INTERACT Final Validation Plan

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Work Package	WP7.2.0 – Final Validation Plan			
Date of Delivery	**Contractual**	31/01/02	**Actual**	14/03/02
Version	1.0	**Status**	Final	
Summary of changes	The Final Validation Plan is based on two INTERACT documents, i.e. the Draft Validation Plan (project deliverable D7.1) and the INTERACT Guidelines for Local Evaluation. The Draft Validation Plan was submitted to the European Commission on 2/10/00 and accepted in the 2000 Annual Project Review. The INTERACT Guidelines for Local Evaluation, which were submitted to the European Commission in the context of the 2002 Annual Project Review, are a supplementary and non-contractual document provided by Rupprecht Consult Forschung & Beratung GmbH. Compared to the Draft Validtion Plan, the Final Validation Plan also includes an updated list of indicators, detailed descriptions in a fact sheet format of each indicator and a list of common data gathering tools to be used during the operational evaluation phase. The Final Validation Plan takes account of and incorporates the changes that became necessary after the project modifications in 2001.			
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Reviewed by	INTERACT Local Validation Managers		Sign of peer reviewer Date:	

DOCUMENT REQUIREMENTS ROAD MAP

Objective / Requirement	Addressed in section / pages	Comment
Objectives as described in the technical annex		
Within WP7, a common validation plan will be developed on the basis of available best practice guidance from past TAP Projects.	Chapter 2	
Advice will be provided to Local Validation Managers, who will be assisted with the implementation of the validation plan how to analyse forthcoming results.	Throughout the document.	
2nd APR Reviewers comment		
Quote from the Annual Project Review Report: "The deliverable D7.2 was not available for the review. Instead the "Guidelines for INTERACT local evaluation" were pro-vided to the review panel. The document, as presented, was clear and sufficent."	The "Guiidelines for INTERACT local evaluation" are provided in annex 1 of this document.	The "Guidelines for INTERACT local evaluation" are a non-contractual and supplementary document which was developed by the INTERACT Validation Manager. The document is intended as a guideline for Local Validation Managers of the INTERACT project to participate in the completion of the Final Validation Plan and to perform the operational evaluation at the INTERACT sites. The "Guidelines for INTERACT local evaluation" have been developed in parallel to the Final Validation Plan and should be viewed as complementary documents. They have been submitted to the European Commission for the 2002 Annual Project Review in order to seek agreement to the evaluation concept suggested in the document. Contractually, the Final Validation Plan was to be submitted to the European Commission by 31/01/02. The Project Officer agreed to a submission of the deliverable by 28/02/02.
Additional objectives described elsewhere		

EXECUTIVE SUMMARY

INTERACT is a research project co-funded by the Information Society Technologies Programme of European Union. Cities and industrial partners (IT-suppliers) from four European countries have come together to jointly create an integrated and interactive system to support public authorities in environmental permitting and Environmental Impact Assessment (EIA) procedures. The system that will be developed in INTERACT will provide direct and convenient access to applicants for permissions via the Internet.

Overall Validation Framework

Workpackage 7 (WP7) provides the validation within INTERACT. The key role of WP7 is to provide a comprehensive overview of the extent to which INTERACT has met its success criteria and what other impacts the project has generated. Despite the fact that INTERACT will be implemented and applied in four different European regions, its validation will be based on commonality. The main aspects considered in establishing a common validation basis are:

- impacts and indicators common to all regions and
- indicators selected for measurement in all regions need to be measured in the same way, or at least yield comparable results, across the cities.

In order to facilitate the consensus formation between evaluation team members, the following steps towards the completion of the Final Validation Plan have been undertaken:

STEP 1: Definition of specific and detailed objectives for each INTERACT application

STEP 2: Precise description of the key development goals of the project

STEP 3: Impact Definition

STEP 4: Definition of assessment objectives

STEP 5: Outline of validation methods for each assessment objective

Operational Validation

The following applications will be developed jointly by IT-suppliers and INTERACT users:

- **Virtual Front Office**, providing user-customisable access to the data warehouse via Internet, supporting permit applicants during the entire process of their application (i.e. from initial information gathering, support for proposal definition, electronic submission, checking on progress of process), linking permitting/ EIA with other environmental information systems (for public or authority) use, and establishing new business models for value-added environmental data and service delivery between environment authorities and private sector users,
- **Environmental Information Assistant**, providing access to GIS-data related to environmental permitting and assessment and is an application with Catalogue Information and Search & Display Toolkit, and

- **Environmental Permitting Assistant**, directing the applicant user to his information and documents related to permitting applications and is an application with Workflow Dialogue and Document Transport.

In four validation workshops and various other consultations, the evaluation team, consisting of four Local Validation Managers and an Validation Maanger, defined impacts, indicators, assessment methods, and data gathering tools as the key elements of the evaluation process. The expected INTERACT impacts are:

Impact 1: Increased efficiency of permitting process/ EIA procedure

Impact 2: Reduced duration of permitting/ EIA procedure

Impact 3: Enhanced interactivity with proposers and other users/ stakeholders

Impact 4: Better quality of public services

Impact 5: Improved environmental information provision process

For each expected impact, clear assessment objectives, a series of operational indicators, and reference cases have been identified. Throughout these exercises, an effort was made to reach the highest degree of commonalities in defining these key elements of validation.

Involvement in the Verification Stage

The verification stage will ensure the correct behaviour and acceptability of the implemented prototype through functional and usability testing in a laboratory environment. These tests will involve a small sample of real users.

Next Steps

The current Final Validation Plan is the result of the common agreement reached by the Local Validation Managers from the four INTERACT cities. After completion of the Final Validation Plan, the WP7 Team will immediately engage in developing data gathering tools. In the operational evaluation phase, data will be gathered to establish reference cases as well as during the Core Evaluation Phase. WP7 will then analyse the gathered data and produce the Final Validation Report (deliverable D7.3).

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1 Introduction

1.1 Guide to the Reader

Due to the public nature of this document, the intention has been to prepare a comprehensive, stand-alone report, reflecting at the same time the consolidated agreement process within WP7 (Validation) of the INTERACT project.

In order to serve different groups of readers best, a certain degree of redundancy is apparent in this document.

- A brief overview of INTERACT is provided in sections 1.2 and 1.3 for readers unfamiliar with the project.
- Results from WP2 (User Requirements) are reported in section 1.4.
- Chapter 2 describes the agreed validation structures and concepts and provides definitions of key terminology.
- In chapter 3, the INTERACT appraisal groups and applications are described.
- Chapter 4 contains the core of the validation framework, including descriptions of impacts, indicators, reference cases, success criteria, methods of assessment, and data gathering tools.
- Chapters 5 and 6 put the evaluation tasks again in context within the project programme (verification and demonstration) and they provide an overview of future tasks in WP7.
- Chapter 7 provides a conclusion.

1.2 Project Objectives

The overall goal of INTERACT is to increase the effectiveness, efficiency and speed of environmental permitting and assessment procedures through Information Society Technology (IST) tools. The project will thereby also aim to establish new business models for value-added environmental data and service delivery between environment authorities and private sector users and will develop IST solutions to meet the requirements of crucial European legislation on Environmental Impact Assessment (EIA) and Integrated Pollution Prevention Control (IPPC).

The project objectives of INTERACT are to:

1. develop an innovative, integrated, cost effective, highly accessible, portable and interactive system to support environmental permitting and EIA Procedures,
2. enable electronic submission of environmental applications through secure Internet access, and to grant direct interactive access to integrated environmental data bases and workflow process information,
3. develop a system that integrates heterogeneous environmental information with geographic, alphanumeric and workflow data,
4. create a system that can be used in different legal frameworks and with different languages,
5. develop convenient interactive permitting services for applicants (i.e. external users) and staff in environmental authorities (i.e. internal users), and
6. link the permitting with existing environmental information systems for public use (while respecting specific user and legal requirements for public information dissemination).

The INTERACT system will provide differentiated and secure access to all relevant user groups in this context: users in permitting authorities, applicants for permissions, professional external users and the general public.

1.3 Project Structure

1.3.1 INTERACT Project Team

The INTERACT Project Team combines valuable expertise of public and private partners who are jointly developing tools for efficient environmental permitting and information provision via the Internet. The EU cities of Vitoria-Gasteiz in Spain, Cologne in Germany, the Region of Piemonte and the Autonomous Province of Trento in Italy as well as the CEEC City of Prague serve as the implementation sites of the project. An overview of the INTERACT Project Team is provided in table 1.

Table 1: The INTERACT Project Team

CITIES	PARTICIPANT ROLE	PARTICIPANT NAME
	Co-ordinator	CH2M Hill Espana S.L.
City of Vitoria-Gasteiz (Spain)	User	Ayuntamiento de Vitoria-Gasteiz (Spain)
City of Cologne (Germany)	User	Stadt Köln, Amt für Umweltschutz und Lebensmittelüberwachung (Germany)
	Developer	Infoware GmbH (Germany)
	Developer	Inplus GmbH (Germany)
Region of Piemonte (Italy)	User	Regione Piemonte (Italy)
	Developer	CSI-Piemonte, Consorzio per il Sistema Informativo (Italy)
	User	Provincia Autonoma di Trento (Italy)
City of Prague (Czech Republic)	User	Institut Mestske Informatiky HL. M. Prahy (Czech Republic)
	Developer	Hydrosoft Veleslavin s.r.o. (Czech Republic)
SUPPORT FOR HORIZONTAL PROJECT TASKS		
Rupprecht Consult Forschung & Beratung GmbH (Germany)		
HEC – Hanseatische Software-Entwicklungs- und Consulting GmbH (Germany)		

1.3.2 Work Programme

The project is designed for a total period of 27 months. It is structured into four major consecutive, partly overlapping project areas, namely:

- Project management (including quality control): WP1.
- The system planning phase which contains the major RTD tasks and includes user requirements and constraints analysis, complemented by an analysis of the regulatory framework and the state of the art in the field (WP2), definition of functional specifications (WP3), and system architecture and interfaces (WP4).
- The main development and implementation phase, based on domain type approach by which the planning on the project level will be implemented by complementary local system development; structured in system design and verification (WP5) and implementation (WP6). The implementation phase includes test operation in four major sites, covering a wide range of legal, technical and cultural scenarios.
- The evaluation and dissemination phase that draws conclusions on the suitability and viability of the system under development, its benefits and European added value of the four test operation (WP7) and enables a coherent approach to a successful exploitation and business phase (WP8). It will also be the basis for dissemination activities (WP9).

The overall project and the above four project areas are broken down into nine WPs as follows:

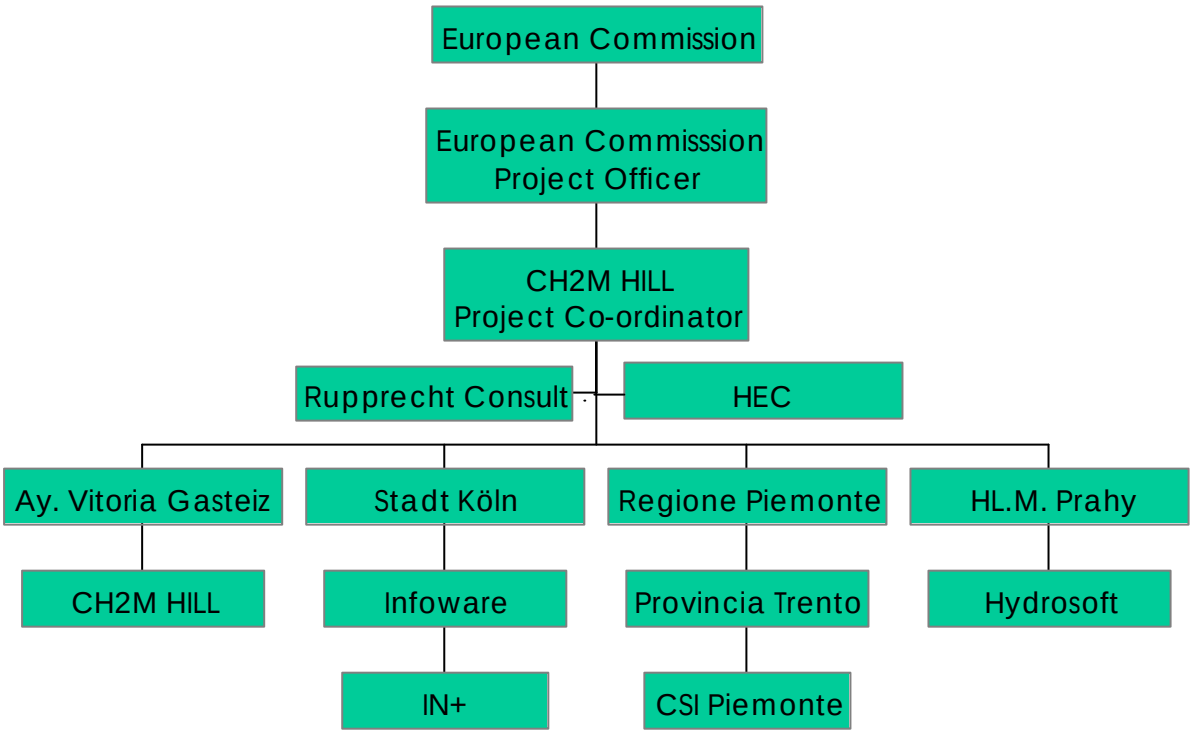
Table 2: INTERACT Workpackages

Workpackage Number	Description
1	Project Management
2	User Requirements
3	Functional Specification
4	System Architecture
5	System Design and Prototyping
6	Implementation and Test Operation
7	Validation
8	Exploitation and Business Planning
9	Dissemination

1.3.3 Project Management Structure

The overall management structure of INTERACT is briefly as follows.

Chart 1: INTERACT Management Structure



1.4 Summary of User Requirements

This section reports key results from WP2 which are of direct relevance for validation.

Consolidated User Needs Analysis

The user needs analysis undertaken in the four countries/ sites encompassed five permitting authorities, three applicants and six professional users. A summary of the user needs by site and attributed to the different Application Packages concluded that there were a total of 79 User Needs identified. Following the local analysis, a single consolidated list of User Needs was produced and analysed.

INTERACT Forum

The INTERACT Forum was held in Cologne on 20 September, 2001, with participants from all across Europe. The aim of the workshop was to allow the INTERACT system developers, together with external advisers, to assess the user needs specification and identify concrete and operational user requirements. The main focus of the forum was to concentrate on the user needs related directly to functions within the permitting process, i.e. the Permitting Assistant module of the INTERACT system.

Conclusions

The user needs groups are summarised in table 3. During the INTERACT Forum, no additional user needs groups were identified. Therefore, the project will be maintaining its original objectives. It has been showed that the project will deliver a product that has the right functionality and is user-friendly.

There are some technical issues regarding security and encryption that needs resolving before entering the test operation and validation phase. Due to the fact that the Internet is insecure by definition, all data transmission will optionally be over secure internet connections (HTTPS, SSL).

Authorisation of the user will be necessary so as to only receive data for the permitting procedures, for which he has been granted access rights. There will be separate access rights for procedure data, work step data, the document data and changing/adding documents.

Authorisation itself will be done either by logging in with username and password or by using certificates stored on a floppy disk or smartcard. For the editing and uploading of documents, the possibility of electronically signing the document enables the receiver to identify the originator, and can view any possible changes during transmission.

Table 3: Summary of Consolidated User Needs Groups by Application

Information Assistant	Data Warehouse	Workflow Management	Spatial Search
General User Needs			
Access to generic information	**Environmental data catalogues**	**Permit application submission**	Permits in force
Permit forms	Historical activity permit data	Link between permit application and GIS system	**Industrial site information**
Contact data for involved parties	Water consumption	Statistical queries related to workflow	Access to utility network information
Electronic advertisement	**Security of Applicants data**	**Create workflow process**	**Determine the state of the environment**
Notification to applicant		Application checklist	
Project specific information		**Data and document sharing**	
Provide site specific application checklist		**Electronic notification**	
Best Practice guidance		**Electronic document distribution**	
		Workflow process interrogation	
		Electronic issue of permits	
		Progress towards a workflow system	
		Create merge documents	
User Needs Unique to Vitoria and Prague			
Short and simple information accessible in user friendly form on website with sophisticated structure and navigation	Design and create a consolidated databases to catalogue general and air photographs. Redesign the cartography database and place on the net.		Provide access to basic cartography for download in a range of formats to request digital or paper copies of maps held by the Council.
Different levels of detail of information made accessible according to different user levels.	Integration of SIAM system with the Council's general system, creating a unique Environmental Information System.		Add additional 4 Urban Planning coverages to SIAM's. On-screen access to Urban Planning by GIS and related information
	Create a map of soil strength using existing information from projects.		Use GIS in urban planning of already developed or vacant areas.
	Provide access to the information of the Municipal laboratory with respect to results of the analysis		
	Add new coverages to GIS system and provide facility to select a zone on the map with associated demographic information.		
10 User Needs Groups	*9 User Needs Groups*	*12 User Needs Groups*	*7 User Needs Groups*
SUM TOTAL 38 USER NEEDS GROUPS			

2 Overall Validation Framework

2.1 Validation Approach

Validation has a key role in establishing the benefits which all stakeholders, i.e. users (internal and external), operators and content providers can gain. State-of-the-art validation ensures that the project will be able to establish the extent that INTERACT has met its objectives, what impacts it has generated on the site level and what its European added value is. The results from the validation process will provide important input to the definition of the business case, exploitation and marketing plans and will, therefore, be instrumental for decisions on the direction of any future investments of the final product. The Final Validation Report (Deliverable D7.3) will clearly outline the lessons learnt and results gained by using IST to deliver new environmental services.

Despite the fact that INTERACT will be implemented and applied in four different European sites, its validation process will be based on commonality. One of the major challenges within WP7 is, therefore, to reach full agreement among the WP7 team (see chapter 2.2) on the concept, common impacts and indicators, reference cases, success criteria, operational methods, and other specifics of validation. The common validation basis of INTERACT is described in further detail in chapter 2.3.

Extensive desk research on evaluation guidelines has been conducted, and actual project evaluation plans in previous European RTD Programmes have been analysed, especially from projects of a similar approach as INTERACT. Particularly useful was the work undertaken by projects ANIMATE, CONVERGE, and VATAM in the Telematics Applications and MAESTRO in the Transport Research Programme (both within Framework Programme IV)[1].

The agreed INTERACT concept is mainly based on the evaluation guidelines of the environment sector of the Telematics Applications Programme issued by ANIMATE. It has been ensured that the methodology is also in line with the “Six steps for building evaluation into the Description of Work” of the “Guidelines for Contract Preparation for Co-ordinators of IST Projects.” .The agreed overall validation process is summarised in Chart 2.

As a “milestone” in this process the present document, the Final Validation Plan, i.e. this document, has been prepared. For this activity, the following steps were undertaken to facilitate the consensus-formation process in a systematic and comprehensive manner:

[1] CONVERGE Project (TR 1101): Guidebook for Assessment of Transport Telematics Applications - Updated Version, Deliverable D2.3.1, Sept. 1998 and Checklist for Preparing a Validation Plan: Updated Version, D2.4.1, Sept 1998. Additional background was provided by the VATAM Project Terminology Repository (<http://www-vatam.unimaas.nl/cgi-bin/reposit/search.exe?term=on>), March 2000. See also the work of the MAESTRO Project (Transport Research Programme).

Step 1: Definition of specific and detailed objectives for each INTERACT application

Input was used from the four INTERACT sites and the technology providers, where necessary.

Step 2: Precise description of the key development goal of the project.

For each application, descriptions were provided on:

- technologies and functions,
- related users/ stakeholders, and
- validation (i.e. verification and demonstration).

Step 3: Impact definition

This step covered:

- Definition of expected impacts (general) and impacts by appraisal groups
- Selection of impacts to be validated
- Practical considerations of validation (i.e. can impact be validated, methodological restrictions, etc.)

Step 4: Definition of assessment objectives

On the basis of step 3, operational objectives of the assessment process have been defined.

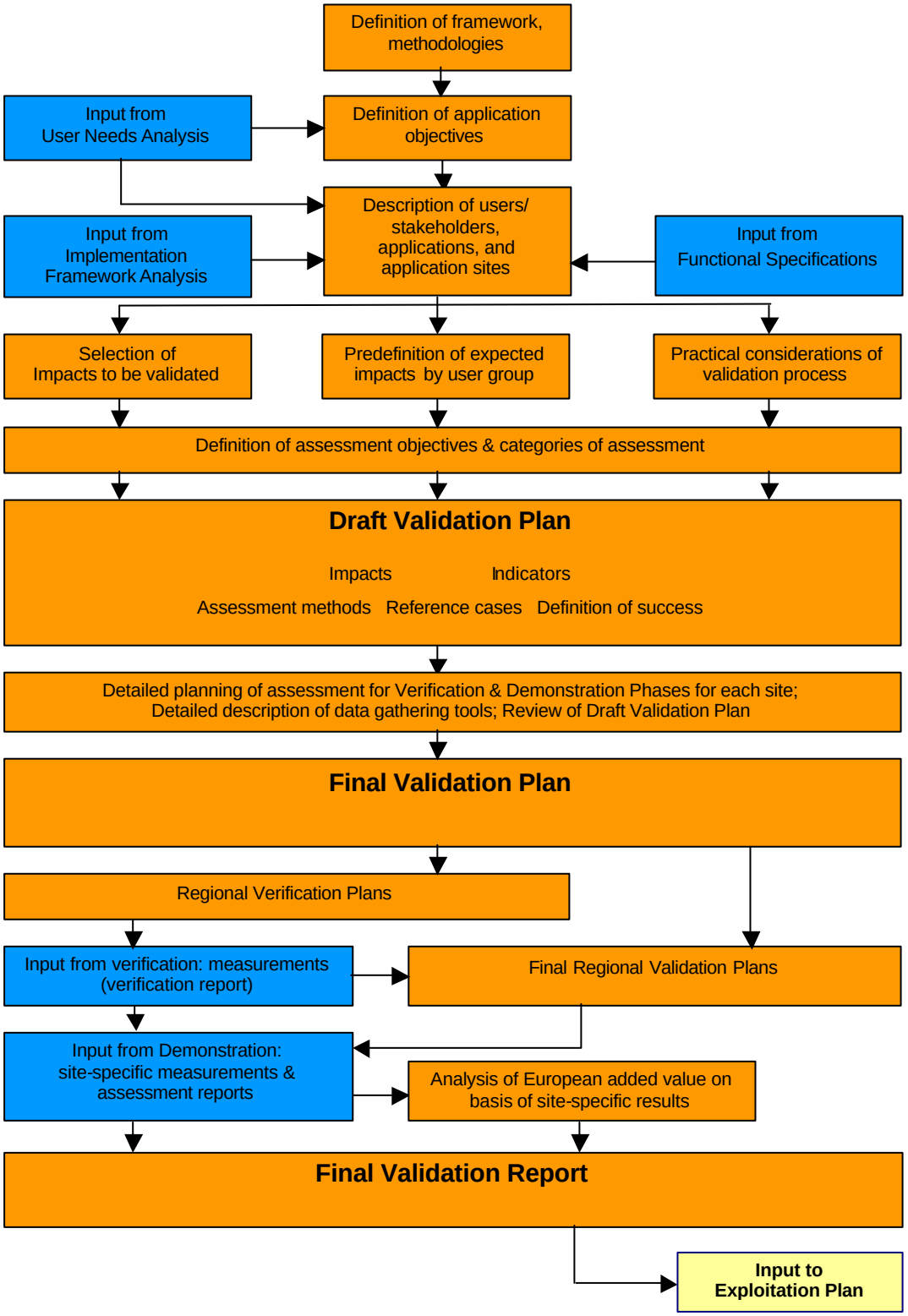
Step 5: Outline of validation methods for each assessment objective

This step provided input to the key elements of the Final Validation Plan. For each assessment objective, it covered:

- indicators which will be used,
- reference cases against which success will be measured (or “project baseline”),
- success criteria which will be used, and
- methods which will be used (i.e. quantitative surveys, technical measurements, qualitative interviews).

The remaining steps of the validation process are illustrated in chart 2.

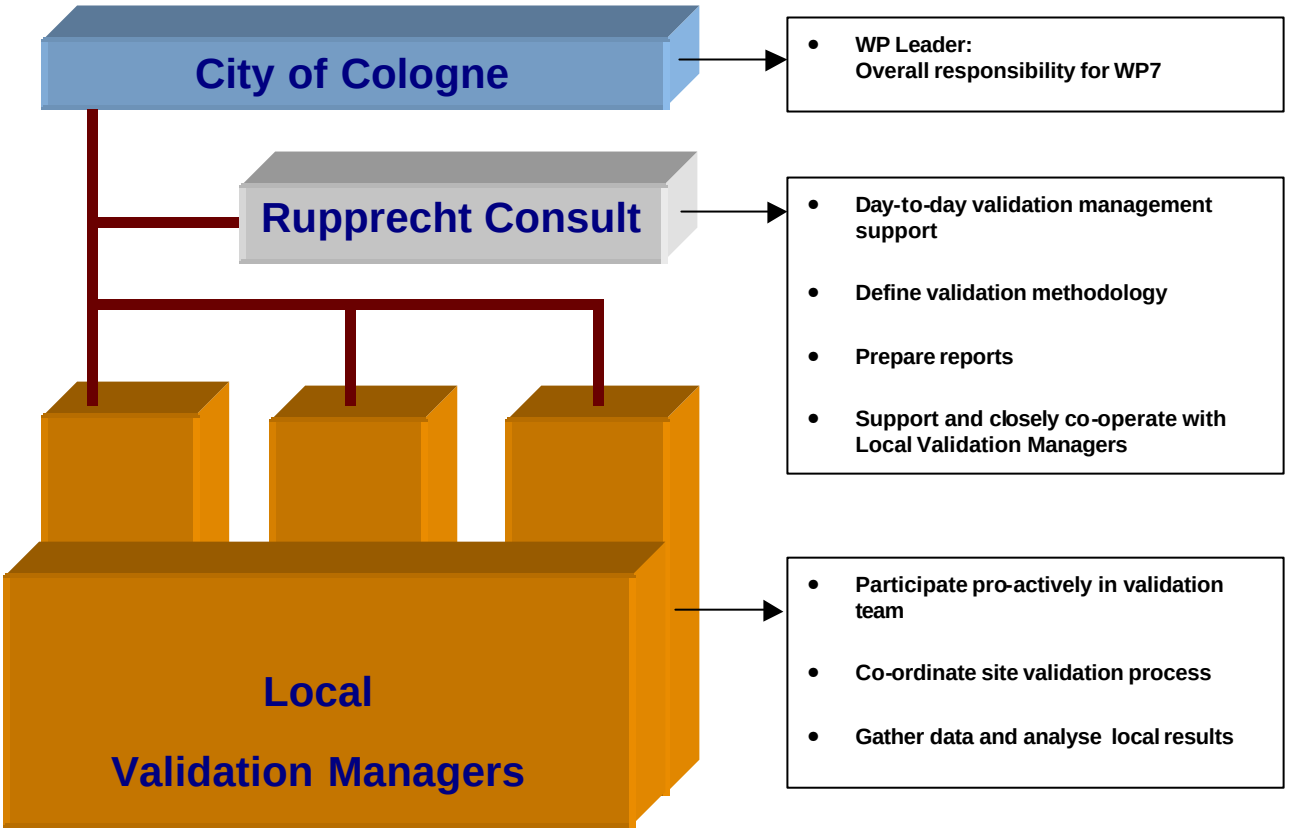
Chart 2: Steps in the Validation Process



Validation Management Structure

The INTERACT Validation Team consists of a WP7 leader (City of Cologne), an independent Validation Manager (Rupprecht Consult), and the Local Validation Managers from the participating INTERACT sites.

Figure 1: Management Structure of WP7 - Validation



2.2 Agreement Process

Throughout the twenty-seven-month project duration of INTERACT, a series of validation workshops has been held where Local Validation Managers, the independent Validation Mamager as well as other INTERACT participants directly or indirectly involved in validation processes get together. So far, four validation workshops have been held.

Table 4: Overview of INTERACT Validation Workshops

Previous INTERACT Validation Workshops
Validation Workshop 1 Place: Vitoria-Gasteiz, Spain Date: 6 April 2000 Content: • Introduction of Local Validation Managers • Presentation of desk research • Discussion of validation framework
Validation Workshop 2 Place: Cologne, Germany Date: 30 June 2000 Content: • Discussion of INTERACT impacts and indicators • Presentations by Local Validation Managers on site-specific applications, major appraisal groups, major expected impacts, levels of impacts, and indicators • Agreement on a “short list” of common indicators
Validation Workshop 3 Place: Brussels, Belgium Date: 24 July 2000 Content: • Discussion and confirmation of common impacts and indicators • Discussion about methodologies, success criteria, and reference cases • Agreement on timetable and responsibilities for completing the Draft Validation Plan

Previous INTERACT Validation Workshops

Validation Workshop 4

Place: Cologne, Germany

Date: 25 January 2002

Content:

- Reflection of project changes in the Final Validation Plan
- Revision of previously identified indicators
- Agreement on data gathering tools and allocation of tool development tasks

Validation workshops offered the opportunity for effective discussions in face-to-face situations. Additionally, the independent Validation Manager and the Local Validation Managers also maintained frequent contact via e-mail, phone, and audio-conferences.

The described means of communication allowed the INTERACT Validation Team to keep up a productive cycle of proposals, comments, and revisions that ultimately resulted in mutual agreement. This successful agreement process was particularly important in finding commonalities across the sites, such as common impacts and indicators which are crucial tools in evaluating a major European RTD project such as INTERACT.

2.3 Common Validation Basis

INTERACT is a truly European project. Cities from three EU countries (Italy, Spain, and Germany) and the Czech Republic as an accession country are participating. After completion of the project, it is intended to implement INTERACT in further European cities. For the task of validation, it is therefore important to focus on the commonalities of INTERACT.

Therefore, commonalities are the centrepiece of the INTERACT validation process. Two main aspects were considered in establishing a common validation basis:

1. Impacts and indicators common to all sites need to be defined.

   Since the sites, for example, focus on different applications (see chapter 3.2) and appraisal groups (see chapter 3.1), it is not always possible to use an indicator in all four INTERACT sites. Only indicators used in all four sites are considered “common indicators.” Comparably, only those impacts analysed by at least one common indicator are considered “common impacts.”

2. Indicators selected for measurement in all sites need to be measured in the same way, or at least yield comparable results across the sites.

   The challenge to reach commonality lies in the different technical prerequisites to measure the indicators, different statistical circumstances, as well as the formulation of different references cases and success criteria across the sites.

2.4 Terminology

It is important to achieve consensus on the basics of the validation process between all project sites. As a first step, a common terminology should be used throughout the project. The purpose of this chapter is to explain terms and phrases essential for a good understanding of the validation process.

The proposed definitions are based on the formal evaluation guidelines from the health, transport and environment sectors of the Telematics Applications and the Transport Research Programme in the context of the Fourth Framework Programme.[2]

Table 5: Validation Terms in INTERACT

Term	Definition
Applicant (INTERACT-specific term)	Organisation or individual seeking a permit (to produce). If an applicant is also handling the application process, then there is no distinction between a proposer and an applicant.
Application	The technical product of an RTD Project, usually a system or service as installed and operating in a real-life environment.
Appraisal groups	Different groups of users/ non-users affected by the impacts of an application. Benefits and drawbacks are estimated for these impacts.
Assessment	The general term for describing the process of systematically analysing and reporting the performance and/ or impacts of a candidate application. Analyses are usually undertaken in comparison to a reference case, and include an experimental process based on real-life trials, involving user interaction. The term is often used synonymously with evaluation.
Assessment objective	A precise statement of an individual objective of validation - it should be associated with a precise definition of the associated indicator(s) and definition of success.
Decision makers	People or groups who will be influential in determining whether verification results justify proceeding to the roll-out validation stage of

[2] The following is an adoption of definitions from within the Telematics Application Programme for the purposes of this project. It is based on CONVERGE Project (TR 1101): Guidebook for Assessment of Transport Telematics Applications - Updated Version, Deliverable D2.3.1, Sept. 1998 and Checklist for Preparing a Validation Plan: Updated Version, D2.4.1, Sept 1998.

Term	Definition
	validation, or moving into full implementation.
Definition of success	Before validating an application, the expectation about the performance and impacts of the application is defined. Success or failure of validation results are tested against these criteria. So it has a vital role in the validation methodology. It is most exact when it is defined for a single indicator.
Demonstration	The demonstration stage of validation will use a sufficiently large sample of users in real-life situations to provide information on cost-effectiveness, user friendliness and similar issues, as well as testing the feasibility of the system when used on a large scale.
Environmental Data Warehouse (INTERACT-specific term)	One of the INTERACT applications. The Environmental Data Warehouse integrates a wide range of information sources for the permission and EIA process and provides access through the Internet to various user groups, including, authorities, professional end-users, citizens, and NGO's. It is built around the concept of a Semantic Data Dictionary which acts as Information Broker (for various Geographic Information System (GIS) information assistants) to retrieve and present information to the users.
Environmental Information Assistant (INTERACT-specific term)	The purpose of this Module is to help the users to obtain all the relevant environmental information required for undertaking an EIA or Environmental Permitting procedure. With the thematic search engine and the spatial search engine, two intuitive and powerful tools are provided. The user will get the information references, irrespective of its format (document, GIS layer, etc.), storage or management system (GIS, RDBMS, HTML, etc.) and – in addition to other Internet search engines – the following functions: • Providing the user not only with references (URL) but also data contents shown directly in the Environmental Information Assistant window • Displaying not only HTML-documents but also other data contents like maps, alpha-numeric tables and detailed information on document contents like authors, issuing dates, validity of data in professional, time or geographic dimensions.
Environmental Permitting Assistant (INTERACT-specific term)	The Environmental Permitting Assistant allows applicants and other involved organizations and authorities to gain an overview of the local permitting process and the status of their permit application (EIA or IPPC). It also provides an easy and convenient mechanism for communication between these bodies. The Permitting Assistant reduces the application processing time for authorities and speeds up

Term	Definition
	the permission procedure.
Evaluation	In this project the term will be used synonymously with assessment as this reflects current usage (e.g. in the guidelines for 5FP contract preparation). The narrow definition of evaluation refers to the specific process of assigning quantitative and/ or qualitative characteristics ("values") to applications during validation and comparing them with expected values in order to derive recommendations for decision makers on the future use of an application (e.g. large-scale deployment).
Ex Ante Situation	A situation typically used as a reference case for indicator measurement. In this project, it describes the situation prior to implementation of INTERACT.
Impact	Changes or effects brought about by an application resulting from its implementation in an experimental or real application, whether intended or unintended.
Indicator	A parameter, directly measured or derived from modelling, indicating the performance or impacts of an application.
Information Assistant (INTERACT-specific term)	See Environmental Information Assistant
Permitting Assistant (INTERACT-specific term)	See Environmental Permitting Assistant
Proposer (INTERACT-specific term)	Organisation or individual handling the application process for an applicant. A proposer could a consultant of an applicant. If a proposer is also seeking a permit to produce, then there is no distinction between a proposer and an applicant.
Reference case	The performance and impacts of an application are usually compared against some existing situation in order to show to what extent the application meets required standards (e.g. in tests of the physical functioning of the application or user friendliness) and that use of the application is an improvement compared to alternative ways of achieving the objectives of the application (e.g. user acceptance, impact analysis). "Before and After" studies might feature assessment of user acceptance and impact analysis.
User groups	Groups involved in validating the application include:

Term	Definition
	• operators of the application • intermediate users of the application like providers of information • end users of the application These groups should be a fair representation of the main future market for the application.
Validation	Validation is the specific process in an RTD Project of testing how an application performs with respect to the specified assessment objectives. Validation includes a verification and demonstration stage.
Verification	The verification stage of validation will use a small but sufficient sample of users in a real-life situation to test the technical feasibility of the demonstrator and to yield preliminary findings on user acceptance.
Virtual Front Office (INTERACT-specific term)	The Virtual Front Office provides all users with access to the Environmental Information Assistant and Environmental Permitting Assistant modules. The Environmental Information Assistant can be seen as a standard HTML portal that leads the user to the different fields of interest. The objective of the Virtual Front Office is that it can be integrated and adapted easily to existing governmental or municipal internet portals.

3 Appraisal Groups and Application Modules

3.1 Appraisal Groups

All groups of people affected by the impacts of these applications need to be identified. These groups are called “appraisal groups”. For the most affected (or most important) groups benefits and drawbacks of the project will be estimated during evaluation.

The most directly involved groups of people are the “users” of INTERACT applications. They are directly involved in the evaluation work and should be a fair representation of the main future market for the application. They usually comprise the following categories:

- operators of the applications
- intermediate users of the application like providers of information
- end users of the applications

For INTERACT the following appraisal groups have been identified:

Table 6: INTERACT Appraisal Groups

<table>
<tr><th>Core Users</th><th>Non-Core Users</th></tr>
<tr><td rowspan="2">
Applicants for permits/ EIA
o applicants
o consultants of applicants
Permitting/ EIA authorities
o co-ordinator of permitting/ EIA process
o other actors in permitting/ EIA process
Other authority actors not directly involved in permitting/ EIA
o from permitting/ EIA authority
o from other authorities
Maintainers
</td><td>
Public
Non-Government Organisations (NGO's)
Research institutions
</td></tr>
<tr><th>Other Stakeholders</th></tr>
<tr><td>
Chambers of Commerce
Professional associations
Data suppliers
Other
</td></tr>
</table>

3.2 Applications

On the basis of the Technical Annex, the following applications are planned to be developed within INTERACT:

Virtual Front Office

- provides user-customisable access to the data warehouse via Internet,
- supports permit applicants during the entire process of their application (i.e. from initial information gathering, support for proposal definition, electronic submission, checking on progress of process),
- links permitting/ EIA with other environmental information systems (for public or authority) use, and
- establishes new business models for value-added environmental data and service delivery between environment authorities and private sector users.

Environmental Information Assistant

- provides access to GIS-data related to environmental permitting and assessment and is an application with Catalogue Information and Search & Display Toolkit.

Environmental Permitting Assistant

- directs the applicant user to his information and documents related to permitting applications and is an application with Workflow Dialogue and Document Transport.

In addition, the following existing products can be incorporated in the INTERACT solution in the case that no sufficient servers exist:

Standard Geographic Server

- displays maps via the Internet.

Standard Management Server

- contains the relevant data for the permitting workflow and
- provides the Environmental Information Assistant and the Environmental Permitting Assistant with standardized data.

4 Operational Evaluation

Common impacts, indicators, and assessment methods are the key elements of evaluation. Without them, no evaluation would be possible. The INTERACT WP7 Team spent a considerable amount of time selecting, defining, and discussing these key elements. With the common evaluation basis in mind, agreement was reached on the impacts, indicators, and assessment methods described below.

4.1 Expected Impacts and Assessment Objectives

Impacts are defined as changes or effects brought about by an application resulting from its implementation in an experimental or real application, whether intended or unintended. INTERACT validation is expected to concentrate on five impacts. Description and assessment objectives are listed for each of the following expected impacts:

Impact 1: Increased efficiency of permitting process/ EIA procedure

Impact 2: Reduced duration of permitting/ EIA procedure

Impact 3: Enhanced interactivity with proposers and other users/ stakeholders

Impact 4: Better quality of public services

Impact 5: Improved environmental information provision process

Impact 1: Increased efficiency of permitting process/ EIA procedure

Description:

INTERACT is expected to improve permitting processes and EIA procedures in the participating INTERACT sites both in terms of qualitative and cost reductions. It is anticipated that permitting authorities and applicants will benefit from the increased efficiency of the permitting process/ EIA procedure.

Assessment Objectives:

- Measurement of qualitative improvements of the permitting procedure
- Documentation of perceived acceptance of the new procedure
- Measurement of cost reductions

Impact 2: Reduced duration of permitting/ EIA procedure

Description:

In addition to qualitative and monetary improvements, INTERACT is expected to speed up the permitting processes and EIA procedures. Individual work steps are anticipated to be shortened in terms of time required and the complexity of the work steps itself. The time spent for an application by applicants and proposers is expected to be reduced.

Assessment Objective:

- Measurement of time improvements of the permitting processes/ EIA procedures

Impact 3: Enhanced interactivity with proposers and other users/ stakeholders

Description:

One means of improving permitting procedures is the enhanced interaction between individuals involved in permitting procedures. INTERACT is anticipated to lead to more and higher quality interactions between proposers and authority actors as well as between authority actors themselves

Assessment Objectives:

- Documentation of qualitative improvements of interactions
- Measurement of quantity of interactions

Impact 4: Better quality of public services

Description:

INTERACT is intended to improve the quality of public service provision. The amount of information provided is expected to increase, in particular with respect to environmental information and permitting/ EIA procedures. In addition, the quality of the services provided is anticipated to be improved. This includes a wider range of services provided.

Assessment Objectives:

- Documentation of the quantitative improvements in information provision
- Measurement of the quality of service provision

Impact 5: Improved environmental information provision process

Description:

Environmental information provision plays a crucial role in the INTERACT project. Improvements in the environmental information provision are expected to result in an increased number accesses to environmental data and a high usage level of communication tools provided through INTERACT.

Assessment Objectives:

- Measurement of accesses to (environmental) data
- Documentation of the use of INTERACT communication tools

4.2 Assessment Methods

Indicators

A parameter, directly measured or derived from modelling, indicating the performance or impacts of an application.

Reference Cases

The performance and impacts of an application are usually compared against some existing situation in order to show that the application meets required standards (for tests of the physical functioning of the application and user acceptance) and that use of the application is an improvement on alternative ways of achieving the objectives of the application (for user acceptance again and impact analysis). “Before and After studies” might feature in assessment of user acceptance and impact analysis.

Reference cases will vary with category of assessment objectives and may be required for individual indicators or be the same over a group of indicators or assessment objectives.

Success Criteria

This defines the expectation about the performance and impacts of the application. The success or failure of validation results is tested against this criterion. So it has a vital role in the validation methodology.

The following draft success criteria have been tentatively identified:

- reduction of processing time for environmental permits by up to 10%
- increase in efficiency of environmental permitting by up to 15%
- establishment of value-added business models which justify full-scale implementation of interactive permitting services in the sites
- significant qualitative improvements for users due to system introduction

According to the ANIMATE Guidelines definition of success should be given, as appropriate, for individual indicators, groups of related indicators, individual assessment objectives or groups of assessment objectives.

Data Gathering Tools

The following categories of tools to gather data will be applied during the course of the INTERACT implementation and test operation (see chapter 4.5.1 for a detailed deceription of these tools):

- Automatic Counts (AC)
- Factual Information Collection (FACT)
- Interviews (INT)
- Questionnaires (QUEST)
- Task Observations (TOB)
- Monetarisation (MON)

4.3 Identified Indicators

INTERACT validation is based on a common validation basis (see chapter 2.3) imposing that indicators are measured in the same way, or at least yield comparable results across the sites. The following list of indicators has been agreed upon during the WP7 Workshop held in Cologne on 25 January 2002:

Table 7: Identified INTERACT Indicators

Impact	Indicator
1 Increased efficiency of permitting process/ EIA procedure	1.1 Number of requests for support by proposers per application
	1.2 Number of required check-backs with proposers per application
	1.3 Perceived change in efficiency (for authorities and proposers/ applicants)
	1.4 Perceived acceptance of new procedure
2 Reduced duration of permitting/ EIA procedure	2.1 Time needed to prepare application by the applicant
	2.2 Duration of completing permitting/ EIA procedure
3 Enhanced interactivity with proposers and other users/ stakeholders	3.1 Perceived quality of interaction (for authorities) with proposers
	3.2 Perceived quality of interaction between authority actors
	3.3 Number of interactions with proposers per process
4 Better quality of public services	4.1 Number of electronically available information sources/ items generally
	4.2 Quantity of electronically available information sources/ items generally
	4.3 Topicality (covering different environmental “fields”) of electronically available and up-to-date information sources/ items
	4.4 Perceived quality of environmental services (including complete-ness, up-to-date, understandable, etc.)
	4.5 Change in the means of information requests on permission/ EIA process status
	4.6 Perceived relevance of change in service quality for strategic issues
5 Improved environmental information provision process	5.1 Number of accesses to meta data
	5.2 Number of accesses to real data provided through INTERACT
	5.3 Utilisation of INTERACT communication tools
	5.4 Perceived quality of internal communication

4.4 Indicator Fact Sheets

The INTERACT Validation Team identified 19 indicators. The majority of these indicators are applicable to all sites and are, therefore, considered common indicators. All indicators are thoroughly described in fact sheets which are based on the following eleven-point structure:

1. Relevance

Explanation of the relevance of the indicator for reaching project goals, expectations for and direction of indicator, contribution to measuring the impact, other background info.

2. Definitions of key terms

Precise definition of any concepts and terminology the indicator is based on.

3. Involved appraisal groups

Listing and precise description of the appraisal groups involved in data gathering for the respective indicator.

4. Methods

Explanation of the method (tool) used to gather data.

5. Reference case

Explanation how the reference case data will be measured.

6. Operational issues

Explanation of any other points regarding data gathering.

7. Success criterion

Clear identification of units of “measurement” or direction of a trend that indicates success.

8. References to other indicators

Explanation of similarities to other indicators.

9. Site-specific issues

Description of any site-specific aspects to be considered in the application of this indicator.

10. Evaluation Period

While the core evaluation period is scheduled to run from 1 May 2002 until 31 July 2002 (optional extension until 30 September 2002), data for individual indicators may only be gathered during parts of this period. The exact evaluation period for each indicator is listed under this point of the fact sheet.

11. Related Application

Listing of those INTERACT applications the indicator relates to.

Table 8: Fact Sheet for Indicator 1.1

Impact:	Increased efficiency of permitting process/ EIA procedure
Number:	1.1
Indicator:	Number of requests for support by proposers per application
Relevance:	The measurement of the number of requests for support by proposers/ applicants during the time of the permitting process is important in order to know if efficiency increases with the use of the prototype developed by this project. If the number of request for support made in the traditional way (telephone, fax, personal visits to the administration staff, etc...) decrease with the use of the system, it means that proposers are finding in it all the information they need. This means a saving of time, money and effort for both proposers and administration officers. It will also be important to analyse the nature of the request still existing after the prototype is working, in order to see if some more information or support could also be given electronically
Definition of key terms:	"Request for support" covers all the request a proposers/ applicants makes in order to prepare and/ or complete an application for permission correctly.
Involved appraisal groups:	Applicants, proposers, administration staff
Methods:	The methods to gather data will be both Automatic Count, for those supports made electronically, and Manual Count for those made directly to the administration staff
Reference case:	The reference case will be the situation before the system is installed.
Operational issues:	The number of requests for support before and after the system will be compared.
Success criterion:	The success criterion will be the decrease in the percentage of support requests made via telephone and direct to the administration staff.
References to other indicators:	Indicator 1.3: if the number of requests for support decrease, this will mean a change in efficiency for both proposers/applicants and for authorities. Indicator 1.4: If the requests for support made through electronic means a decrease of the requests for support made directly to the administration staff (visits, telephone...) it will mean that there is an acceptance of the new procedure. Indicator 5.3: The high utilisation of INTERACT communication tools will mean, in a way, that the requests for support made directly to the administration staff (visits, telephone...) will decrease.
Site-specific issues:	
Evaluation period:	The evaluation period will start three months before the implementation of the system. This will provide a reference case for the comparative analysis in order to see the percentage of request of support via telephone and direct to the administration staff before and after the prototype is installed, measuring thus the efficiency of the system.
Related application	Virtual Front Office, Environmental Permitting Assistant, Environmental Information Assistant

Table 9: Fact Sheet for Indicator 1.2

Impact:	Increased efficiency of permitting process/ EIA procedure
Number:	1.2
Indicator:	Number of required check-backs with proposers per application
Relevance:	In all permitting processes, check-backs with proposers are very frequent when the applications lack either information or some specific but compulsory requirements. One of the goals to achieve by using the Environmental Permitting Assistant is to reduce both the time and cost of the permitting process through the offer of all the information needed in order to make a complete and correct application.
Definition of key terms:	Check-backs are understood as all contacts between administration and applicants or proposers made by the administration officers in order to ask for information, data or any other requirements needed in order continue with the permitting process.
Involved appraisal groups:	Administration staff working in the permitting process.
Methods:	The methods to gather data will be both Automatic Count, for those check-backs made electronically, and manual count for those made via telephone, fax, letter or other traditional means of communication
Reference case:	The reference case will be the situation before the prototype is installed.
Operational issues:	The number of check-backs before and after the prototype is working will be compared.
Success criterion:	The success criterion will be the decrease in the percentage of check-backs needed after the instalment and use of the system.
References to other indicators:	Indicator 1.3: If the number of check-backs decrease, this will mean a change in efficiency for both proposers/applicants and for authorities Indicator 3.3: If the number of check-backs decrease, the interaction with proposers will also decrease
Site-specific issues:	
Evaluation period:	The evaluation period will start three months before the implementation of the system. This will provide a reference case for the comparative analysis in order to see the percentage of check-backs before and after the prototype is installed, measuring thus the efficiency of the prototype.
Related application	Virtual Front Office, Environmental Permitting Assistant, Environmental Information Assistant

Table 10: Fact Sheet for Indicator 1.3

Impact:	Increased efficiency of permitting process/ EIA procedure
Number:	1.3
Indicator:	Perceived change in efficiency (for authorities and proposers/ applicants)
Relevance:	Although quantitative indicators will give enough information to know if the use of the prototype increases efficiency in the processes, it is crucial to know what the opinion is not only of the users of the prototype, but also of the administration staff, in terms of the qualitative improvements they have detected due to the instalment and use of the system.
Definition of key terms:	"Efficiency" is understood as the capacity to obtain better results with the same resources. That is, the prototype offers applicants/ proposers the same amount of information but in a different way, through electronic means, and it will be efficient if better results in terms time, money and effort saving are obtained.
Involved appraisal groups:	Applicants, proposers, administration staff
Methods:	The methods to gather data will be both semi-structured interviews and questionnaires.
Reference case:	The reference case will be the ex-ante situation.
Operational issues:	
Success criterion:	The success criterion will be determined by the analysis of the results of the interviews, and the differences users and administration staff find when comparing the before and after of the system introduction in terms of saving in time, money, effort ...
References to other indicators:	This indicator is basically related to all indicators
Site-specific issues:	
Evaluation period:	The evaluation period will start when the system is available to proposers or applicants and it will end with the interviews, three months later when the permitting process is finished or about to finish.
Related application	Virtual Front Office, Environmental Permitting Assistant, Environmental Information Assistant

Table 11: Fact Sheet for Indicator 1.4

Impact:	Increased efficiency of permitting process/ EIA procedure
Number:	1.4
Indicator:	Perceived acceptance of new procedure
Relevance:	Although quantitative and other qualitative indicators can provide information to evaluate the efficiency of the system, it is also necessary to measure how the new system has been accepted by users. Sometimes something which is efficient is not well accepted by all users, and it is important to know the reasons.
Definition of key terms:	The new procedure is accepted if it covers the expectations of users and it is used satisfactorily
Involved appraisal groups:	Applicants, proposers, administration staff
Methods:	The methods to gather data will be both interviews and questionnaires.
Reference case:	The reference case will be the ex-ante situation.
Operational issues:	
Success criterion:	Satisfaction and use of the system by applicants/proposers.
References to other indicators:	Indicator 1.1: If the requests for support made through electronic means a decrease of the requests for support made directly to the administration staff (visits, telephone...) it will mean that there is an acceptance of the new procedure Indicator 5.3: The high utilisation of INTERACT communication tools will mean, in a way, the acceptance of the new procedure.
Site-specific issues:	Description of any site-specific aspects to be considered in the application of this indicator.
Evaluation period:	The evaluation period will start when the system is available to proposers or applicants and it will end with the interviews, three months later when the permitting process is finished or about to finish.
Related application	Virtual Front Office, Environmental Permitting Assistant, Environmental Information Assistant

Table 12: Fact Sheet for Indicator 2.1

Impact:	Reduced duration of permitting/ EIA procedure
Number:	2.1
Indicator:	Time needed to prepare application by the applicant
Relevance:	INTERACT is expected to speed up the permitting processes and EIA procedures. Individual work steps are anticipated to be shortened in terms of time required and the complexity of the work steps itself. The time spent for an application by applicants and proposers is expected to be reduced.
Definition of key terms:	“Preparation of an applications” includes the time the applicant requires to gather information for the application and, to record separately, the actual time to “fill-out” an application.
Involved appraisal groups:	Applicants
Methods:	Interviews, task observations, and monetarisation of data
Reference case:	The time needed to prepare an application without the use INTERACT needs to be recorded.
Operational issues:	Monetarisation of data requires that the Local Validation Managers provide information on the average income of an applicant (or other information to derive a value for time savings).
Success criterion:	Significant reductions in the time needed to prepare an application.
References to other indicators:	Indicator 2.2
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Environmental Permitting Assistant, Environmental Information Assistant

Table 13: Fact Sheet for Indicator 2.2

Impact:	Reduced duration of permitting/ EIA procedure
Number:	2.2
Indicator:	Duration of completing permitting/ EIA procedure
Relevance:	INTERACT is expected to speed up the permitting processes and EIA procedures. Individual work steps are anticipated to be shortened in terms of time required and the complexity of the work steps itself. The time spent for completion of permitting/ EIA procedures is expected to be reduced.
Definition of key terms:	“Duration of completing permitting/ EIA procedure” covers the time between submitting of the application by the applicant/ proposer until the permission or denial of the application.
Involved appraisal groups:	Applicants, permitting authorities
Methods:	The duration will be automatically measured (timed), monetarisation of data
Reference case:	The duration of completed permitting/ EIA procedures without the use of INTERACT.
Operational issues:	Monetarisation of data requires that the Local Validation Managers provide information on the average income of an applicant and a member of a permitting authority (or other information to derive a value for time savings).
Success criterion:	Significant reductions in the duration of permitting/ EIA procedures.
References to other indicators:	Indicator 2.1
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Envi ronmental Permitting Assistant, Environmental Information Assistant

Table 14: Fact Sheet for Indicator 3.1

Impact:	Enhanced interactivity with proposers and other users / stakeholders
Number:	3.1
Indicator:	Perceived quality of interaction (for authorities) with proposers
Relevance:	This indicator is one of the main points for reaching project's goal, gets an increasingly gain of time for authorities and proposers and with that it will reduce the duration of the permitting process; interaction runs on a high-quality level, i.e. by reduction of inquiries Requirements of application documents are read back electronically and for a better service the proposer can see the name of the responsible person in the authority.
Definition of key terms:	A high efficiency is defined by a reduction of inquiries and by al less time effort for the authorities.
Involved appraisal groups:	Applicants, authorities
Methods:	Interviews
Reference case:	Ex ante situation
Operational issues:	As not only the number of interactions is important but also the quality of the delivered information interviews are the most suitable means to measure this indicator.
Success criterion:	Significant change from personal towards electronic interactions with proposers
References to other indicators:	Indicators 1.1, 1.2, 1.3, 1.4 - A high quality of interaction means an increased efficiency of permitting process Indicator 2.1 - As requirements of application documents are read back electronically the quality of interaction has an influence on the time needed to prepare application by the applicant / proposer Indicator 3.3 - A change of quality of interaction can be seen in the number of interaction Indicators 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 - The quality of interaction with proposers depends on a better quality of public services
Site-specific issues:	None
Evaluation period:	Entire core evaluation period
Related application	Both Interact Modules (VFO, MWL) and Existing Modules (Different Backends) are needed

Table 15: Fact Sheet for Indicator 3.2

Impact:	Enhanced interactivity with proposers and other users / stakeholders
Number:	3.2
Indicator:	Perceived quality of interaction between authority actors
Relevance:	Reminders of deadlines will be sent electronically; direct access on the file reduces the time effort, e.g. the statement could refer to the statement of other authorities; to have a look at the actual point of process at every time; These facts cause a more transparent process and involve a reduction of time effort. By increasing quality of permitting process there will be also an enhanced interactivity with proposers.
Definition of key terms:	A high efficiency is defined by reduced time effort for the authorities and reduced requirements for interactivity between authority actors
Involved appraisal groups:	Authorities
Methods:	Interviews, Questionnaire
Reference case:	Ex ante situation
Operational issues:	See fact sheet for indicator 3.1
Success criterion:	Significant change from personal towards electronic interactions between authority actors
References to other indicators:	Indicator 1.3 - when there is more transparency in the permitting /EIA process it also has a favourable effect on efficiency Indicator 2.2 - by more electronic interaction there will be a reduced duration of permitting /EIA procedure Indicator 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 - the quality of the interaction between the authorities can depend on the quality of electronically available data / information because interaction between authorities might get redundant if the required information can be gathered electronically. By making the permitting / EIA process more transparent has a favourable effect on the quality of public services.
Site-specific issues:	None
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office

Table 16: Fact Sheet for Indicator 3.3

Impact:	Enhanced interactivity with proposers and other users / stakeholders
Number:	3.3
Indicator:	Number of interactions with proposers per process
Relevance:	The number or interactions is one criterion to see enhanced interactivity with proposers; by decreasing numbers of interaction there will be more time remaining for authority personnel to spend on other tasks.
Definition of key terms:	High efficiency means that the number of interactions goes down. Equivalent to 100% is when interaction is reduced on a number of two interactions: sending in the application and the permit
Involved appraisal groups:	Applicants, authorities
Methods:	Automatic Count, Factual Information Collection
Reference case:	Ex ante situation
Operational issues:	Qualitative aspects of interactions will also be analysed.!
Success criterion:	Significant decrease in the number of interactions
References to other indicators:	Indicator 1.1 - when efficiency increases, i.e. number of requests for support by applicants decreases, also the number of interactions will decrease Indicator 3.1 - when quality of interaction increases, the number of interactions will go down
Site-specific issues:	None
Evaluation period:	Entire core evaluation period
Related applications	Both Interact Modules (VFO, MWL) and Existing Modules (Different Backends) are needed

Table 17: Fact Sheet for Indicator 4.1

Impact:	Better quality of public services (impact 4)
Number:	4.1
Indicator:	Number of electronically available information sources/items generally
Relevance:	The indicator measures the availability of information that the user can download from the system, in particular the number of documents and information.
Definition of key terms:	"Availability of information" means that the user testing system is able to get all the information needed in order to submit a permit or to get information about the administrative procedure.
Involved appraisal groups:	In order to measure the number of available information it should not be necessary to involve any appraisal group nevertheless both professional users and citizens in order to test the satisfaction coming from the use of the system.
Methods:	Factual Information Collection (FACT). Count of information sources available via Interact. Each piece of information, document should be counted (manually) in order to obtain the quantitative measurement of the information availability.
Reference case:	Quantitative measurement
Operational issues:	The counting of data available could provided the general result divided into different types of countable data, e.g. documents or guidelines (information concerning EIA procedure)
Success criterion:	
References to other indicators:	The indicator is similar to the next one: 4.2. The difference stays in the meaning of information: this one is countable (number of..) the following is measurable (quantity of..). The following needs to find out a measurement unit.
Site-specific issues:	
Evaluation period:	May – September 2002. After the development of the three software modules, information and data have to be made available within Interact.
Related Application	Virtual Front Office, Information Assistant, Permitting Assistant

Table 18: Fact Sheet for Indicator 4.2

Impact:	Better quality of public services (impact 4)
Number:	4.2
Indicator:	Quantity of electronically available information sources/items generally
Relevance:	The indicator measures the quantity of available information that the user can download from the system.
Definition of key terms:	"Quantity of available information": in terms of bytes (or any other measurement unit) has to be provided a report of information downloadable through the system.
Involved appraisal groups:	No direct involvement of appraisal group could be foreseen.
Methods:	Automatic Counts
Reference case:	Quantitative measurement
Operational issues:	Automatic tools as counting of the downloaded data from Interact VFO
Success criterion:	Clear identification of the unit of "measurement" or the direction of a trend that indicates success.
References to other indicators:	See previous indicator 4.1
Site-specific issues:	Piedmont site do not apply the permitting assistant so no quantitative measurement is possible in this site.
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Environmental Information Assistant, Environmental Permitting Assistant

Table 19: Fact Sheet for indicator 4.3

Impact:	Better quality of public services (impact 4)
Number:	4.3
Indicator:	Topicality (covering different environmental "fields") of electronically available and up-to-date information sources/items
Relevance:	The indicator measure the quality of information that the user can get from the system
Definition of key terms:	"Topicality" implies an indication about the completeness of items available in the system. "Up-to-date" implies the revision and updating of the information that the user can get from Interact
Involved appraisal groups:	Both external users and internal users are involved in measure the indicator. Members of the appraisal groups professional users and citizen can be interviewed in order to find if the expectation of information is satisfied through the use of the system. The internal users (people from the public administration) can be contacted and asked to fill a questionnaire.
Methods:	Information and data have to be checked in order to find out whether they are updated and covered every field of the permitting procedure. In order to have suggestions and comments could be involved the appraisal group of the professional users of the permitting procedure.
Reference case:	Qualitative measurement
Operational issues:	
Success criterion:	A list of different fields concerning EIA procedure should be provided in order to check the completeness of the documentation available within Interact.
References to other indicators:	The indicator is similar to the following indicator 4.4. Both indicators depend upon the perceived quality of the information available through Interact; indicator 5.4: perceived quality of internal communication
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Environmental Information Assistant, Environmental Permitting Assistant

Table 20: Fact Sheet for Indicator 4.4

Impact:	Better quality of public services (impact 4)
Number:	4.4
Indicator:	Perceived quality of environmental services (including completeness, up-to-date, understandable, etc…)
Relevance:	The indicator measures the quality of information that the user can get from the system
Definition of key terms:	"Quality of information": the concept implies that information available through Interact could be periodically checked by administrators of the EIA procedure. "Completeness": any information is given concerning each item covered. "Up-to-date": update information and data concerning EIA procedure, legislation currently in force "Understandable": clearness of available information (it also concerns the provision of a friendly interface).
Involved appraisal groups:	Both external users and internal users are involved in measure the indicator.
Methods:	Interviews will be undertaken in a semi-structured manner. In the present indicator it will be used for collecting opinion of professional users involved in EIA procedure. Questionnaires will be mainly concerned with the collection of opinions, stated preferences or judgements on quality by a significantly large appraisal group
Reference case:	Qualitative measurement through provision of questionnaire to be filled and interviews to be performed.
Operational issues:	Interview guideline will be provided to collect opinions of direct user like administrators of EIA procedure, whereas questionnaire will be used to collect opinion coming from large number of user, e.g. professional users and people involved in EIA procedure but not administrators.
Success criterion:	The satisfaction level of the users can be considered as achieved if the percentage of positive answers in the questionnaire will get 80%.
References to other indicators:	Indicator 1.3: perceived change in efficiency
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Environmental Information Assistant, Environmental Permitting Assistant

Table 21: Fact Sheet for Indicator 4.5

Impact:	Better quality of public services (impact 4)
Number:	4.5
Indicator:	Change in the means of information requests on permission/EIA process status
Relevance:	The indicator measures the perceived change in getting information about EIA procedure and compares the situation before and after the use of Interact tools.
Definition of key terms:	"Means of information requests": are systems to get information about EIA procedure. "Process status" concerns the current status of an EIA procedure.
Involved appraisal groups:	Direct users (professional users) and indirect users (citizens).
Methods:	FACT (manual counting) and AC tools
Reference case:	Counting how many accesses to information sources will be performed in the evaluation period.
Operational issues:	Data concerning information request submitted to the system,
Success criterion:	Clear identification of the unit of "measurement" or the direction of a trend that indicates success.
References to other indicators:	Connection with indicator 1.3 – perceived change in efficiency; 3.3 number of interactions with proposers per process
Site-specific issues:	Piedmont site does not apply the Environmental Permitting Assistant
Evaluation period:	Entire core evaluation period
Related application	Environmental Information Assistant, Environmental Permitting Assistant

Table 22: Fact Sheet for Indicator 4.6

Impact:	Better quality of public services (impact 4)
Number:	4.6
Indicator:	Perceived relevance of change in service quality for strategic issues
Relevance:	The indicator measures how the improvement of services coming from INTERACT application can have effects on strategic issues both of proposers and EIA authorities.
Definition of key terms:	“Strategic issues”, from proposer’s point of view, means capital decisions about the type of submission; from the authorities’ point of view, it means the possibility to organise in a different way submission procedure.
Involved appraisal groups:	Both external users and internal users are involved in measure the indicator.
Methods:	Interviews and questionnaires
Reference case:	Two types of interview guidelines: one for external users the other for strategic planners. The questionnaire is for collecting comments from authorities involved in managing EIA procedures.
Operational issues:	Result of interviews will be summarised in a report. Data coming from the completion of the questionnaire will be provided and processed in percentage.
Success criterion:	
References to other indicators:	Indicator 3.1: perceived quality of interaction (for authorities) with proposers; Indicator 3.2 perceived quality of interaction between authority actors.
Site-specific issues:	Piedmont site will not apply Environmental Permitting Assistant
Evaluation period:	Entire core evaluation period
Related application	Environmental Information Assistant, Environmental Permitting Assistant

Table 23: Fact Sheet for Indicator 5.1

Impact:	Improved environmental information provision process
Number:	5.1
Indicator:	Number of accesses to meta data
Relevance:	Environmental information provision plays a crucial role in the INTERACT project. Improvements in the environmental information provision are expected to result in an increased number accesses to environmental data and a high usage level of communication tools provided through INTERACT.
Definition of key terms:	“Meta data”: Data about data
Involved appraisal groups:	Maintainers, applicants
Methods:	Automatic Count
Reference case:	No formal reference case
Operational issues:	Hit counts will need to be analysed.
Success criterion:	It will need to be determined what a significant number (aspired) of accesses to meta data will be.
References to other indicators:	Indicator 5.2
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Environmental Information Assistant

Table 24: Fact Sheet for Indicator 5.2

Impact:	Improved environmental information provision process
Number:	5.2
Indicator:	Number of accesses to real data provided through INTERACT
Relevance:	Environmental information provision plays a crucial role in the INTERACT project. Improvements in the environmental information provision are expected to result in an increased number accesses to environmental data and a high usage level of communication tools provided through INTERACT.
Definition of key terms:	Real data as opposed to meta data.
Involved appraisal groups:	Maintainers, applicants
Methods:	Automatic Count
Reference case:	No formal reference case
Operational issues:	Hit counts will need to be analysed.
Success criterion:	It will need to be determined what a significant number (aspired) of accesses to real data will be.
References to other indicators:	Indicator 5.1
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Environmental Information Assistant

Table 25: Fact Sheet for Indicator 5.3

Impact:	Improved environmental information provision process
Number:	5.3
Indicator:	Utilisation of INTERACT communication tools
Relevance:	Environmental information provision plays a crucial role in the INTERACT project. Improvements in the environmental information provision are expected to result in an increased number accesses to environmental data and a high usage level of communication tools provided through INTERACT.
Definition of key terms:	Communication tools are electronic means offered for information exchange between applicants/ proposers and members of permitting authorities (or between individual members of permitting authorities)
Involved appraisal groups:	Applicants/ proposers, members of permitting authorities
Methods:	Task observations, factual information collection, automatic counts, interviews, and questionnaires
Reference case:	No formal reference case, however, the level of communication with INTERACT will be compared to the situation without INTERACT.
Operational issues:	Specific tasks to communicate with either applicants/ proposers or members of permitting authorities will be defined. The completion of these tasks in regard to the utilisation of communication tools will be documented.
Success criterion:	High use of INTERACT communication tools. Success criterion is not yet operational and will be determined in the course of the evaluation process.
References to other indicators:	Indicator 5.4
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Environmental Information Assistant, Environmental Permitting Assistant

Table 26: Fact Sheet for Indicator 5.4

Impact:	Improved environmental information provision process
Number:	5.4
Indicator:	Perceived quality of internal communication
Relevance:	Environmental information provision plays a crucial role in the INTERACT project. Improvements in the environmental information provision are expected to result in an increased number accesses to environmental data and a high usage level of communication tools provided through INTERACT.
Definition of key terms:	“Internal communication” refers to the communication between members of the permitting authorities.
Involved appraisal groups:	Members of permitting authorities.
Methods:	Interviews and questionnaires
Reference case:	Statements about the quality of internal communication have to be obtained in interviews and questionnaires.
Operational issues:	
Success criterion:	Significant qualitative improvements in internal communication
References to other indicators:	Indicator 5.3
Site-specific issues:	
Evaluation period:	Entire core evaluation period
Related application	Virtual Front Office, Environmental Information Assistant, Environmental Permitting Assistant

4.5 Common Data Gathering

4.5.1 Categories of Common Data Gathering Tools

The individual tool categories can be described as follows:

Automatic Counts (AC): As input to the system building process, WP7 will define a specific set of requirements for automatic measurement of data related to the extent of the services offered in INTERACT (for example, number of requests for support by proposers), but also more classical automatic counts like number accesses to common databases and websites.

It is expected that these data will be made available in a crude form automatically by the system in regular time intervals (e.g. daily). During evaluation, these data will have to be compared to a meaningful base in order to derive, for example, percentages. However, it will also be useful to derive "stand alone" time series, for example of actual system use.

Factual Information Collection (FACT): It may be the case that some simple facts can only be collected “manually” usually without involving an appraisal group directly. For example the number of electronically available information sources/ items may require a manual categorisation.

Interviews (INT): Interviews will be undertaken in a semi-structured manner. An interview guideline will outline a briefing to the interviewee, kick-off and prompting questions and key issues for which statements should be collected, as well as a common format for recording and analysing responses.

In INTERACT in-depth interviews will be conducted with, for example, key actors in permitting processes.

Questionnaires (QUEST): Questionnaires are one of the standard tools of empirical social research. They are also commonly summarised under the category "survey".

In the context of INTERACT evaluation, the more specific understanding is that questionnaires will be mainly concerned with the collection of opinions, stated preferences or judgements on quality by a significantly large appraisal group, i.e. in the case of INTERACT, public users (searching for environmental information). In INTERACT, questionnaires could, for example, be used for establishing perceived quality changes of environmental services or changes in the level of public knowledge about environmental information.

In order to yield a sufficient number of valid results (100 response are the minimum requirement for statistical reasons), end user questionnaires will be relatively brief and will be made available in the national languages.

Task Observations (TOB): The execution of routine tasks (for example submitting a permission request or inquiring about the status of a request) will change significantly through INTERACT. Members of appraisal groups will be asked to document how they completed a given task or, alternatively, allow observation during task completion. The focus of task observations will be on the time needed to complete a given task (e.g. without/ with INTERACT).

Monetarisation of Data (MON): Monetarisation is a classical process of socio-economic research of assigning monetary values to, for example, time gains due to a more efficient permitting procedure. The primary objective of monetarisation is to determine costs and

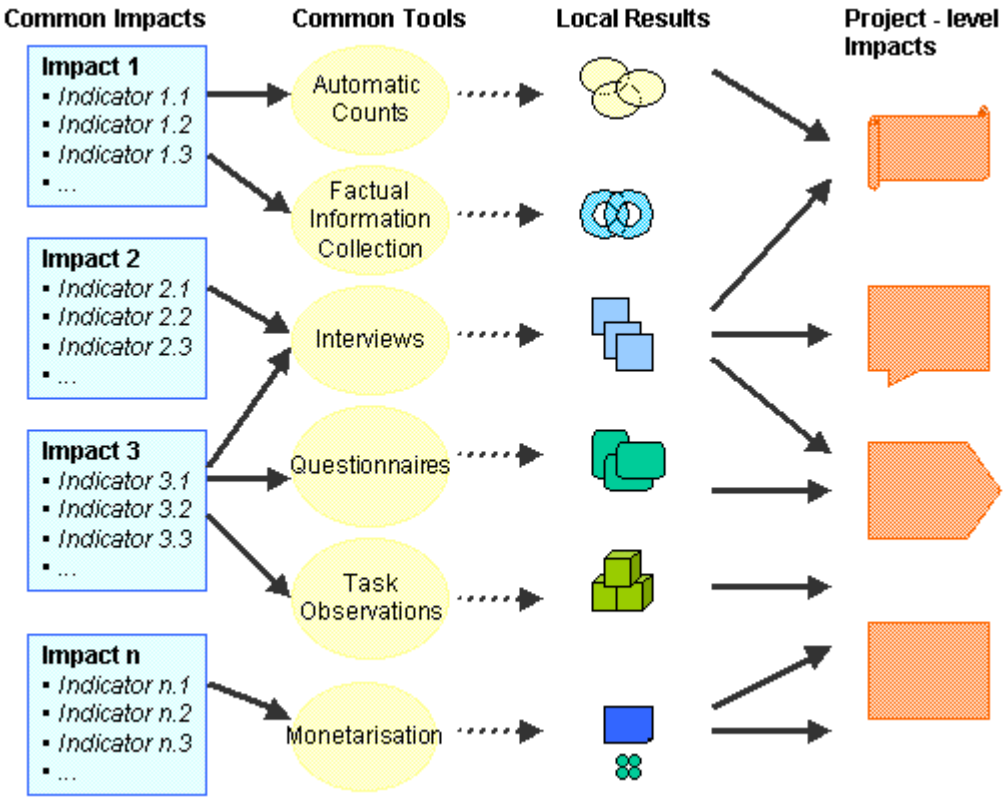
benefits of an INTERACT system introduction. The main input data will be observed time gains from observation and system introduction/ maintenance costs.

4.5.2 Common Approach

During the practical exercise, it will be important to achieve an efficient and co-ordinated approach towards actual data gathering of indicators at all INTERACT sites.

Common operational dat agathering tools have been identified which enable Local Validation Managers to approach their target groups in a co-ordinated manner and to save resources. The integration of these common tools in the process of operational evaluation is illustrated in figure 2.

Figure 2: Integration of Data Gathering Tools in the Evaluation Process



One tool can appropriately gather data for more than one indicator (e.g. a questionnaire can address a couple of divers issues). At the same time, data for one indicator may have to be gathered by more than one tool (e.g. specific aspects of an indicator may require an in-depth interview with key actors, but may have to consider responses to a more simply designed questionnaire among the larger group of citizens in search for environmental information).

It is the understanding within WP7 that the INTERACT Local Validation Managers will jointly develop tools for data gathering. The Validation Team agreed that each site takes the lead in developing at least one tool. Hence, there will always be one tool development leader and three followers. The followers adapt the tool developed by the leader, thereby ensuring common and co-ordinated data gathering conditions throughout all four sites.

Certain tools will have to be translated into the national language of the followers while other tools may have to be customised marginally in order to account for possible site-specific issues. A timetable for the development of tools and on an allocation of responsibilities to develop the tools has been agreed upon.

It has to be kept in mind that tools will have to be pre-tested. For some tools, pre-testing agreements with WP6 (Implementation and Test Operation) will have to be agreed on. Furthermore, a formal set of technical requirements regarding automatic measurement tools will have to be established.

For translations and "customising" due to site-specific requirements, sites have two weeks after completion by the tool development leader. "Customising" requires that Local Validation Managers investigate which surveys exist in their country in order to keep the reference cases compatible. The data gathered within INTERACT should be usable for the sites for further internal analysis. Therefore, it needs to be consistent with existing surveys regarding, for example, demographic characteristics such as age groups, income classes, education levels, etc.

Data for some indicators may be gathered by means of an interview and a questionnaire. Interviews are useful if opinions of a limited number of individuals (for example key actors in the permitting process) are of interest. Questionnaires, on the other hand, can document well the opinions of a larger (appraisal) group of individuals. Tool developers will take advantage of a certain redundancy of these tools. When preparing interview guidelines, a questionnaire could be "verbalised." In other words, optional answers that are provided in questionnaires in written form could be incorporated in the interview guidelines, thereby facilitating the job of an interviewer to document and later summarise the answers received.

4.6 Future Validation Tasks

Future steps in WP7 during the operational evaluation phase include:

- development of data gathering tools (by tool development leaders),
- pre-testing, adjusting and, if necessary, translation of tools (by tool development followers),
- gathering of reference case data,
- gathering of data during the INTERACT Core Evaluation Period,
- data validation and reporting by the Local Validation Managers,
- data analysis by the independent Validation Manager,
- Preparation of the Final Validation Report by the independent Validation Manager.

5 Verification Stage

The approach and methodologies of verification tasks in WP5 and WP6 will be very closely integrated with the overall validation planning in WP7.

5.1 Preliminary Verification

Within WP5 (System Design and Prototyping), design options and results from the prototype development will be tested and used to verify that all user needs and functional requirements are satisfactorily covered by the design. The results from the verification exercise will then be used to update the system design.

5.2 Final Verification

Within WP6 (Implementation and Test Operation), the Interact system will be subject to a final verification exercise that will lead to modifications of the system programming. Verification will include reactions of all users.

6 Further Steps

Expansion of Regional Results

It will be necessary to expand the results of the demonstration stage of validation as part of the validation. WP7 will develop a methodology to expand these results on the regional level in order to be able to provide overall conclusions on the project level. An appropriate expansion methodology (e.g. simulation, extrapolation, professional judgement) will be developed

Identification of Potential for European Added Value

In terms of European added value the joint European development of advanced technologies to address environmental legislation – as envisaged in INTERACT - offers excellent market conditions for European Industry. In WP7 conclusions will be drawn on the suitability and viability of the INTERACT system, its benefits and European added value.

WP7 will endeavour to undertake further analyses in (tentatively) the following areas:

- costs and benefits (i.e. monetarisation of key impact analysis results)
- contribution to European policies and strategic initiatives

This enables a coherent approach to a successful exploitation and business phase (WP8). and will also be the basis for dissemination activities (WP9).

7 Conclusions

The Final Validation Plan is a document that will serve Local Validation Managers, the independent Validation Manager and everybody involved in the opertional evaluation phase of the project as the primary point of reference.

It clearly defines impacts, indicators, assessment methods, and data gathering tools as the key elements of the evaluation process.

The Final Validation Plan is the result of various constructive consultations among the INTERACT Validation Team and emphasises commonality of impacts, indicators, and data gathering tools used in the sites involved in this European project.

The document is based on the Draft Validation Plan (project deliverable D7.1) which was well-perceived by the European Commission as “ambitious, well-prepared and of a good quality”. In addition to the Draft Validation Plan, the present document also includes an updated list of indicators, detailed descriptions in a fact sheet format of each indicator and a list of common data gathering tools to be used during the operational evaluation phase.

The Final Validation Plan is also directly based on the “INTERACT Guidelines for Local Evaluation” (see annex 1). The latter document is a complementary and non-contractual document that was developed by the independent Validation Manager, in terms of time, between the Draft and the Final Validation Plan. It was required to bring everybody involved in WP7 on the same course after the project was halted for seven months in 2001 and in order to introduce the data gathering tools and the concept of developing these tools.

With the “INTERCAT Guidelines for Local Evaluation” and the Final Validation Plan being developed in parallel, everybody involved in INTERACT evaluation in encouraged to use both documents as reference points.

References

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Appendices

Annex 1: Guidelines for INTERACT Local Evaluation