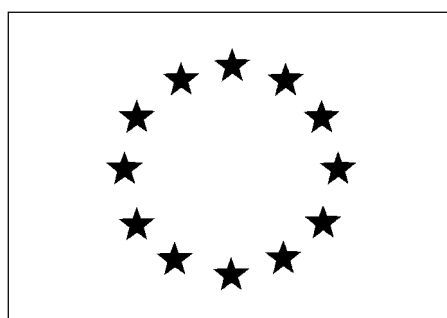


TECHNOLOGICAL IMPLEMENTATION PLAN

*A Framework for the further development, dissemination and use of
the results of EC RTD Projects (including also thematic networks and concerted actions)*



SUTRA

SUSTAINABLE URBAN TRANSPORTATION

Contract number: EVK4-CT-1999-00013

DRAFT Version 1.0

Part 1 Overview and description the project and its results

EC PROGRAMME :
PROJECT TITLE & ACRONYM:
CONTRACT NUMBER :
PROJECT WEB SITE (if any) :
PARTNERS NAMES :

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT
SUTRA - Sustainable Urban Transportation
EVK4-CT-1999-00013
http://www.ess.co.at/SUTRA
Environmental Software & Services GmbH, Austria PTV Planung Transport Verkehr AG, Germany Fondazione Eni Enrico Mattei, Italy Agenzia Regionale per la Protezione dell'Ambiente Ligure, Italy Ministry of the Environment in Israel, Isreal Aristotle University Thessaloniki, Greece Universidade de Aveiro, Portugal University of Geneva, Switzerland Technical University of Gdańsk, Poland Fundacion Universidad de Belgrano, Argetina Comune di Genova, Direzione Mobilita, Trasporti e Parcheggi, Italy

1.1 Executive summary

a) Original research objectives:

The primary objective of **SUTRA** is to develop a consistent and comprehensive approach and planning methodology for the analysis of urban transportation problems, that helps to design **strategies for sustainable cities**.

This will include an integration of **socio-economic, environmental and technological** concepts including the development, integration, and demonstration of tools and methodologies to improve forecasting, assessment and policy level decision support.

Combining an indicator based approach with simulation models and scenario analysis, socio-economic and environmental impact assessment, and a public information component, **SUTRA** includes awareness building and educational aspects for citizens and stakeholders participating in urban decision making processes.

The cities collaborating and involved in **SUTRA** (**Buenos Aires, Gdansk, Genoa, Geneva, Lisbon, Tel Aviv and Thessaloniki,**) differ widely in terms of culture, environmental conditions, size, economic structure, social composition and demography.

Despite these differences they all face **common challenges** in their transportation system such as those relating to air quality, noise, traffic congestion, but also related issues such as economic competitiveness, mobility, employment, maintaining their deteriorating infrastructure and built environment while reducing social exclusion and **promoting sustainable development**.

b) Expected deliverables:

Nr.	Deliverable name	Deliverable Date	Nature	Dissemination Level
D01	Requirements and constraints report	PM03	RE	PU
D02	Data Availability Report	PM06	RE	RE
D03.1	Multi-modal transportation modeling	PM12	RE	RE
D03.2	Transportation model prototype	PM12	PR	CO

D03.3	Transportation model: user manual and example test sets	PM12	RE	RE
D04.1	Emission modeling	PM12	RE	RE
D04.2	Operational emission model	PM12	PR	CO
D04.3	Street canyon modeling	PM12	RE	RE
D04.4	Operational street canyon model	PM12	PR	CO
D05.1	Mesoscale meteo and air quality modeling	PM12	RE	RE
D05.2	Operational air quality model system	PM12	PR	CO
D06.1	EIA methodology	PM15	RE	RE
D06.2	Operational EIA tools and knowledge base	PM15	PR	CO
D07.1	Energy system analysis	PM15	RE	RE
D07.2	Energy system model: user manual	PM15	RE	RE
D07.3	Energy system model	PM15	PR	CO
D08	Indicators and economic assessment	PM15	RE	RE
D09	Public health impacts	PM15	RE	RE
D10	Integrated assessment and DSS	PM18	RE	RE
D11	Scenarios of sustainable urban transportation	PM18	RE	RE
D12.0	Scenario analysis: Summary report	PM33	RE	PU
D12.1-9	Scenario analysis: city reports	PM33	RE	RE
D13	Scenario comparison and multi-criteria selection	PM33	RE	PU
D14	Cross-comparison and benchmarking: general strategies	PM36	RE	PU
D15	Dissemination report (documentation of the web server)	PM36	RE	RE

c) Project's actual outcome:

From a technical perspective, the objectives are to develop:

An indicator based approach compatible with Agenda 21 and the indicators for urban sustainability used in the Dobris Report, for a baseline analysis, ranking and benchmarking (within the participating cities and across all of Europe) that will ultimately support a discrete multi-criteria selection mechanism.

Scenario analysis that uses:

- Traffic equilibrium modeling to evaluate alternative transportation policies, including multi-modal systems, technological development, socio-economic development, and spatial and structural urban development in general;
- Air quality modeling to translate transportation scenarios and their resultant emissions into ambient air quality estimates and population exposure;

- Economic analysis and energy systems analysis and modeling using well established modeling approaches such as MARKAL, to identify and evaluate cost effective transportation scenarios, consistent with the larger economic and technological framework.
- The concepts of environmental impact assessment for the comprehensive evaluation of alternative transportation scenarios, using on a rule-based checklist approach to cover all other environmental effects beyond air pollution, such as noise, waste including the complete vehicles life cycle, space and resource requirements for the transportation infrastructure and its maintenance, and the effects of accidents.

The scenarios, defined for each of the cities, will consider the current base line and a do-nothing alternative (naive projection of current trends) and a set of probable development strategies in terms of demographic, socio-economic, spatial, structural, and technological developments over the next decade and beyond (30 year horizon).

Comparative multi-criteria assessment. Based on the comparative evaluation of the scenarios, again using the sustainable cities indicators, a multi-criteria decision support mechanism will be used to identify preferred strategies and policies.

Citizen and stakeholder participation in urban decision making processes, but also the underlying awareness building and educational aspects will be supported by making the project results and findings available as a public information system on the Internet.

d) Broad dissemination and use intentions for the expected outputs

Usefulness and range of applications

SUTRA is designed to directly benefit the participating cities; it provides valuable input to the urban development and transportation systems planning. The large number of cities that are participating - and thus investing - in the project directly and indirectly testifies to the perceived value of the project results.

Exploitation plans

The SUTRA consortium involves both end users and developers; the exploitation of the project results by end users is direct and obvious: they directly use the results as part of their ongoing urban and transportation planning work, and they will use the underlying tools to continue updating and refining the planning and management activities.

These city application will at the same time serve as reference applications and installations for the product of SUTRA: a comprehensive approach to sustainable transportation planning with the overall framework of sustainable urban development, based on both a set of tools and methods as well as the consultancy offered by the development partners.

The results of the project will be marketed by the team jointly and individually: primarily as a comprehensive package, consisting of the integrated set of tools, but also as new and advanced features in number of products that several of the partners already offer commercially (for example, VISUM transportation model system by pvt, AirWare air quality management information system by ESS) or as academic consultants.

An attractive and innovative form of possible exploitation of the product for city administrations (a sizeable market in the European Union, including the candidate countries, and with a considerable potential for world-wide exports) can be based on the concept of outsourcing: the client-server architecture of the integrated set of tools makes it possible to offer the computational components (at least for the more compute intensive tasks such as traffic simulation and photochemical air quality modeling) as an on-demand remote service, with the results delivered over the Internet. This makes it possible for a city administration, which generally represents a low-tech low-budget market segment, to exploit advanced technology and state-of-the-art scientific services without the necessary investment, personnel, and maintenance problems.

Strategic impact

SUTRA will develop a multi-tiered approach to complex systems analysis, combining a truly multi-disciplinary set of tools into one coherent and consistent framework for urban transportation systems analysis. The broad and inclusive conceptual framework opens numerous avenues for future research on a components basis.

The central methodological element for the proposal is the combination of several tools and approaches, operating at different levels of (conceptual) resolution, by aggregating and disaggregating, but also transforming and interpreting individual variables that form the interface between the individual components. The coherence of the overall structure is based on a set of common indicators for sustainable urban transportation and urban development, that each tool and approach must ultimately contribute to, and take its boundary conditions from. We believe that this paradigm of complex analysis using a system of distributed analytical components with intelligent interfaces rather than attempting to build a single all-encompassing model, will be the basis of a considerable amount of future research.

From an implementation and development perspective, this fits very well important concepts such as object oriented design, distributed client-server systems, Internet applications and intelligent agents technology.

Dissemination strategy

The primary dissemination strategy for SUTRA is based on a project web server, that will be made operational immediately with the project start, publishing the relevant parts of the proposal and work plan, as well as background information on the participating cities. This will be updated with the on-line versions of public Deliverables, reports, case study examples and intermediate results as the project progresses.

On-line registration facilities will support the building of a user group outside the immediate project participants.

The web publishing will be supported by conventional publications on the individual methodological aspects of the project in the technical and scientific literature. In addition, the project will seek opportunities for presentations in appropriate conferences and symposia, preferably in combination with parallel exhibitions that will allow the showcasing of the project results and the underlying tools.

Existing fora like Sustainable Cities, EnergyCities, Klimabündnisgemeinden, Eurocities, etc., will be used to reach multipliers for effective and efficient dissemination. With each of the test case cities as a reference installation, presentations to peer groups will be able to address a targeted audience of city officials, planners, and managers.

1.2 Overview of all your main project results
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No.	Self-descriptive title of the result	Category *	Partner(s) owning the result(s) (referring in particular to specific patents, copyrights, etc.) & involved in their further use
1	Improved multi-modal transportation model, park-and-ride module	A	PTV
2	Improved regional photochemical air quality model	A	AUTh
3	Improved emission and street canyon models	A	UAV
4	Improved energy systems model	A	UGE
5	City specific results (land use and transportation plans)	A	All city partners
6	Improvements to AirWare and CityWare integrated urban management information systems	A	ESS
7	Integrated methodology and ToolKit for urban planning (transportation, land use, environment)	A	SUTRA consortium

* A: results usable outside the consortium / B: results usable within the consortium / C: non usable results

1.3 Quantified Data on the dissemination and use of the project results
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Items about the dissemination and use of the project results (consolidated numbers)	Currently achieved quantity	Estimated future* quantity
# of product innovations (commercial)	2	5
of process innovations (commercial)	.....	.....
# of new services (commercial)	3	6
# of new services (public)	7	21
# of new methods (academic)	5	10
of scientific breakthrough	.....	.....
of technical standards to which this project has contributed	.....	.....
of EU regulations/directives to which this project has contributed	.....	.....
of international regulations to which this project has contributed	.....	.....
of PhDs generated by the project	.....	.....
of grantees/trainees including transnational exchange of personnel	.....	.....

= number of ... / * "Future" means expectations within the next 3 years following the end of the project

1.4 Description of each single result (*one form per result*)**No. & TITLE OF RESULT** (*as in section 1.2*)

1	Improved multi-modal transportation model, park-and-ride module
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SUMMARY

Improvements to the commercial transportation systems simulation model VISUM: addition of park and ride component, improvements of multi-modal and high-occupancy components.

Please categorise the result using codes from Annex 1

Subject descriptor codes	648	649	623	
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CURRENT STAGE OF DEVELOPMENT**Please tick one category only** ✓

Scientific and/or Technical knowledge (Basic research)	<input type="checkbox"/>
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input type="checkbox"/>
Experimental development stage (laboratory prototype)	<input type="checkbox"/>
Prototype/demonstrator available for testing	<input checked="" type="checkbox"/>
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT**List main information and documentation, stating whether public or confidential.**

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverables	D03.1, D03.2	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.		Knowledge (K)/ Pre-existing know-how (P)
	Current	Foresee	
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>	
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>	
Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>	X	
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :	<input type="checkbox"/>	<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	75			

1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	6	
Number of (public or private) entities potentially involved in the implementation of the result :	200	500
of which : number of SMEs :	50	100
of which : number of entities in third countries (outside EU) :	100	200
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		1
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

No. & TITLE OF RESULT (as in section 1.2)

2	Improved regional photochemical air quality model
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SUMMARY

Improvements of the regional photochemical air quality model (linkage to transportation and energy models) OFIS

Please categorise the result using codes from Annex 1

Subject descriptor codes	213	212	210	
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CURRENT STAGE OF DEVELOPMENT

Please tick one category only ✓

Scientific and/or Technical knowledge (Basic research)	<input type="checkbox"/>
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input checked="" type="checkbox"/>
Experimental development stage (laboratory prototype)	<input type="checkbox"/>
Prototype/demonstrator available for testing	
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverable	D05.1, D05.2	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.		Knowledge (K) Pre-existing know-how (P)
	Current	Foresee	
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>	
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>	

Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>	<input checked="" type="checkbox"/>	P
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :	<input type="checkbox"/>	<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	73l	72	75	
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1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	6	
Number of (public or private) entities potentially involved in the implementation of the result :	200	500
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	100	200
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		1
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

No. & TITLE OF RESULT (as in section 1.2)

3	Improved emission and street canyon models
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SUMMARY

Improvements to research models TREM and VADIS, traffic emission model and 3D dynamic street canyon model, respectively, primarily through the coupling to the transportation model VISUM.

Please categorise the result using codes from Annex 1

Subject descriptor codes	213	212	648	
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CURRENT STAGE OF DEVELOPMENT

Please tick one category only ✓

Scientific and/or Technical knowledge (Basic research)	<input type="checkbox"/>
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input type="checkbox"/>
Experimental development stage (laboratory prototype)	<input type="checkbox"/>
Prototype/demonstrator available for testing	<input checked="" type="checkbox"/>
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverables	D04.1, D04.2, D04.3, D04.4	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.		Knowledge (K) Pre-existing know-how (P)
	Current	Foresee	
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>	
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>	

Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>	X	
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :	<input type="checkbox"/>	<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	75			
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1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	6	
Number of (public or private) entities potentially involved in the implementation of the result :	200	500
of which : number of SMEs :	10	20
of which : number of entities in third countries (outside EU) :	100	200
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		1
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

No. & TITLE OF RESULT (as in section 1.2)

4	Improved energy systems model
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SUMMARY

Improvements to the MARKAL energy system analysis model, extension like web interfaces and linkages to environmental and transportation models.

Please categorise the result using codes from Annex 1

Subject descriptor codes	202	208	212	650
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CURRENT STAGE OF DEVELOPMENT

Please tick one category only ✓

Scientific and/or Technical knowledge (Basic research)	<input type="checkbox"/>
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input type="checkbox"/>
Experimental development stage (laboratory prototype)	<input type="checkbox"/>
Prototype/demonstrator available for testing	<input checked="" type="checkbox"/>
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverables	D07.1, D07.2, D07.3	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.	Knowledge (K) Pre-existing know-how (P)
	Current	Foresee
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>

Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>	X	
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :	<input type="checkbox"/>	<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	75			
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1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	3	
Number of (public or private) entities potentially involved in the implementation of the result :	5	50
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	5	25
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		1
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

No. & TITLE OF RESULT (as in section 1.2)

5	City specific results
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SUMMARY

City specific results: include a consistent organization of relevant data, base line runs for the status quo with a range of models (energy, transportation, environment), and the analysis of the scenarios of land use development, the transportation system, and general socio-economic development.

These results are directly available to the city partners for seven cities, or the local city administrations as end users through the respective city partner.

Please categorise the result using codes from Annex 1

Subject descriptor codes	646	643	648	
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CURRENT STAGE OF DEVELOPMENT

Please tick one category only ✓

Scientific and/or Technical knowledge (Basic research)	<input checked="" type="checkbox"/>
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input type="checkbox"/>
Experimental development stage (laboratory prototype)	<input type="checkbox"/>
Prototype/demonstrator available for testing	
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverables	D12.1 – D12.7, D13. D14	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.	Knowledge (K) Pre-existing know-how (P)

	Current	Foresee	
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>	
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>	
Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>		
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :	Public information	<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	75			
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1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	0	
Number of (public or private) entities potentially involved in the implementation of the result :	7	50
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	3	25
Targeted user audience: # of reachable people	300,000,000	
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		7
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

No. & TITLE OF RESULT (as in section 1.2)

6	Improvements to AirWare and CityWare integrated urban management information systems
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SUMMARY

Improvements to the AirWare and CityWare commercial software systems, including new web based components, links to the above set of models, and optional modules based on the above models. The reference applications with the project are additional exploitable results.

Please categorise the result using codes from Annex 1

Subject descriptor codes	210	211	212	
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CURRENT STAGE OF DEVELOPMENT

Please tick one category only ✓

Scientific and/or Technical knowledge (Basic research)	
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input type="checkbox"/>
Experimental development stage (laboratory prototype)	<input type="checkbox"/>
Prototype/demonstrator available for testing	<input checked="" type="checkbox"/>
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverables	D10	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.	Knowledge (K) Pre-existing know-how (P)
	Current	Foresee
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>

Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>	<input checked="" type="checkbox"/>	P
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :		<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	75			
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1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	6	
Number of (public or private) entities potentially involved in the implementation of the result :	12	50
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	7	25
Targeted user audience: # of reachable people		
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

No. & TITLE OF RESULT (as in section 1.2)

7	Integrated methodology and ToolKit for urban planning (transportation, landuse, environment)
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SUMMARY

The ToolKit and approach developed in SUTRA is potentially exploitable as an integrated product, consisting of a combination of software licenses and consultancy.

Please categorise the result using codes from Annex 1

Subject descriptor codes	645	646	648	
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CURRENT STAGE OF DEVELOPMENT

Please tick one category only ✓

Scientific and/or Technical knowledge (Basic research)	
Guidelines, methodologies, technical drawings	<input type="checkbox"/>
Software code	<input type="checkbox"/>
Experimental development stage (laboratory prototype)	<input checked="" type="checkbox"/>
Prototype/demonstrator available for testing	
Results of demonstration trials available	<input type="checkbox"/>
Other (please specify.):	<input type="checkbox"/>

DOCUMENTATION AND INFORMATION ON THE RESULT

List main information and documentation, stating whether public or confidential.

Documentation type	Details (Title, ref. number, general description, language)	Status: PU=Public CO=Confidential
Project Deliverables	ALL Deliverables	CO

INTELLECTUAL PROPERTY RIGHTS

Indicate all generated knowledge and possible pre-existing know-how (background or sideground) being exploited

Type of IPR	Tick a box and give the corresponding details (reference numbers, etc.) if appropriate.	Knowledge (K) Pre-existing know-how (P)
	Current	Foresee
Patent applied for	<input type="checkbox"/>	<input type="checkbox"/>
Patent search carried out	<input type="checkbox"/>	<input type="checkbox"/>

Patent granted	<input type="checkbox"/>	<input type="checkbox"/>	
Registered design	<input type="checkbox"/>	<input type="checkbox"/>	
Trademark applications	<input type="checkbox"/>	<input type="checkbox"/>	
Copyrights	<input type="checkbox"/>		
Secret know-how	<input type="checkbox"/>	<input type="checkbox"/>	
other – please specify :	IPR with individual contributors	<input type="checkbox"/>	

MARKET APPLICATION SECTORS

Please describe the possible sectors for application using the NACE classification in Annex 2.

Market sectors	application	75			
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1.5 Quantified data about the result (one form per result)

Items (about the results)	Actual current quantity ^a	Estimated (or future) quantity ^b
Time to application / market (in months from the end of the research project)	6	
Number of (public or private) entities potentially involved in the implementation of the result :	7	50
of which : number of SMEs :		
of which : number of entities in third countries (outside EU) :	3	25
Targeted user audience: # of reachable people	300,000,000	
# of S&T publications (referenced publications only)		2
# of publications addressing general public (e.g. CD-ROMs, WEB sites)	1	
# of publications addressing decision takers / public authorities / etc.		7
Visibility for the general public	Yes	

^a Actual current quantity = the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve within the next 3 years.

I, **project co-ordinator**, confirm the publishable information contained in this part 1 (sections 1.1 to 1.5) of the Technological Implementation Plan.

Signature:

Name:

Date:

Organisation:

Part 2 Description of the intentions by each partner

PARTS 2 WILL ALWAYS BE KEPT CONFIDENTIAL BY THE COMMISSION

2.1 : Description of the use and the dissemination of result(s), partner per partner

MANDATORY INFORMATION :

CONTRACT NUMBER :	EVK4-CT-1999-00013
PARTNER's NAME :	Environmental Software & Services GmbH
PARTNER's WEB SITE (if any) :	http://www.ess.co.at
CONTACT PERSON(S):	
Name	DDr. Kurt Fedra
Position/Title	Director
Organisation	Environmental Software & Services GmbH
Address	Kalkgewerk 1 A-2352 Gumpoldskirchen, Austria
Telephone	+43-2252-63305-0
Fax	+43-2252-63305-9
E-mail	info@ess.co.at

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	Improvements to the AirWare and CityWare commercial software systems, including new web based components, links to the above set of models, and optional modules based on the above models. The reference applications with the project are additional exploitable results.
2	
3	

**FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES
WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT**

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Commercialisation	Converting the project results into an industrial software product,	6
Marketing	World wide marketing activities including featuring the new functions on the web server, technical and scientific publications, presentation at international technical conferences	12

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓ corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input checked="" type="checkbox"/>
MKT	Marketing	<input checked="" type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input checked="" type="checkbox"/>	CONS	Available for consultancy	<input checked="" type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)		
# of licenses issued (within EU)	.....	20
# of licenses issued (outside EU)	.....	20
Total value of licenses (in EURO)	.....	2,000,000
# of entrepreneurial actions (start-up company, joint ventures...)	.....	2
# of direct jobs created ^c	.....	2
# of direct jobs safeguarded ^c	2	2
of direct jobs lost	.....	.....

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

<p>I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions</p> <p>Signature: _____ Name: _____</p> <p>Date: _____</p>

CONTRACT NUMBER :	EVK4-CT-1999-00013
PARTNER's NAME :	PTV Planung Transport Verkehr AG
PARTNER's WEB SITE (if any) :	www.ptv-ag.com , www.ptv.de
CONTACT PERSON(S):	
Name	Thomas Haupt
Position/Title	Director
Organisation	PTV Planung Transport Verkehr AG
Address	Stumpfstrasse 1, 76131 Karlsruhe, Germany
Telephone	+49 721 9651 0
Fax	+49 721 9651 299
E-mail	Thomas.Haupt@ptv.de

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	<p>Enhancement of the transport model software application VISUM</p> <p>ptv vision is a well known software suite for urban and regional transport modeling. VISUM as a part of it deals with traffic assignment. In the framework of SUTRA VISUM will be applied for the first time to model particular aspects of multi-modal sustainable urban transport schemes; methods will be developed to deal with Park+Ride traffic. Also the application of high-occupancy vehicle facilities will be demonstrated.</p>
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FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Marketing	The enhancements of the software will be announced as available features in the regular marketing and updating process	Autumn 2002

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	X	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	X	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	X	INFO	Information exchange, training	X
JV	Joint venture	X	CONS	Available for consultancy	X
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)	.....	.....
# of licenses issued (within EU)	265	600
# of licenses issued (outside EU)	50	200
Total value of licenses (in EURO)	3 275 000	9 600 000
# of entrepreneurial actions (start-up company, joint ventures...)	3	3
# of direct jobs created ^c	20	50
# of direct jobs safeguarded ^c	30	100
# of direct jobs lost	10	0

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name:

Date:

CONTRACT NUMBER :	EVK4-CT-1999-00013
PARTNER's NAME :	FEEM, Fondazione ENI Enrico Mattei, Milan, Italy
PARTNER's WEB SITE (if any) :	www.feem.it
CONTACT PERSON(S):	
Name	Dino Pinelli
Position/Title	Senior researcher
Organisation	FEEM, Fondazione ENI Enrico Mattei
Address	FEEM, Fondazione ENI Enrico Mattei C.so Magenta 63, 20123 Milan Italy
Telephone	+39 02 52 03 69 44
Fax	+39 02 52 03 69 46
E-mail	pinelli@feem.it

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	<p>Set of sustainability indicators for transportation;</p> <p>A first operational set of indicators within the framework of sustainable urban development has been defined and discussed with partners.</p> <p>A first draft of the report, in which literature references, methodological notes and the list are presented, is available.</p>
2	<p>Set of scenarios of urban transportation;</p> <p>The main result is the definition of a set of common base scenarios and identification of the main options for the definition of city specific development scenarios of future urban transportation system and identification of a methodology that address all the significative issues.</p> <p>This results had been further explained in the first draft of the report on scenarios analysis that had been prepared.</p>
3	<p>Definition of a methodology for economic assessment</p> <p>Progress has been made in the definition of the methodology for the economic assesment, based on existing literature.</p>

**FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES
WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT**

1. Definition of a set of indicators for transportation

Publication	A first draft publication in the FEEM working paper series of the results is expected within 6 months
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2. Definition of a set of scenarios of urban transportation

Publication	A first draft publication in the FEEM working paper series of the results is expected within 6 months
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3. Definition of a methodology for economic assessment

Publication	A first draft publication in the FEEM working paper series of the results is expected within 12 months
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FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)
of licenses issued (within EU)
of licenses issued (outside EU)
Total value of licenses (in EURO)
of entrepreneurial actions (start-up company, joint ventures...)
of direct jobs created ^c
of direct jobs safeguarded ^c
of direct jobs lost

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c *“Direct jobs” means jobs within the partner involved. Research posts are to be excluded from the jobs calculation*

= number of ...

I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name:

Date:

CONTRACT NUMBER :	EVK4-CT-1999-00013
PARTNER's NAME :	ARPAL
PARTNER's WEB SITE (if any) :	http://www.arpal.liguriairete.it
CONTACT PERSON(S):	
Name	Ugo Gasparino
Position/Title	In-house consultant
Organisation	Agenzia Regionale per la Protezione dell'Ambiente Ligure
Address	Piazza della Vittoria 15/c - 16121 Genova - Italy
Telephone	+39 010 57633 234
Fax	+39 010 57633 224
E-mail	arpal.dirscien.segreteria@liguriainrete.it

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	Data collection, use of model and methodologies provided by partners of the project to evaluate sustainable transportation scenarios in Genova.
2	
3	

**FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES
WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT**

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Support for strategic planning	Use of results in the Genoa case to plan mobility and transportation network development in cooperation with municipal and regional administration	36

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input checked="" type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)
of licenses issued (within EU)
of licenses issued (outside EU)
Total value of licenses (in EURO)
of entrepreneurial actions (start-up company, joint ventures...)
of direct jobs created ^c
of direct jobs safeguarded ^c
of direct jobs lost

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

<p>I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions</p> <p>Signature: _____ Name: _____</p> <p>Date: _____</p>

CONTRACT NUMBER :	EVK4 – CT – 1999 - 00013
PARTNER's NAME :	Ministry of Environment, Israel (MEI)
PARTNER's WEB SITE (if any) :	www.environment.gov.il
CONTACT PERSON(S):	
Name	Jacqueline Rose
Position/Title	Projects Co-ordinator
Organisation	Ministry of Environment
Address	Kanfei Nesharim 5, PO Box 34033, Jerusalem 95464, Israel
Telephone	+972 – 2 – 655 - 3773
Fax	+972 – 2 – 655 -3763
E-mail	jacqueline@environment.gov.il

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1.	Development, analysis and presentation of urban transport scenarios for the Tel Aviv metropolis, to be used in transport policy development and implementation for the region.
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**FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES
WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT**

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Presentation of results to Minister of Environment and the development of policies based on these results.	<p>Presentation of scenario analysis. Development of relevant policies relating to the development of an integrated sustainable urban transport for the Tel Aviv metropolis.</p> <p>Deliverables: Presentation of results. Development of policies Presentation of policies</p>	<p>Presentation of results – within 3 months.</p> <p>Development & presentation of policies – within 3 years.</p>
Contribution to the Tel Aviv Metropolis Transportation Master Plan.	The Ministry of the Environment will work together with the Ministry of Transport to ensure that results and implications from the SUTRA project are included in the new Transportation Master Plan.	6-9 months
Development of plans for Tel Aviv subway train system and improvement of over ground transport system, together with Tel Aviv municipality.	Presentation of project's results and findings to municipality representatives, and analysis of the implications for the development of a subway train system in Tel Aviv. In addition policy implication for over-ground transport improvements will be examined and analysed together with the municipality.	6-9 months
Presentation of results to other municipalities, and joint development of local transport policies.	The Ministry of the Environment will work together with other municipalities in Israel to develop sustainable urban transport policies based on the findings from the SUTRA project.	1 year
Presentation of results to the government and relevant cabinet committees.	The Ministry of Environment will present the finding and resultant policy implications to the Government of Israel, and work together with the Ministry of Transport, Finance and Infrastructure to find ways to implement the projects recommendations.	1 and a half years.

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development		FIN	Financial support	
LIC	Licence agreement		VC	Venture capital/spin-off funding	
MAN	Manufacturing agreement		PPP	Private-public partnership	
MKT	Marketing agreement/Franchising		INFO	Information exchange, training courses	
JV	Joint venture		CONS	Available for consultancy	
			Other	(please specify) _____	

2.2 : Quantified data for each partner's main result

Not Relevant. The Ministry of Environment is involved with policy implementation and not with the profit making impacts of sustainable urban transport development. The Ministry of Environment is an end-user and intends to work together with other governmental bodies to implement policy.

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)
of licenses issued (within EU)
of licenses issued (outside EU)
Total value of licenses (in EURO)
of entrepreneurial actions (start-up company, joint ventures...)
of direct jobs created ^c
of direct jobs safeguarded ^c
of direct jobs lost

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name:

Date:

CONTRACT NUMBER :	EVK4-1999-00034
PARTNER's NAME :	Aristotle University of Thessaloniki/Lab. of Heat Transfer and Environmental Engineering (AUTH/LHTEE)
PARTNER's WEB SITE (if any) :	http://lhtee.meng.auth.gr
CONTACT PERSON(S):	
Name	Nicolas Moussiopoulos
Position/Title	Professor and Laboratory Head
Organisation	Aristotle University of Thessaloniki
Address	Box 483 54006 Thessaloniki, Greece
Telephone	+ 30 31 996011
Fax	+ 30 31 996012
E-mail	moussio@eng.auth.gr

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1 OFIS Tool	Operational photochemical air pollution model application (OFIS). Details about OFIS are available via the Model Documentation System of the European Environment Agency, http://155.207.20.121/mds/bin/show_long?OFIS
2	
3	

FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
OFIS model usage	The OFIS model has been used in the past, e.g., in the frame of an air quality assessment study initiated by the EEA. Similar activities that include the use of OFIS as a stand alone tool or part of an integrated assessment tool are foreseen in the future.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input type="checkbox"/> X	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input type="checkbox"/> X
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input type="checkbox"/> X
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

The OFIS applications until today are based on a contractual basis, and there are no fixed license or application costs. These vary on a case by case basis.

Items	Currently achieved quantity^a	Estimated future quantity^b
Economic impacts (in EURO)
of licenses issued (within EU)
of licenses issued (outside EU)
Total value of licenses (in EURO)
of entrepreneurial actions (start-up company, joint ventures...)
of direct jobs created ^c
of direct jobs safeguarded ^c
of direct jobs lost

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name:

Date:

CONTRACT NUMBER :	EVK4-CT-1999-00013
PARTNER's NAME :	UAV- University of Aveiro
PARTNER's WEB SITE (if any) :	www.dao.ua.pt/gemac
CONTACT PERSON(S):	
Name	Carlos Borrego
Position/Title	Full Professor
Organisation	University of Aveiro
Address	Department of Environment and Planning University of Aveiro, 3810-193 Aveiro, PORTUGAL
Telephone	+351 234 370200
Fax	+351 234 429290
E-mail	aicm@dao.ua.pt

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	<p>Emission modelling.</p> <p>TREM -Transport Emission Model for Line Sources was developed and implemented. The main purpose of emission models consists on compiling emission data on different spatial and temporal scale to be used in extend type of applications. The present model is developed to support quantification of emissions induced by road traffic and based on the emission functions derived from COST 319 methodology. This methodology is adapted to the project requirements taking into consideration input data availability from one side, and user requirements on the other side.</p>
2	<p>Street canyon air quality modelling.</p> <p>VADIS is a local dispersion model that allows the estimation of concentration fields of air pollutants in specific areas of the city centres, under varying wind conditions. Two independent modules, <i>Wind</i> and <i>Disper</i>, constitute this model. The first one calculates the three-dimensional flow field around obstacles over a Cartesian grid, using a k-ε turbulence closure. In addition to the flow field, <i>Wind</i> also computes the pressure, the turbulence, and the temperature fields. The model uses the SIMPLE solver for the resolution of the Navier-Stokes equations. The next module uses data provided by the <i>Wind</i> module and computes the 3D concentration pollutants field through the Lagrangian approach. This methodology assumes that a large number of particles released in the flow represent the spatial and temporal dispersion of the pollutant, corresponding to the solution of the diffusion equation for a passive pollutant.</p> <p>VADIS may be used as a tool to evaluate maximum short-term, local concentrations over complex geometries, especially for typical low wind speed data.</p>

**FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES
WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT**

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Emission modelling	The traffic emission model adapted for the line sources and implemented in GIS environment will be accessible by the web through friendly interface. The potential users will run the model on-line on the network server. The detailed methodology description and the model manual will be provided.	12
Street canyon air quality modelling	The operational street canyon air quality model will be accessible by the web through friendly interface. The potential users will run the model on-line on the network server. The detail methodology description and the model manual will be provided.	12

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input checked="" type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)
of licenses issued (within EU)
of licenses issued (outside EU)
Total value of licenses (in EURO)
of entrepreneurial actions (start-up company, joint ventures...)
of direct jobs created ^c
of direct jobs safeguarded ^c
of direct jobs lost

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

<p>I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions</p> <p>Signature: _____ Name: _____</p> <p>Date: _____</p>

CONTRACT NUMBER :	EVK4-CT-1999-00013
PARTNER's NAME :	HEC CUEH (UNIGE) LPAS (EPFL)UNIGE
PARTNER's WEB SITE (if any) :	http://ecolu-info.unige.ch/recherche/sutra/
CONTACT PERSON(S):	
Name	Daniel S. Zachary
Position/Title	Collaborating Scientist FNRS
Organisation	HEC
Address	University of Geneva 102 bd Carl –Vogt, Geneva Switzerland
Telephone	041 22 705 8131
Fax	41 22 705 8104
E-mail	Zachary@hec.unige.ch

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1 Energy Systems Analysis	<p>A working documentation for an Energy systems analysis is available at the University of Geneva. The web site for the documentation is : http://ecolu-info.unige.ch/recherche/sutra/workpapers.html</p>
D07.1 Nature RES Level RE	<p>A working document, "Description and data structure of MARKAL-Lite", is available for dissemination. This background report gives a brief description of the MARKAL-Lite model and provides a first guide to the data collection process. The structure of the model is discussed and the data requirements are indicated on the basis of the Geneva model.</p> <p>MARKAL (MARKet Allocation) is a large-scale dynamic equilibrium model of the global organization of an energy system that has to satisfy useful demands, or energy services, under resources availability and environmental constraints. The demand sectors include space heating, captive electricity usage, transportation and industrial needs. The evolution of demands drives production and investment programs in a large assortment of industrial installations, power plants and demand devices (for example, transportation technologies).</p> <p>Below is a short description of the MARKAL case study for the city of Geneva. The references are stated below and the full working paper may be accessed at the web site mention above.</p> <p>The MARKAL model has been applied at the level of a country or a state (see Ref. [2]), a city (see Refs. [4] and [8]) and several states together (see Ref. [1]). MARKAL is a dynamic model that allows for an accurate description of capacity expansion throughout the planning periods in order to satisfy optimally the demands. The demand sectors include space heating, captive electricity usage, transportation and industrial needs. The evolution of demands drives production and investment programs in a large assortment of industrial installations, power plants and demand devices (for example, transportation technologies).</p> <p>It can be shown that a market equilibrium where all goods are priced at their marginal cost can be computed as a single optimization (see Ref. [10]). In the standard MARKAL, one</p>

	<p>assumes that useful demands (e.g. transportation) are inelastic to energy prices. However MARKAL describes in details the energy substitution effects due to differences in prices. A detailed description of the model structure is provided in Ref. [3]. A linkage between MARKAL and air pollution models has been experimented in Refs. [5] - [7] and [9].</p> <p>In addition to giving a broad, yet detailed, vision of the energy system of a given country or region, MARKAL encompasses various other aspects that are relevant to sustainable urban development, such as:</p> <ul style="list-style-type: none"> • Computation of reduced¹ and marginal² costs associated with technologies, scarce resources and environmental constraints • Penetration of new technologies • Pollution levels depending on energy/technology choices • Technical and financial impact of political measures <p>Formally, MARKAL is a multi-period linear activity model. The activity levels (variables) describe investments, capacities, and operation levels for different available <i>technologies</i>. The constraints describe the energy system organization, the resource scarcities, the capacity transfer processes, the energy balances, the satisfaction of demands, the environmental emission limits, etc... The objective function is the total discounted system cost including investment, maintenance and operation, computed over a planning horizon of 45 years divided into 9 five-year periods³. The working paper exposes the structure of a simplified version of MARKAL, MARKAL-Lite. This simplified version is tailored to the description of the Geneva urban region.</p> <p>References</p> <p>[1] BAHN O., A. HAURIE, S. KYPREOS AND J.-P. VIAL, Advanced mathematical programming modeling to assess the benefits of international CO2 abatement cooperation, <i>Environmental Modeling and Assessment</i>, Vol. 3, Nos 1 and 2, pp. 107-116, June 1998.</p> <p>[2] BERGER, C., FULLER, D., HAURIE, A., LOULOU, R., LUTHRA, D., WAAUB, J.-P., Modelling Energy Use in the Mineral Processing Industries of Ontario with MARKAL-Ontario, <i>Energy</i>, Vol. 15, no. 9, pp. 741-758, 1990.</p> <p>[3] BERGER C., R. DUBOIS, A. HAURIE, E. LESSARD, R. LOULOU AND J.-P. WAAUB, Canadian MARKAL: An Advanced Linear Programming System for Energy and Environmental Modelling, <i>INFOR</i>, Vol. 30, No. 3, pp. 222-239, 1992.</p> <p>[4] CARRARO, C., HAURIE, A. eds., <i>Operations Research and Environmental Management</i>, Kluwer, 1996.</p> <p>[5] DIN A., A. DUBOIS, E. FRAGNIERE, A. HAURIE, R. KANALA, M. SELLA, Energy/environment models and GIS, <i>Cahiers du CUEH</i>, No 1, Université de Genève, pp. 79-106, 1998.</p> <p>[6] FEDRA K., H. GREPPIN, A. HAURIE, C. HUSSY, HY DAO, R. KANALA AND R. DEGLI AGOSTI, GENIE: an integrated environmental information and decision support system for Geneva. Part 1: Air Quality, <i>Achs Sci. Genève</i>, Vol. 49, Fasc. 3, pp. 247-263, Dec. 1996.</p> <p>[7] FEDRA K. AND A. HAURIE, A decision support system for air quality management combining GIS and Optimization techniques, in FRAGNIERE E. (ed), "Applications of Decision Analysis to Environmental Problems", Special Issue of <i>Int. J. of Environment and Pollution</i>, Vol.12, Nos 2/3, pp. 125-146, 1999.</p> <p>[8] FRAGNIERE E. AND A. HAURIE, A stochastic programming model for energy/environment choices under uncertainty, <i>Int. J. Environment and Pollution</i>, Vol. 6, Nos. 4-6, pp. 587-603, 1996.</p> <p>[9] FRAGNIERE E., A. HAURIE AND R. KANALA, A GIS-based regional energy-environment policy model, <i>Int. J. of Global Energy Issues</i>, Vol. 12, Nos 1-6, pp. 159-167, 1999.</p> <p>[10] HAURIE A. AND R. LOULOU, Modeling Equilibrium and Risk under Global Environmental Constraints in Energy Models in W.A MARTIN AND B. TOLWINSKI eds, <i>Modeling Environmental Policy</i>, Kluwer academic publishers, Amsterdam, 1997.</p>
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¹ The reduced cost of a technology gives an indication of its "distance" to competitiveness. A high reduced cost implies that an important reduction in investment or operation/maintenance cost should occur to make the technology competitive.

² The (long-term) marginal cost of a demand constraint gives the additional cost that would result from a unit increase in the demand. Similarly, the marginal cost of an emission constraint gives the additional cost that would result from a further restriction by one unit in the pollutant emission level.

³ One assumes that investments are made at the beginning of each 5 year period, whilst operation and maintenance costs are computed on a yearly basis. However the model is flexible enough to accommodate different timeframes and splits.

<p>2</p> <p>Energy System Model</p> <p>D07.2 Nature - RES Level - RE</p>	<p>(Implementation and User Manual)</p> <p>The documentation for a energy model is available. The documentation for the model prototype has been developed at the University of Geneva. A user manual for an energy model interface is available at :</p> <p>http://ecolu-info.unige.ch/recherche/sutra/models/markal/workshop.htm</p> <p>This prototype model is being adapted for the individual city partner's particular needs. The model will be used for planning for less polluting fuels as well as the promotion of a more environmentally rational use of transportation.</p>
<p>3</p> <p>Energy Systems Model</p> <p>D07.3 Nature - INT Level - PR</p>	<p>(Demonstrator prototype)</p> <p>A model prototype has been developed at the University of Geneva. A user interface for the energy system model is available at :</p> <p>http://ecolu-info.unige.ch/recherche/sutra/models/markal/workshop.htm</p> <p>This prototype model is being adapted for the city partner's particular needs. The model will be used for planning for less polluting fuels and the promotion of a more environmentally rational use of transportation.</p>

**FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES
WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT**

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Energy Systems Analysis D07.1 Nature –RES Level – RE	<p>(Background Report)</p> <p>A working documentation for a Energy systems analysis is available at the University of Geneva. The web site for the documentation is :</p> <p>http://ecolu-info.unige.ch/recherche/sutra/</p> <p>A working document, “Description and data structure of MARKAL-Lite”, is available for dissemination. This background report gives a brief description of the MARKAL-Lite model and provides a first guide to the data collection process. The structure of the model is discussed and the data requirements are indicated on the basis of the Geneva model.</p> <p>MARKAL (MARKet Allocation) is a large-scale dynamic equilibrium model of the global organization of an energy system that has to satisfy useful demands, or energy services, under resources availability and environmental constraints. The demand sectors include space heating, captive electricity usage, transportation and industrial needs. The evolution of demands drives production and investment programs in a large assortment of industrial installations, power plants and demand devices (for example, transportation technologies).</p> <p>MARKAL encompasses various other aspects that are relevant to sustainable urban development, such as:</p> <p>Computation of costs associated with technologies, scarce resources and environmental constraints, penetration of new technologies, pollution levels depending on energy/technology choices technical and financial impact of political measures.</p>	12 : due 4..2002

<p>Energy System Model D07.2 Nature – RES Level – RE</p>	<p>(Implementation and User Manual)</p> <p>The documentation for a energy model is available. The documentation for the model prototype has been developed at the University of Geneva. A user manual for an energy model interface is available at :</p> <p>http://ecolu-info.unige.ch/recherche/sutra/models/markal/workshop.htm</p> <p>This prototype model is being adapted for the individual city partner's particular needs. The model will be used for planning for less polluting fuels as well as the promotion of a more environmentally rational use of transportation.</p>	12 : Due 4.2002
<p>Energy Systems Model D07.3 Nature – INT Level PR</p>	<p>(Demonstrator prototype)</p> <p>A model prototype has been developed at the University of Geneva. A user interface for the energy system model is available at :</p> <p>http://ecolu-info.unige.ch/recherche/sutra/models/markal/workshop.htm</p> <p>This prototype model is being adapted for the city partner's particular needs. The model will be used for planning for less polluting fuels and the promotion of a more environmentally rational use of transportation.</p>	12 : Due 4.2002

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity ^a	Estimated future quantity ^b
Economic impacts (in EURO)
of licenses issued (within EU)
of licenses issued (outside EU)
Total value of licenses (in EURO)
of entrepreneurial actions (start-up company, joint ventures...)
of direct jobs created ^c
of direct jobs safeguarded ^c
of direct jobs lost

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

<p>I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions</p> <p>Signature: _____ Name: _____</p> <p>Date: _____</p>

CONTRACT NUMBER :	EVK4 – 1999 – 00034
PARTNER's NAME :	Technical University of Gdańsk, Poland
PARTNER's WEB SITE (if any) :	
CONTACT PERSON(S):	
Name	Andrzej Tubielewicz
Position/Title	Head of Department
Organisation	Technical University of Gdańsk
Address	80-952 Gdańsk ul. Narutowicza 11/12
Telephone	++48583472455
Fax	++48583471861
E-mail	atu@zie.pg.gda.pl

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	Preparation, data compilation and tool development (models, assessment tools) as specified in the Requirements and Constraints Report. They included: the transport emission data, total emission data, energy consumption data, pressure on inhabitants and environmental consequences of transport
2	Completed the questionnaires which provided local information to the indicators
3	Building scenarios of the City Development Strategies to the aiding the planes of localizing objects in Gdansk

FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Preparation for the official publishing	We define a set of indicators for sustainable urban transportation within the framework of sustainable urban development and started to prepare the tools for the economic assessment of the transportation scenario's within the framework of the overall urban development scenarios	
Presentation in the meetings in the City Council	We will present simulation systems in view of their usability for the construction of scenarios intended to aid the system to protect the environment	
Collaboration with the other partners	Exploitation of the results we will present during the meetings with the representatives of Institute of Meteorology and Water Management, Maritime Branch in Gdynia	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input checked="" type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity^a	Estimated future quantity^b
Economic impacts (in EURO)		
# of licenses issued (within EU)	/	/
# of licenses issued (outside EU)	/	/
Total value of licenses (in EURO)	/	/
# of entrepreneurial actions (start-up company, joint ventures...)	0	0
# of direct jobs created ^c	0	2
# of direct jobs safeguarded ^c	0	0
# of direct jobs lost	0	0

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

<p>I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions</p> <p>Signature: _____ Name: _____</p> <p>Date: _____</p>

CONTRACT NUMBER :	EVK4-1999-00034
PARTNER's NAME :	FUB Universidad de Belgrano
PARTNER's WEB SITE (if any) :	
CONTACT PERSON(S):	
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Fax	++54 11 4576-3932/35/36 ext 2533
E-mail	fbrunstn@ub.edu.ar

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	<p>Accident model:</p> <p>analysis (risks, prevention) and statistical correlations according to characteristics of involved agents, time and location, physical considerations, transportation systems. Links with geographical information system.</p>
2	<p>Public health model related to air pollution, noise, and crowding and stress:</p> <p>statistical correlations between contaminant exposure and health effects. The morbidity and mortality rates are studied in a temporal and spatial cross analysis and environmental variables.</p>
3	<p>Assessment of socio-economic consequences as well as policies implication:</p> <p>social benefits of reducing air pollution are estimated. Also, morbidity and mortality costs are evaluated. Economic assessment about projects to diminish accidents (cost/benefits analysis) and social cost (accidents as externalities) are implemented. Policies about signals, drivers and pedestrians rights (and obligations), technical characteristics about vehicles and routes are addressed too</p>

FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
Research	To publish basic results, workshops, conferences, thesis.	6
Advise, Assessment	Tools available for advising academic agencies	12
Contracts with private and national agencies	Consulting works	24

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input checked="" type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input checked="" type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input checked="" type="checkbox"/>	CONS	Available for consultancy	<input checked="" type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity^a	Estimated future quantity^b
Economic impacts (in EURO)N/A.....
of licenses issued (within EU)5 -10
of licenses issued (outside EU)5 - 10
Total value of licenses (in EURO)	N/A
# of entrepreneurial actions (start-up company, joint ventures...)	1
# of direct jobs created ^c	N/A
# of direct jobs safeguarded ^c	N/A
# of direct jobs lost	N/A

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions

Signature:

Name:

Date:

CONTRACT NUMBER :	EVK4 – 1999 – 00034
PARTNER's NAME :	Mobility, Transport and Parking Directorate MTPG – Municipality of Genoa
PARTNER's WEB SITE (if any) :	
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E-mail	vmcontursi@comune.genova.it

No, TITLE (as in section 1.2) AND BRIEF DESCRIPTION OF MAIN RESULT(S)

1	completion of the data collection in the proper format defined by the leader of modelling workpackage and specified in the Requirements and Constraints Report
2	check of availability of the set of indicators of sustainable urban transportation and sustainable urban development for the scenario definition
3	deepening our knowledge of the common set of simulation tools, starting to train with those one available in order to be able to build a common methodology for the scenario analysis

FOR EACH MAIN RESULT, TIMETABLE OF THE USE AND DISSEMINATION ACTIVITIES WITHIN THE NEXT 3 YEARS AFTER THE END OF THE PROJECT

<i>Mention the use and dissemination related activities, the main associated partners, the related milestones and give an indicative timescale</i>		
Activity	Brief description of the activity, including main milestones and deliverables (and how it relates to data in sections 1.5 and 2.2).	Timescale (months)
development and improvement of MTPG "research & development" sector	Improvement the quality of the territorial analysis for next sustainable mobility actions, exploiting the wide data set collected for the preparatory phase of the SUTRA project.	
presentation of the main results about the developed multi-criteria decision support mechanism	The main end user of the results of SUTRA will be probably MTPG itself, in its role of public authorities. This task will be aimed to present the features of the worked out multi-criteria decision support system to the decision takers, stressing its relevant to improve strategies and policies of urban sustainable development	
intensification of the present relationship with the other public authorities	The main objective of this activity will be to strengthen the present cooperation with the other Local Authority, in order to enable each of us to use the research results in the best way, according to our own specific expertises in the mobility management and air quality monitoring and protection.	
Improvement of modelling and simulation activities	Exploitation of knowledge, acquired during the project period, to intensify the usage of simulation tools in the context of a profitable collaboration between the Municipality of Genoa, The Province of Genoa and the Liguria Region.	

FORESEEN COLLABORATIONS WITH OTHER ENTITIES

Please tick appropriate boxes (✓) corresponding to your most probable follow-up.

R&D	Further research or development	<input checked="" type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input checked="" type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange, training	<input checked="" type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input checked="" type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

2.2 : Quantified data for each partner's main result

Items	Currently achieved quantity^a	Estimated future quantity^b
Economic impacts (in EURO)		
# of licenses issued (within EU)	/	/
# of licenses issued (outside EU)	/	/
Total value of licenses (in EURO)	/	/
# of entrepreneurial actions (start-up company, joint ventures...)	0	0
# of direct jobs created ^c	0	2
# of direct jobs safeguarded ^c	0	0
# of direct jobs lost	0	0

^a The added value or the number of items already achieved to date.

^b Estimated quantity = estimation of the quantity of the corresponding item or the number of items that you foresee to achieve in the future (i.e. expectations within the next 3 years following the end of the project).

^c "Direct jobs" means jobs within the partner involved. Research posts are to be excluded from the jobs calculation

= number of ...

<p>I confirm the information contained in part 2 of this Technological Implementation Plan and I certify that these are our exploitation intentions</p> <p>Signature: _____ Name: _____</p> <p>Date: _____</p>

Part 3 Search for Collaboration through Commission services (Optional)

A separate part 3 might be completed by each partner willing to set up new collaborations, and seeking dissemination support from the CORDIS services.

The part 3 must be consolidated at the consortium level and transmitted to the Commission by the co-ordinator.

PARTS 3 WILL BE DISSEMINATED BY THE COMMISSION

CONTACT PERSON FOR THIS EXPLOITABLE RESULT

Name	DDr. Kurt Fedra
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Telephone	+43-2252-63305-0
Fax	+43-2252-63305-9
E-mail	info@ess.co.at

COLLABORATIONS SOUGHT

Please tick appropriate boxes (✓) corresponding to your needs.

R&D	Further research or development	<input type="checkbox"/>	FIN	Financial support	<input type="checkbox"/>
LIC	Licence agreement	<input type="checkbox"/>	VC	Venture capital/spin-off funding	<input type="checkbox"/>
MAN	Manufacturing agreement	<input type="checkbox"/>	PPP	Private-public partnership	<input type="checkbox"/>
MKT	Marketing	<input type="checkbox"/>	INFO	Information exchange	<input type="checkbox"/>
JV	Joint venture	<input type="checkbox"/>	CONS	Available for consultancy	<input type="checkbox"/>
			Other	(please specify)	<input type="checkbox"/>

POTENTIAL OFFERED FOR FURTHER DISSEMINATION AND USE

Please, clearly describe your input, the value and interest of the applications and the dissemination and use opportunities that you can offer to your potential partner.

N/A

PROFILE OF ADDITIONAL PARTNER(S) FOR FURTHER DISSEMINATION AND USE

Please, clearly describe the profile and the expected input from the external partner(s).

N/A

I confirm the information contained in part 3 of this Technological Implementation Plan and I authorise its dissemination to assist this search for collaboration.

Signature: _____ **Name:** _____

Date: _____ **Organisation:** _____

Part 4 Comment on European Interest

1. Community added value and contribution to EU policies

1.1 European dimension of the problem

(The extent to which the project has contributed to solve problems at European level)

By addressing sustainable transportation, the improvement of the quality of life in urban communities and the associated urban regions, and the competitiveness of European cities while promoting sustainable development assessed primarily in socio-economic and environmental terms is the overall objective of SUTRA.

The European dimension is being directly addressed by the variety of cities involved and focussing on the common problems related to urban transportation relating to air quality, noise, traffic congestion, as well as related environmental issues within a comprehensive economic framework.

1.2 Contribution to developing S&T co-operation at international level. European added value

(Development of critical mass in human and financial terms; combination of complementary expertise and resources available Europe-wide)

Europe today is a highly urbanised continent with more than 70 per cent of Europeans living in urban areas. Urban transportation problems are therefore universal in nature. However, since experimentation in this domain is rather expensive, it is imperative to try and exploit all available information and experience, which only a cooperative approach involving several cities can achieve: rather than aiming at solving a specific local problem, the project will identify a generic set of strategies, which then can be adapted to local conditions throughout Europe.

In addition to a core group from six countries from the European Union, the project also involves an accession country (Poland), and EFTA partner (Switzerland), a Mediterranean country (Israel), and a MERCOSUR country (Argentina). This selection serves to:

- increase the pool of experience and test cases to obtain more generic solutions of wide applicability;
- increase the financial resources of the project (Switzerland and Argentina are net contributors using their own national funding);
- and to open potential export markets for the project exploitation.

1.3 Contribution to policy design or implementation

(Contribution to one or more EU policies; RTD connected with standardisation and regulation at Community and/or national levels)

SUTRA directly addresses a number of European policies, Directives, and guidelines, including, as the overall framework, the European Community programme of policy and action in relation to the environment and sustainable development (*Official journal NO. C 138 , 17/05/1993 P. 0001 - 0004*, the Air Quality Framework Directive (96/62/EC) and several Community Directives and communications related to transportation such as COM 98/204), Directives 98/69 and 98/70, COM 97/627.

To quote from the Sustainable Cities Report to Local Authorities:

Growing mobility and decreasing accessibility are threats for the environmental quality, social well being and economic viability of a city. A significant increase in traffic flows and a

dramatic shift in modes of transport, away from walking, cycling and public transport to the private car, contribute to these trends. Associated problems include:

- *environmental problems including air pollution and energy consumption;*
- *health problems caused by the air pollution and noise pollution resulting from road traffic;*
- *social problems including isolation from necessary services, changing social patterns and a deterioration in the level of public transport provision;*
- *transport problems including congestion, increased danger for cyclists and pedestrians, infra-structural barriers and an increasing take up of urban land by transport related activities;*
- *economic problems including inefficiency engendered by congestion, unattractiveness for investors and social, economic and environmental costs estimated at 5% of GDP in OECD countries.*

Achieving sustainable urban accessibility requires the development of sustainability goals and indicators, target setting and monitoring, along with policies aimed at improving accessibility and not simply movement. Reconciliation of accessibility, economic development and environmental objectives should be the primary objective of a city's transport policy.

2. Contribution to Community social objectives

2.1 Improving the quality of life in the Community :

The primary objective of SUTRA is to improve the quality of urban life and health and safety by contributing towards sustainable transportation in sustainable, attractive, enjoyable and liveable, cities.

Recent estimates have between 9.5 and 18 Million people in Europe spend a considerable part of their working day in roadside settings where air quality standards are most likely to be exceeded.

Road transport contributes, on average, more than half of the nitrogen oxides emissions, particulate matter, and about 35 % of VOC emissions. And, in contrast to stationary industrial and domestic sources which are generally decreasing, traffic generated emissions show a continuous increase in most areas. Improved transportation systems will therefore make a major contribution to a better urban environment.

A sustainable transportation system, however, not only reduces noxious emissions, but increases well-being, productivity, and the quality of life, health, and safety of the urban population in general. Transportation is at the heart of economic activities, but also of leisure, sports, and cultural life in general. Together with the aesthetics of a well planned and harmonically grown city - and the transportation system is an important part of that, with the urban landscape clogged with moving, and parking, cars - transportation together with land use planning are the core of urban development planning.

2.2 Provision of appropriate incentives for monitoring and creating jobs in the Community (including use and development of skills) :

Improved living conditions, an efficient transportation system and a healthier environment as an important part of the quality of urban life improve the overall framework for economic activities, and thus employment prospects.

More specifically, the results of the project represent a novel planning methodology and a set of supporting tools and skills. This should in itself open possibilities for the export of European know-how and thus employment opportunities for environmental technologies, research and development, and consultancy on an international basis.

2.3 Supporting sustainable development, preserving and/or enhancing the environment (including use/conservation of resources) :

Sustainable urban transportation is almost by definition an element of sustainable urban development, and with this a sustainable urban environment. To quote from the Council resolution of 1 February 1993, A European Community programme of policy and action in relation to the environment and sustainable development:

Transport is vital to the distribution of goods and services, to trade and to regional development. Present trends in the Community's transport sector are all leading towards greater inefficiency, congestion, pollution, wastage of time and value, damage to health, danger to life and general economic loss. Transport demand and traffic are expected to increase even more rapidly with the completion of the Internal Market and the political and economic developments in Central and Eastern Europe.

A strategy for sustainable mobility will require a combination of measures which includes: improved land-use/economic development planning at local, regional, national and trans-national levels; improved planning, management and use of transport infrastructures and facilities; incorporation of the real costs of both infrastructure and environment in investment policies and decisions and also in user costs; development of public transport and improvement of its competitive position; continued technical improvement of vehicles and fuels; encouraged use of less polluting fuels; promotion of a more environmentally rational use of the private car, including changes in driving rules and habits.

In the context of the urban environment the resolution refers to

... the difficulties in reconciling the need to meet the demands of modern commerce and transport with the desire to provide a good quality living environment are steadily growing with resulting congestion, pollution, noise, deterioration of streets, public places and architectural heritage and general loss of amenity.

It is these concerns that the SUTRA project does approach.