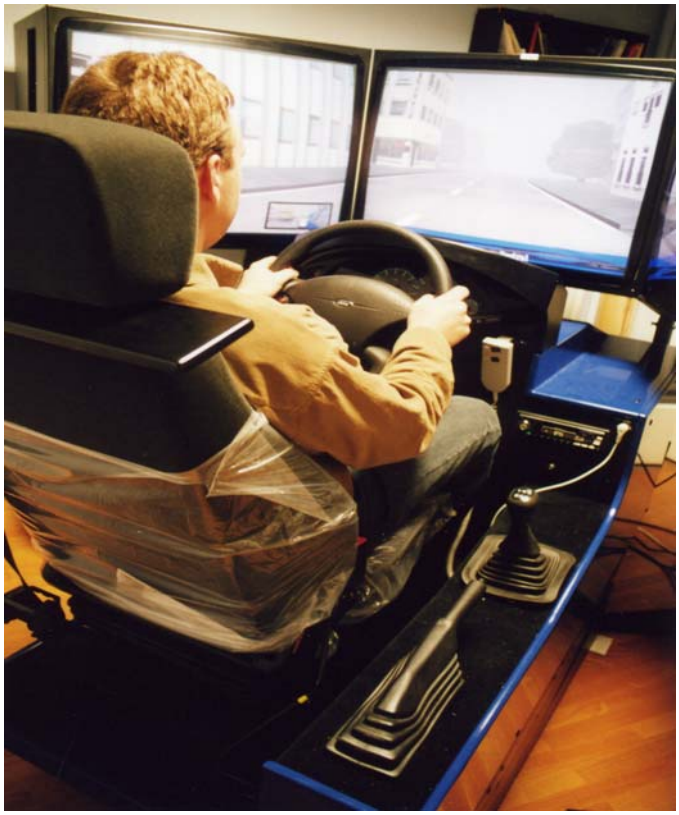
The first and foremost specification for HIT's research vehicle is to be able to support multiple CAN-bus architectures, so that sensors and actuators from various manufacturers can be integrated.

The sensors to be initially integrated into the research vehicle are:

- black-box recorder with basic vehicle inputs (i.e. speed, acceleration, braking, steering output at any given time);
- frontal laser sensor;
- blind-spot coverage external mirror sensor;
- parking support system(s) (radar sensor and/or camera);
- automotive display(s);
- navigation system;
- lane recognition camera;
- driver face looking camera, used also (if possible) for driver eye-lid movements monitoring (technology developed within AWAKE project, co-ordinated by HIT);
- visual and audio human interfaces;

- brake and gas control actuators (for haptic warnings);
- steering grip force measuring sensor (developed within AWAKE project);
- system to record driver physiological measurements [especially electroencephalogram (EEG) and electrooculogram (EOG)];
- GPS antenna.

- A Semi-Dynamic Driving Simulator for simulation of various driving conditions that would be difficult or even dangerous to be tested in real conditions (e.g. driving in a highway, city environment driving in rain, snow, ice, etc).



Picture 14: Driving simulator in use

Project Acronym:	**NOVEL**
Project Full Title:	**Centre Of excellence On Driver Behaviour Issues in the Centre for Research and Technology Hellas**
Start Date:	**1-5-2002**
Duration:	**24 months**
Person Responsible:	**Δρ. Ε. Μπεκιάρης**
Budjet:	**400.000 Ευρώ**

5. AGILE: AGed people Integration, mobility, safety and quality of Life Enhancement through driving.

AGILE aims to develop a new set of training, information, counselling and driving ability assessment and support tools for the elderly, evaluating their full range of physical, cognitive, behavioral and interactional abilities and not just checking a few sensory and motor functions (as is currently the case).

This is approached through a number of **intermediate objectives**:

- To establish a clear identification of elderly problems in relation to various driving tasks and an aetiological classification of their traffic accidents.
- To select a proper set of elderly driving ability assessment criteria (using both neuropsychological, physiological and behavioural parameters) and quantifiable thresholds for them.
- To develop a low-cost pre-screening tool for rapid assessment of elderly drivers by themselves, their family doctors or other health care professionals either in interviews or even by mail.
- To develop an elderly drivers' assessment parameters database to be used as a knowledge repository and expertise basis for relevant assessment tools and decisions.
- To develop an integrated driving assessment system for the elderly, including all necessary assessment tools, such as a neuropsychological test battery, driving simulator scenarios and an on-road test, to be used in a modular way for elderly that seem to have particular difficulties in driving.
- To develop a reference test drive scheme to validate the reliability of the above tools.
- To develop a reliable and efficient decision and consultation expert tool, to assist the elderly driver evaluator to reach a decision and provide help to the elderly, by combining the outcome of various assessment tools.
- To develop a standardised pan-European elderly drivers assessment procedure.
- To verify all criteria, tools and methods developed through field tests with an appropriate sample of elderly users in different European countries and regions.
- To verify the cost-effectiveness and viability of the proposed methods and tools.
- To develop quantifiable and precise, inclusive and permissive design guidelines for elderly compatible car design and the development of new, more appropriate driving aids for them.
- To develop appropriate training and consultation courses to help the elderly overcome

their driving problems.

- To enhance acceptance among the elderly of the proposed assessment strategy as well as to promote positive messages through public awareness of elderly drivers' capabilities, averting current negative stereotypes, and establishing compensatory policies for those who would eventually be excluded from driving.

It should be emphasised that the assessment methods targeted are not meant to present a new barrier for elderly drivers, but instead should simplify the assessment process for most of them and help the rest to find appropriate methods and aids to allow them to remain safe drivers.

Of course, ultimately such an approach would still reasonably and fairly exclude from driving those elderly people that pose a risk to traffic safety and to themselves, while keeping their number to a minimum, and offering them support and access to alternative mobility policies (e.g. public transport passes).

As relevant **measurable targets** the Consortium sets the following:

- Reliability and validity of the developed elderly driving assessment methodology between 80-98%, depending upon the modules used and the target price (of course higher cost is related to more tools and higher reliability rates). Cost of pre-screening procedure below 0.1 kEuro and of the integrated assessment system below 1 kEuro.
- Integrated assessment time between 1-2 hours (in comparison to the 3-8 hours required today, using the existing, ineffective assessment tools, which in addition are designed to measure only a few physiological parameters).
- Developed tools acceptance level above 7 (on a 0-10 scale) by the assessment experts (mean value) and above 5 by the elderly users.

To realise such a challenging task and achieve the targeted goals, **a multi-disciplinary team of 13 Participants, representing 7 European countries,** has been formulated. It includes participants with strong bioengineering/ clinical research that develop assessment methods and tools (AMAP, IfADo, COAT), elderly & disabled driver assessment centres (BIVV-CARA, AV/GOCA, NIRH), Transport Research Institutes that specialise in E&D issues (HIT, USTUTT, VTI), a car manufacturer (CRF/Fiat), assessment tools developers (Psytest, Foerst) and a multinational federation of driving schools (EFA).

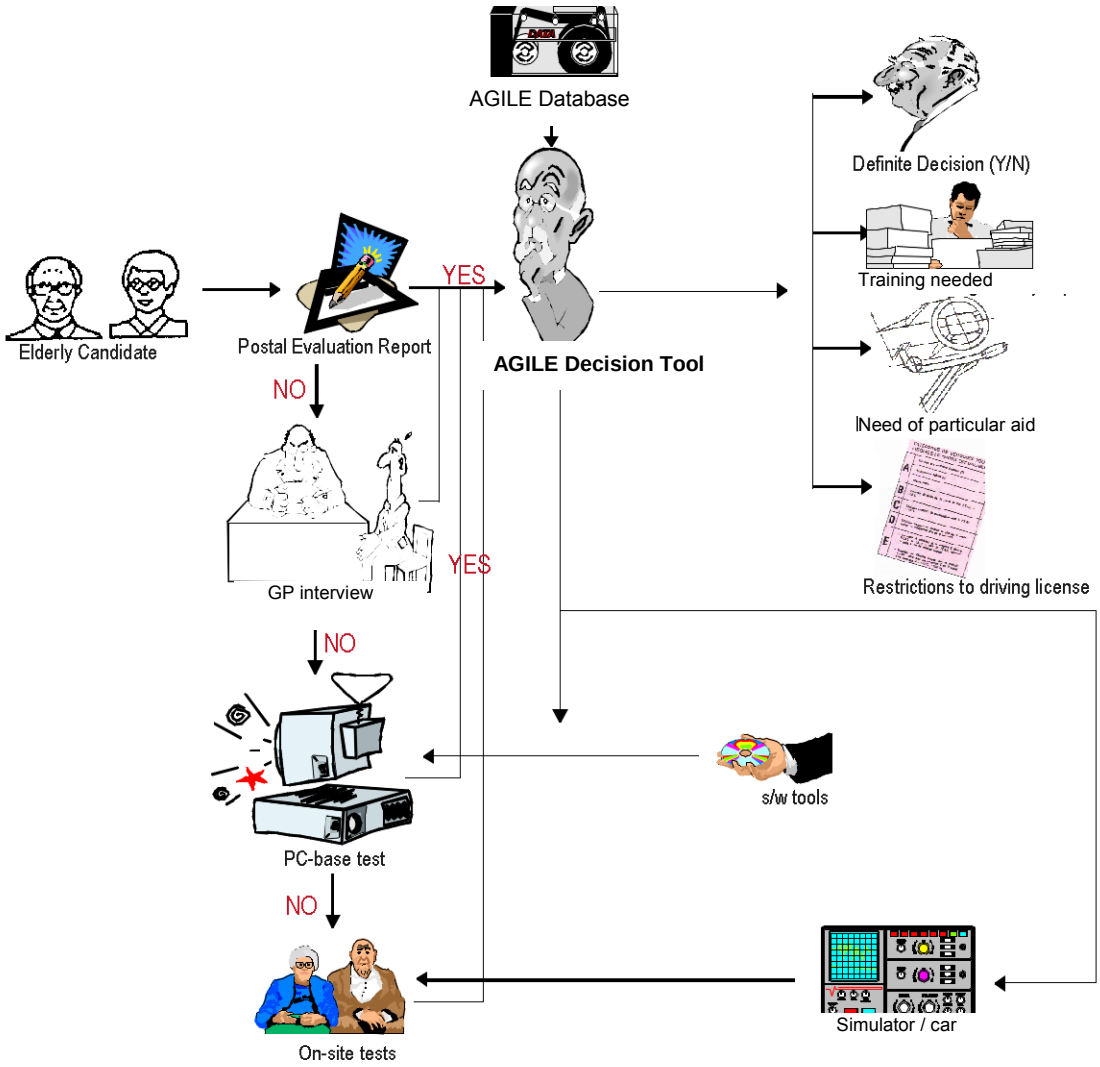


Figure 10: Selection of a proper set for elderly driving ability assessment criteria.

Project acronym:	**AGILE**
Project full title:	**AGed people Integration, mobility, safety and quality of Life Enhancement through driving.**
Coordinator:	**HIT**
Start date:	**1 January 2002**
Duration:	**36 months**
Person responsible:	**Dr. E. Bekiaris**
Budget:	**432.538 Euros**

6. SPORT4ALL: Provision of Telematic Services to the Disabled for the Diffusion of Information on Athletics Events.

Sport is one of the most widely practiced human activities that entail the development of skills and competencies along with pleasure for the sports people and their audience. Sport is considered by the EU, an integral part of education and culture and accordingly, the EU uses its resources to encourage sporting activities, as these denote economic growth, employment, bridging people from a variety of backgrounds, and most importantly integrating people into society.

There exist a lot of limitations though concerning the inclusion of the European citizens into the frame that surrounds delivering and attending sporting activities. The minority of the disabled and elderly population is excluded from attending athletic events, due to confines in accessing the sports fields and in obtaining the appropriate information.

In the context of the information society and within the frame of the European integration, the SPORT4ALL project aims to take advantage of the advances in the telecommunications sector to provide user-oriented and value added services, targeted at the disabled and elderly population and contributing, under this perspective, to their inclusion in the e-society in correlation to athletic events.

A huge amount of information is available on the market and is continuously increasing in volume and complexity. Information regarding athletic events is becoming more condensed, as the introduction of competition on sports level becomes more frequent and high profile athletic events gain in popularity. Obtaining and handling the information surrounding athletic events is a rather complex task, which impedes the efforts of the disabled and elderly group in participation in recreational activities, like attending sports.

To this extend, the SPORT4ALL project will facilitate the disabled and elderly population in accessing sporting events and thus, in tackling the dependence issue that burdens and limits their lives.

Project acronym:	**SPORT4ALL**
Project Title:	**Provision of Telematic Services to the Disabled for the Diffusion of Information on Athletics Events.**
Coordinator:	**TEN-TELECOM**
Start Date:	**01-04-2002**

Duration: **18 months**

Person Responsible: **Dr. E. Bekiaris**

Budget: **393.000 Euro**

7. BOB – CAMPAIGN in Greece.

After the first successful implementation of BOB Campaign in Greece the previous year, HIT is implementing the BOB campaign in Greece for the second time. The Campaign was designed by BIVV and successfully applied since 1995 in Belgium. The objective of this is to enhance public awareness of the problem of drunk driving and gain public acceptance in a series of measures to aver this phenomenon. This campaign is being realised in Greece according to the specifications for implementing the BOB-campaign in European Union countries (developed by BIVV). HIT is cooperating with the Non-profit Association of Greek Driving Schools (POEEOA) in the wide dissemination of the material developed within the project to the trainees drivers all over Greece (see attached letter of intent in the Annex). The company TECHNIKES EKDOSEIS S.A. producing the special car magazine with the highest circulation in Greece ("4 wheels" magazine) acts as a sponsor to the project by including a full-page colour advertisement of the campaign in the "4 wheels" magazine for a period of two months. Meanwhile the Automobile and Touring Club of Greece (ELPA) and the car rental company AVIS are promoting the campaign.

The proposed work will further extend the work performed by BIVV these specifications and will also:

adapt the proposed policies to the Greek reality, considering also the local habits and driving styles;

enhance the BOB concept, by adding modules for driving schools and basic school education.

HIT is implementing the BOB campaign in Greece, designed by BIVV and successfully applied since 1995 in Belgium. The objective of this is to enhance public awareness of the problem of drunk driving and gain public acceptance in a series of measures to aver this phenomenon.

This campaign is being realised in Greece according to the specifications for implementing the BOB-campaign in European Union countries (developed by BIVV). HIT cooperates with the Non-profit Association of Greek Driving Schools (POEEOA) in the wide dissemination of the material developed within the project to the trainees drivers all over Greece (see attached

letter of intent in the Annex). The company TECHNIKES EKDOSEIS S.A. producing the special car magazine with the highest circulation in Greece (4 wheels magazine) acts as a sponsor to the project by including a full-page colour advertisement of the campaign in the 4 wheels magazine for a period of two months. Meanwhile the Automobile and Touring Club of Greece (ELPA) and the car rental company AVIS will promote the campaign.

The proposed work will further extend the work performed by BIVV in Belgium on the same issue. This work resulted in development of specifications for implementing the BOB-concept in European Union countries. The work in the present proposal will follow these specifications and will also:

- adapt the proposed policies to the Greek reality, considering also the local habits and driving styles;

- enhance the BOB concept, by adding modules for driving schools and basic school education.

Picture 15: Cover of educational videotape.

Project Acronym: **BOB-Campaign**

Project Title:	**BOB-Campaign**
Coordinator:	**European Union – DG Trent**
Start Date:	**1-11-2002**
Duration:	**12 months**
Person Responsible:	**Dr. E. Bekiaris**
Budget:	**326.000 Euro**

8. Ministry of Transport: Consultant Role to the Greek Ministry of Transport.

This project aims to consult the Greek Ministry of Transport on research topics and analysis related to Thessaloniki's transport system.

Project Acronym:	**Ministry of Transport**
Project Title:	**Consultant Role to the Greek Ministry of Transport.**
Coordinator:	**Consultation to the Greek Ministry of Transport**
Start Date:	**12-06-2002**
Duration:	**12 months**
Person Responsible:	**Prof. G. Giannopoulos**
Budget:	**69.259 Euros**

9. UPTUN: Low-cost durable innovative UPgrading methods for fire safety in existing TUNnels.

The UPTUN Project aims to present for cost efficient methods for fire safety in existing tunnels. The project is especially relevant to situations in European tunnels, which grow to life threatening fires and infra-structural damage.

The safety of tunnels has been put in question after recent incidents with heavy tolls in terms of human lives, and with direct and indirect material losses running in the billions of Euros. The studies carried out in the aftermath of these incidents have revealed a large number of questions on tunnel safety that current knowledge cannot answer.

Accidents in especially existing, or new but still non-operative, tunnels may grow to life

threatening fires, caused by the fact that the applied safety measures may be inadequate (due to aging and/or traffic growth and the increased volume of transport of hazardous goods). Furthermore, such fires may affect the primary function of the tunnel in the infra-structural systems in which it is embedded, due to failure of structural components, leading to large economic losses, which in turn adversely affect the growth of the European economy.

The results of the UPTUN Project will be:

- A developed, validated and promote innovative, sustainable and cost-effective (detecting, monitoring and mitigating) package of measures to limit the probability and consequences of fires in tunnels and to improve the safety of end-users.
- A developed and promote holistic evaluated and upgraded procedure for existing tunnels based on the innovative measures developed in objective to allow owners, stakeholders, designers and emergency teams to evaluate and upgrade the human and structural safety level.
- The project will produce a tunnel management method containing rules and procedures for performance assessment of existing tunnels, to be used for defining their actual fire safety and for predicting the remaining safety level after upgrading.
- The study will provide information to enable cost efficient decisions on detection, inspection, monitoring or mitigating to be made by European tunnel administrations. Simple and usable rules will be provided for an initial assessment. Furthermore, specifications for a possible computer program will be presented, to be used for more complex fatigue calculations and assessment.

Figure 11: UPTUN's Logo

Project Acronym: **UPTUN**

Project Title: **Low-cost durable innovative UPgrading methods for fire safety in existing TUNnels.**

Coordinator: **GROWTH**

Start Date: **1st September 2002**

Duration: **48 months**

Person Responsible: **Pr. P. Papaioannou**

Budget: **237.006 Euros**

10. CONSENSUS: Promoting CONSENSUS in Assessing Driving Ability of PSN Through Common Methodologies and Normative Tools.

Currently, there is a total lack of standardisation in the methods and tools used for the evaluation of the fitness to drive of older and disabled people. Only the establishment of a Thematic Network Group on a pan-European scale would be able to offer the necessary width of expertise and the critical mass to overcome local assessment practices and procedures and to converge to commonly agreed practices and tools with pan-European applicability. CONSENSUS aims to develop a Network of Excellence to systematically exchange information on driving ability assessment of Disabled people, promote relevant technology transfer within EU and provide access to expertise and resources of highly specialised Centres to other less specialised country authorities, using state of the art Telematics tools and procedures and experimenting with new IT support tools (database and expert knowledge tool).

The main objectives of the project are:

Agreement on a concise pan-European adapted PSN functional classification, with reference to driving ability.

- Agreement on a common set of PSN driving assessment criteria, assessment tools and procedures.

- Specification and use of a benchmarking database on used and proposed PSN driving assessment tools and methodologies, as well as an expert decision tool, to support evaluators and improve and standardise the quality of assessment.

- Identification of relevant gaps in existing assessment tools as key issues for future research.

- Establishment of a coherent group of experts and centres of excellence Europe-wide, that facilitate the state of the art in IST networking technologies to stay in close contact and be able to draw from each other's experience in the field.

Proposal of a code of good practice on PSN driving ability assessment, recommendations to authorities and the industry and achieving relevant users acceptance and public awareness enhancement.

As Quantitative objectives the following are defined:

- Use of the agreed classification and common assessment criteria, tools and procedures in at least 6 European countries by the end of the project.

- Use of the agreed classification and common assessment criteria, tools and procedures in at least 15 European countries, 10 years after the end of the project, if the Network indeed gets self-sustainability.

- Uptake of proposed recommendations and reference to them by at least 3 national or international authorities and 3 relevant manufacturers by the end of the project. Inclusion of at least 60 members in the Network by the end of the project.

Project Acronym:	**CONSENSUS**
Project Title:	**Promoting CONSENSUS in Assessing Driving Ability of PSN Through Common Methodologies and Normative Tools.**
Coordinator:	**IST**
Start Date:	**1st September 2002**
Duartion:	**24 months**
Person Responsible:	**Dr. E. Bekiaris**
Προϋπολογισμός:	**115.000 Euros**

11. RURAL WINS: Roadmap for ICT Solutions for Rural Areas and Maritime Regions.

This project aims to build a strategic RTD roadmap developing a Information and Communication Technologies vision which will ensure the economically and technically feasible deployment of information and communications solutions for rural areas (including also maritime regions and islands).

The project will analyse: trends in technology development of equipment needed and foreseen; deployment of services which integrate the equipment; and knowledge management development which will allow the integration of the above for the globalised rural work and life environment.

The Thematic Network will analyze different solutions of joint public and private initiatives and business models to be constituted in the near future. RURAL WINS solution will lower the discriminatory gap nowadays existing between rural and urban areas as regards broadband accessibility and applications deployment. As a result a broad constituency will have been formed around the proposed Information business models.

Project Acronym:	**RURAL-WINS**
Project Title:	**Roadmap for ICT Solutions for Rural Areas and Maritime Regions.**
Coordinator:	**IST**
Start Date:	**1st July 2002**
Duration:	**12 months**
Person Responsible:	**Dr. E. Bekiaris**
Budget:	**4.338 Euros**

12. IMMACULATE: IMprovement of Urban EnvironMent Quality of Air and Noise Levels by an Integrated, Cost Effective and MUlti-Level Application of Clean Vehicle TEchnologies.

IMMACULATE aims to promote the improvement of the quality of air and noise levels in urban environments by an innovative combination of clean vehicle technologies for different vehicle types (electric power-assisted bicycles, electric scooters, hybrid passenger cars and natural gas mini buses) with other recent advances in urban transportation schemes (such as application of transport information, management and telematic systems, smart cards technology, mobility management schemes).

The following actions and means are going to be involved:

- Definition of the specific requirements of different user groups and the appropriate scenarios of use.
- Definition of the functional specifications of the vehicles and the state of the art transport telematic applications to be used.
- Development of a training scheme for drivers leading to an eco-driving knowledge.
- Organisation and execution of pilot studies employing the use of vehicles and technologies in the city of Thessaloniki, Greece, including 4 power-assisted bicycles, 4 electronic scooters, 1 hybrid passenger car and a natural gas based hybrid mini-bus.
- Technological, socio-economic and usability assessment and performance of a risk analysis of the proposed scheme. Monitoring and addressing of legal and organisational issues.
- Performance of a cost-benefit and cost-efficiency analysis estimating the benefits.
- Formulation of application techniques, policy recommendations and projection for other European cities, through a pan-European User Forum, the European Electric Road Vehicle Association.

IMMACULATE will result in the demonstration of an innovative approach for the mitigation of air pollution and noise problems in the city of Thessaloniki with a projection to other European cities through the introduction of a system based on the combination of clean vehicles and advanced transport telematics and management technologies. Furthermore, through its dissemination activities and pilot studies, IMMACULATE works

towards formulation of an eco-consciousness in the citizens of an urban environment.

Project Acronym:	**IMMACULATE**
Project Title:	**IMprovement of Urban EnvironMent Quality of Air and Noise Levels by an Integrated, Cost Effective and MUlti-Level Application of Clean Vehicle TEchnologies.**
Coordinator:	**LIFE**
Start Date:	**1st November 2002**
Duration:	**24 months**
Person Responsible:	**Dr. E. Bekiaris**
Budget:	**586.000 Euros**

B.2 ENDED PROJECTS OF H.I.T.

1. BOB – CAMPAIGN in Greece

The Campaign was designed by BIVV and successfully applied since 1995 in Belgium. The objective of this is to enhance public awareness of the problem of drunk driving and gain public acceptance in a series of measures to aver this phenomenon. This campaign realised in Greece according to the specifications for implementing the BOB-campaign in European Union countries (developed by BIVV). HIT cooperated with the Non-profit Association of Greek Driving Schools (POEEOA) in the wide dissemination of the material developed within the project to the trainees drivers all over Greece (see attached letter of intent in the Annex). The company TECHNIKES EKDOSEIS S.A. producing the special car magazine with the highest circulation in Greece ("4 wheels" magazine) acted as a sponsor to the project by including a full-page colour advertisement of the campaign in the "4 wheels" magazine for a period of two months. Meanwhile the Automobile and Touring Club of Greece (ELPA) and the car rental company AVIS promotedthe campaign.

The proposed work further extended the work performed by BIVV these specifications and also:

- adapted the proposed policies to the Greek reality, considering also the local habits and driving styles;
- enhanced the BOB concept, by adding modules for driving schools and basic school education.

Picture 16: BOB – Campaign in Greece

Project Acronym:	**BOB-Campaign**
Project Title:	**BOB-Campaign**
Coordinator:	**European Union – DG Trent**
Start Date:	**1-8-2001**
Duration:	**15 months**
Person Responsible:	**Dr. E. Bekiaris**
Budget:	**348.300 Euro**

2. TRANSLOGNET: TRANSportation and transport nodal points LOGistics management NETwork.

TRANSLOGNET project was the result of an international consortium in the corridor of Adriatic – Ionian Seas. It studied and described the existing environment in the field of multi-modal transportation in Greece and in relation to other countries participated in the project. It also contributed to a more effective integration of the European Transport Networks in the corridors of Adriatic, Ionian, and Aegean Seas. It provided the basic information with which to develop the architecture and detailed analysis both of the open information network system and of the individual applications at ports and in other agencies involved.

The main objectives of the project were:

- Development of generalized software implementation, and an information network based at common development structures for messaging and data communication related with ports.
- Development of an open architecture structure, for the development of a universal internet node for a number of ports (port system), based at previous, low cost web implementations.
- Achievement of interface and performance of existing or new implementations, through the development of properly interface tools.

The implementation area was the corridor "Adriatic – Ionian – Aegean Seas" and especially the Greek and Italian ports, such as Thessaloniki, Piraeus, Heraklion, Patras, Hgoumenitsa, Alexandroupolis, Bari, Brindisi, Ancona, Venetia and Trieste.

The project aimed to improve the information exchange, giving solutions and specifically benefits, to the main transport carriers and users of transport services such as:

- Organisations and Port Authorities of Thessaloniki, Piraeus, Heraklion, Patras, Hgoumenitsa, and Alexandroupolis.
- Hellenic Railway Organisation and similar organisations of neighboring countries.
- Organisations responsible for the road networks (e.x. Egnatia Odos S.A.).
- Italy and Slovenia Port Authorities.
- Railway/Road Organisations in other countries that participate in the project.
- Companies in the field of transport (shipowners, shipping offices, forwarders, transport companies, etc.).
- Final users of transport services or ship passengers.

Project Acronym:	**TRANSLOGNET**
Project full title:	**TRANSportation and transport nodal points LOGistics management NETwork**
Coordinator:	**Thessaloniki Port Authority**
Start date:	**1 January 2001**
Duration:	**18 months (6 months for HIT)**
Person responsible for HIT:	**Prof. G.A. Giannopoulos**
Budget:	**480.880 Euros**

3. Observatory For The Spatial Impacts Of Egnatia Motorway (A Pilot Implementation of the System of Indice)

The aim of this research program was to produce a methodological tool in the framework of the Observatory for the Spatial Impacts of Egnatia Motorway, able to evaluate the direct and indirect impacts from the construction and operation of Egnatia Motorway in the spatial development of the country and more specifically of Northern Greece. The program developed a system of indices which were categorized in "Road Network Operation Indices", "Socio-economic Indices" and "Enviromental Indices" and used as a tool for the investigation of the impact in issues like the access to markets of goods and services, the location of the settling network and the environmental protection.

The pilot implementetion presented the specific characteristics of each index and the methodology of its estimation. In addition, it went further for twenty (20) out of the total of forty-five (45) indices in the pilot study area, which is the Prefecture of Kavala and more specifically the road section between the interchanges of Saint Andreas and Saint Sillas, which has already been constructed.

Project full title:	**Observatory For The Spatial Impacts Of Egnatia Motorway**
Assigned by :	**Egnatia Odos S.A.**
Start date:	**1 October 2000**
Duration:	**7 months**
Person responsible:	**Prof. M. Pitsiava-Latinopoulou**
Budget:	**21.817 Euros**

4. ***DISTINCT: Deployment and Integration of SmarT card and Information Networks for Cross-Sector Telematics.***

The objective of this project was the implementation of some improvements to achieve a fully integrated system of smart cards at electronic stations of information, which were initially developed in the framework of the IST 4FP Project DISTINCT. Specifically the objectives of the project were:

1. Some improvements and integration in the software of the smart cards developed under DISTINCT.
2. Development of a navigation system for the "pages" of implementation, of the smart cards.
3. Development of benchmark indexes, for the future evaluation purpose

Project Title:	**Deployment and Integration of SmarT card and Information Networks for Cross-Sector Telematics.**
Coordinator:	**Region of Central Macedonia**
Start Date:	**1-3-2001**
Duration:	**4 ½ months**
Person Responsible:	**Prof. G.A Giannopoulos**
Budget:	**11.739 Euros**

5. Feasibility study for the organization of shipping links for the small Aegean islands.

Some of the Aegean islands are more "isolated" in the economic, transport and social sector contrary to others. To these islands the operation of regular shipping lines under the free competition regime now in place, is not possible because it is not cost effective. Thus an operational regime that is based on some form of subsidisation and for state intervention. Thus in the near future, there will be no business interest for these islands. The aim of this project was to perform a feasibility study for the alternative organization of frameworks of the shipping links for the small and "isolated" Aegean islands, and to advice the government (Ministry of the Aegean) on the most cost effective proceed.

Project Title:	**Feasibility study for the organization of shipping links for the small Aegean islands.**
Coordinator:	**Ministry of Aegean**
Start Date:	**1-9-2001**
Duration:	**8 months**
Person Responsible:	**Prof. G.A Giannopoulos**
Budget:	**146.735 Euros**