

DOCUMENT

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Deliverable D8.3**Draft plan for disseminating the use of foreground
(PUDF)****AUTHORS**

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EXECUTIVE SUMMARY

The overall objective of WP8 “Technology transfer to SMEs, Dissemination and Exploitation” is:

- The transfer from the RTDs to the SMEs of the developments achieved during the project,
- Intellectual Property Management,
- Dissemination of the scientific and academic background concerning the RPB HealTec Concept,
- Compilation of the agreed strategy for exploiting the project results by the SMEs,
- Implementation of market oriented dissemination activities.

At the present stage of the tasks T8.2 “Market research and development” and T8.5 “Dissemination Activities”, D8.3 covers the planning of a set of concrete dissemination actions in order to achieve the effective communication of the project results; from an academic, industrial (construction companies, Governmental Road departments, service companies), NDT and general public point of view.

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ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ACU	Air-Coupled Ultrasound
DB	Database
EUs	End Users
GPR	Ground Penetrating Radar
GPS	Global Positioning System
HDV	High Definition Video
IP	Intellectual Property
IRT	Infrared Thermography
ISB	International Standardisation Bodies
NDT	Non-Destructive Testing
QC/QA	Quality Control and Acceptance
REA	Research Executive Agency
SHRP	Strategic Highway Research Program
WP	Work Package

1 INTRODUCTION

1.1 RPB HealTec concept overview

The European Road Network is undoubtedly one of the most important land infrastructures in the EU. It is and will remain for the foreseeable future a crucial artery for Europe, both in economic terms, as it services the vast majority of goods traffic, and in social terms, as it does so for passenger travel as well. Maintenance is considered to be the most expensive function of a high-way operating agency, so there is a special need for the early detection of deterioration mechanisms and of potential presence of defects through a more advanced road pavements inspection technology.

The RPB HealTec project system will detect the presence of defects, determine the cause, extent and rate of deterioration. It will provide information for assessing stability, serviceability and for evaluating the cost-effectiveness of various remedial measures and provide this information in real time, without causing traffic disturbances.

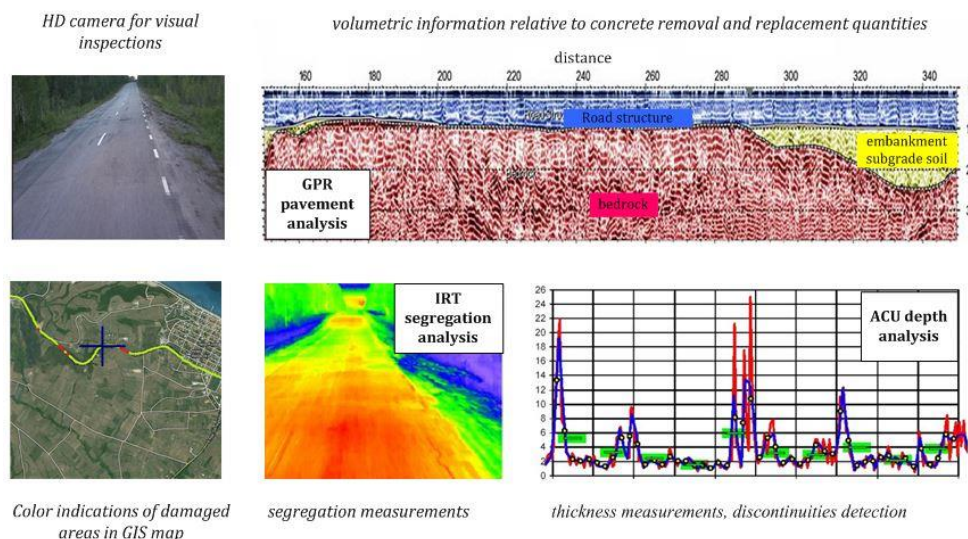


Figure 1.1 RPB HealTec concept: integration of NDT technologies

The system is aiming to upgrade and optimize the inspection & maintenance of the European roads, reducing costs and increasing traffic safety. It will this achieve by developing a novel automated and integrated NDT (Non Destructive Techniques) system for high speed analysis and evaluation. The system will demonstrate the value of combining 3 technologies: Ground Penetrating Radiography, InfraRed Thermography and Air Coupled Ultrasonic testing, with near real-time data transfer, analysis as a reliable, fast and safe tool for pavement inspection. The project system incorporates and drastically enhances the capabilities of the 3 different techniques, to produce quantitative, reliable, precise and continuous measurements at-traffic-speed. The research & innovation outcomes will be to obtain: GPR capable of detecting adjacent layers of the same materials, high speed image capturing Thermography and continuous ACU inspection at traffic speed as a 100% coverage measurement tool. Computational intelligence and multi-modal data fusion will play a key-role in RPB HealTec project acting as the integrator of the different NDT techniques.

This new concept will improve the monitoring conditions, both, in time and accuracy, and therefore decrease the operating costs by reducing the unnecessary maintenance of pavements and/or bridge decks, and most importantly just in time maintenance. This will provide the following benefits:

- Optimisation of maintenance procedures thus increasing the average life of a pavement and/or bridge deck.
- Improvements in the calculation methods that will be implemented for new pavement design and analysis.
- Reduction of at least 0.1% on future pavement construction and maintenance costs, translating to savings of EUR 60 million in the EU27 within the first six years after completion.

The system's novel advantages are linked to the benefits of its unique selling points, offering: i.e. an innovative IRT technique capable of monitoring at traffic speeds (>60km/h) instead of 10-15 km/hr as the current state-of-the-art shows, an innovative ACU technique capable of monitoring continuously and at traffic speeds, instead of the stationary capability of the current state-of-the-art, an innovative GPR technique capable of inspecting adjacent layers of the same materials at traffic speeds. The simultaneous use of IRT, ACU and GPR techniques (the three sets of equipment will be mounted on the same vehicle, so unnecessary data collection and traffic delays will be avoided and the whole system could monitor at traffic speeds), in situ prompt results and apparent mapping of pavement condition due to the use of the advanced scanners' system. Moreover the system's advantages over the existing technologies are in detail outlined in "Innovative character in relation to the state-of-the-art" Section 1.2 of Section 1.

It is very important for the partners to build a cost-effective tool, that it will be more easily accepted by the potential clients. This is guaranteed by the fact that RPB HealTec integrated method will perform several different tests simultaneously, gathering data and results more increasing efficiently. All the tests will be performed automatically, and there will be no need of using different test teams, reducing accumulating costs. This new integrated project will help the Europe claim the biggest share of the market for surface transport and construction maintenance. The development of high-tech SMEs is taken into consideration. For this purpose, various SMEs from different European countries are participating in the consortium.

Moreover, the SMEs are engaged in most of the work packages, in order to extend their field of application. The techniques used are broadly accepted internationally. Even the integrated product that will be developed during the project, will be based on these techniques and will be easily accepted and used by anyone familiar with each one of any NDT technique. It is very important for the partners that the final product of the project can be expanded to other applications outside pavement management. To achieve this, the partners have chosen the most broadly accepted techniques to be developed, which have the potential to be applied at high speeds. The chosen technologies are complementary to each other in the sense that one method's disadvantages are weighted against the other two methods' advantages.

1.2 Objectives of WP8 “Technology transfer to SMEs, Dissemination and Exploitation”

Throughout the project duration, the WP8 “Technology Transfer to SMEs, dissemination and exploitation” tasks are designed to address:

- the appropriate knowledge transfer from the RTDs to the SMEs of the developments achieved during the project,
- intellectual property management,
- dissemination of the scientific and academic background concerning the RPB HealTec Concept,
- compilation of the agreed strategy for exploiting the project results by the SMEs,
- implementation of the market-oriented dissemination activities as a key part of the overall success of the project.

The deliverable D8.3 “Draft plan for disseminating the use of foreground” is the first of two deliverables with respect to PUDF of the RPB HealTec results and it focuses on preliminary formalisation of the project exploitation, dissemination strategy and action plan.

Consequently, the main goals of the dissemination plan induce:

- Raising awareness about the RPB HealTec project objectives, progress and results within the network of the stakeholders including potential users, customers and researchers,
- Dissemination of the information about the NDT methods developed for roadway/bridge deck inspection and the exchange of the generated scientific knowledge with related research projects,
- Preparation of the basis for the exploitation of the project results.

The corresponding dissemination strategy is based on identification and description of the following key elements:

- the subject and objectives of dissemination (the RPB HealTec final product),
- the target audience (based on the market analysis),
- dissemination methods and tools,
- the relevant dissemination venues (conferences, exhibitions and magazines) and networking activities (e.g., EU funded projected).

2 PLAN FOR DISSEMINATING THE USE OF FOREGROUND

2.1 Dissemination strategy

In the course of task T8.5 “Dissemination Activities”, the consortium preliminary identified a set of concrete dissemination actions in order to achieve effective communication of the project results, from an academic, industrial and a commercial point of view, to the infrastructures industry sector, the NDT sector and also to general public. In this sense, the implementation of the plan for disseminating the use of foreground covers the following:

- A project website will be updated on a regular basis until the end of the project and beyond to include the pre-commercial and commercial phases of RPB HealTec.
- Taking advantage of the contacts and commercial networks of the consortium partners. A contact list was built up gathering contact details worldwide of construction companies, governmental road departments, service companies, etc.
- A paper will be written and distributed through different media annually compiling all public information and summarizing the achievements reached.

- The fully commercialized RPB HealTec design will be disseminated through publications in well-known international and European conferences.
- As an end-of-project deliverable, a public showcase will be performed to exhibit the performance capabilities of the RPB HealTec system and the features of the GUI. The showcase will be based on videos, photos and featuring data, compiled during testing and training activities, which will be uploaded to the project website, YouTube and social networks. The public Showcase will be also presented in a workshop or conference for advertising the RPB HealTec prototype.

Besides the final RPB HealTec product, the subject of dissemination also includes the employed technologies and methods, evaluation testing results, and innovation aspects.

2.2 Target audience

2.2.1 Internal dissemination

With respect to internal dissemination of the project results, the research organisations will develop training programmes in NDT techniques with the help from the SMEs. Research reports will be produced and disseminated through local workshops/seminars to be organised by the participating SMEs and RTDs. Non-confidential information will be made available on the SMEs' websites and will also be presented as appropriate at European road maintenance and NDT conferences and seminars (see Section 2.5). Awareness programmes will be developed both for road maintenance SMEs and for major end-user organisations such as road network administrators and public authorities throughout Europe. These will promote the exploitation of the developed technology.

Transferring the knowledge generated during the project from the RTDs to the SMEs, which will take over the project results for further development and final commercialization of RPB HealTec as a commercial product, is considered vital to the consortium. To this end, in addition to technical meetings planned every 4 months (to ensure that all participants are fully informed about the work progress), following the preliminary product testing results training sessions will be organized. During the testing activities detailed in WP7, where the RTDs will train the SMEs to the different parts of the system, their interconnection and functionality. Once testing activities are finalized, additional training sessions will be organised, where RTDs will provide specialist information to the SMEs regarding the finer details of the development.

2.2.2 External dissemination

During the project, substantial co-operation will be needed between the partners from different EU countries, in order to benefit the exploitation of the research results and the post-project market launch stage. Consortium partners – in particular SMEs - will find other opportunities based on their pooled knowledge for mutually beneficial co-operation on products for other applications and market sectors. SMEs from different countries participate in the consortium, so that the exploitation of the project results will be carried out more easily and the techniques that will be used to develop the proposed tool, are broadly accepted, and will have lots of applications.

Moreover, the consortium, incorporating SMEs from Greece, UK, Italy and Netherlands, end users from Italy and Romania and RTDs from UK and Greece will result in a widespread application of the project's technology, which means that all countries will benefit. The dissemination of the project results in different European countries will open a larger potential market for the developed integrated system. In other words, the European cooperation will enhance competences in the EU roadway industry.

Successful system exploitation of the RPB HealTec directly depends on the quality of the system performance (trial results) and the end user oriented strategy. Consequently, the development of the exploitation plan will involve building up an extensive contact base, which might also alter and/or extend the system specifications the with respect to the specific requirements of the potential RPB HealTec users. Task 8.2 "Market research and development" involves gathering of information about possible clients for the newly developed NDT tool, as well as the needs of road construction and maintenance industry for the development of new methodologies for identification of the nature of the damage, its position and its extent in pavement structures. Taking advantage of the contacts and commercial networks of the consortium partners, a preliminary contact list (Table 2.1) have been built up gathering contacts worldwide in industry sector, Government bodies and policy makers, academy/research sector, and international standardisation bodies.

In summary, the potential RPB HealTec stakeholders will include construction companies, Governmental Road departments, and service NDT companies (industrial sector):

- The government highway agencies of the EU countries for example: The German federal controlled-access Bundesautobahn highway system network, The Netherlands with its one of the densest motorway networks in Europe, the Latvian State Roads, the developing highway infrastructures in Romania and Bulgaria under the EU's transport operational programme.
- Toll road operators such as Atlantia group and Autostrada del Brennero SpA in Italy; the SANEF and Cofiroute in French AutoRoute system; the M6 Toll road and Second Severn Crossing PLC in the UK and airports (e.g., Athens International Airport).
- Organisations that provide highway asset management and maintenance services will form the core of the exploitation plan. This includes companies providing geophysical survey such as KOAC•NPC in Netherlands and METGEO in the UK and/or road asset management services (YOTTA in the UK and Fugro Geospatial worldwide). Consultation with NDT service companies is essential as future policy ought to reflect the requirements of the private sector and has to be involved to a higher degree in all phases, from design to implementation.
- Multinational road network projects such as: TERN (Trans-European road network), NORDIC (Nordic Road & Transport Research), BRA (Baltic Road Association), EuroRAP (European Road Assessment Programme) - are another avenue for cooperation and investigation of their requirement to the NDT pavement inspection standards.

In addition, communication with such academic and research associations as European Union Road Federation, UKRLG (UK Roads Liaison Group) and CIHT (Chartered Institution of Highways and Transportation) will provide beneficial information on the codes of practices in road condition assessment (e.g., TRACS type surveys), the latest developments, and QA procedure such as in UKPMS (UK Pavement Management System).

Table 2.1 RPB HealTec external audience (market research)

Field of work	Country	Organisation	Website
EU Government Road Agencies and Certification bodies	Norway	Norwegian Public Roads Administration / Statens vegvesen	www.vegvesen.no
	Switzerland	Federal roads office FEDRO / Bundesamt für Strassen ASTRA	www.astra.admin.ch
	Switzerland	ABICert / Ente di Cetrificazione ed Ispezione	www.abicert.it
	Italy	National Autonomous Roads Corporation / ANAS S.p.A.	www.stradeanas.it
	Latvia	Latvian State Roads / Latvijas Valsts ceļi	www.lvceli.lv
	Romania	The Romanian National Company of Motorways and National Roads (CNADNR) / Compania Nationala de autostrazi si Drumuri Nationale din Romania	www.cnadnr.ro
	Sweden	Swedish Transport Administration / Trafikverket	www.trafikverket.se
	Lithuania	Lithuanian Road Administration (LRA) / Lietuvos Automobilių Kelių Direkcija	www.lra.lt
	Finland	Finnish Transport Agency / Liikennevirasto	www.liikennevirasto.fi
	France	ASFA - French Motorway companies association / L'ASFA association	www.autoroutes.fr
	Denmark	Danish Transport Authority / Trafikstyrelsen	www.trafikstyrelsen.dk
	Belgium	Government agency for mobility and transport	www.mobiliteit.belgium.be
	Germany	Federal Ministry of Transport and Digital Infrastructure / Bundesministerium für Verkehr und digitale Infrastruktur (BMVI)	www.bmvi.de
	Austria	ASFINAG / Austria's autobahn agency	www.asfinag.at
	Netherlands	Rijkswaterstaat agency of Dutch Ministry of Infrastructure and the Environment	www.autosnelwegen.nl
	Czech Republic	The Road and Motorway Directorate of the Czech Republic (RSD CR) / Ředitelství silnic a dálnic ČR	www.rsd.cz
	Spain	The General Roads Directorate / Sp. Dirección General de Carreteras	www.sct.gob.mx
	Slovakia	National Motorway Company of Slovakia (NDS) / Národná diaľničná spoločnosť	www.ndsas.sk
	Croatia	Croatian roads / Hrvatske ceste	www.hrvatske-cestes.hr
	Greece	Greece Ministry of Infrastructure, Transport and Networks	www.yme.gr
	Bulgaria	Road Infrastructure Agency (RIA) / Агенция "Пътна Инфраструктура"	www.api.bg
	Portugal	Portugal Road Agency / EP Estradas de Portugal SA	www.estradasdeportugal.pt
	Cyprus	Department of Road Transport	www.mcw.gov.cy
	Poland	The General Directorate for National Roads and Motorways (GDDKiA) / Generalna Dyrekcja Dróg Krajowych i Autostrad	www.gddkia.gov.pl
	Hungary	National Motorway Management Co. / Nemzeti Infrastruktúra Fejlesztő Zrt.	www.nart.hu
	UK	Highways Agency	www.gov.uk/government/organisations/highways-agency

				ons/highways-agency
	Ireland	The National Roads Authority / NRA / An tÚdarás um Bóithre Náisiúnta		www.nra.ie
	Estonia	Estonian Road Administration / ERA		www.mnt.ee
	Slovenia	Motorway Company in the Republic of Slovenia / DARS d.d.		www.dars.si
	Serbia	Roads of Serbia / Путеви Србије		www.putevi-srbije.rs
Confessional and Private Motorway, Bridge, and Tunnel Operators	Italy	Atlantia Group	toll road operator	www.atlantia.it
	Italy	Autostrada del Brennero SpA	toll road operator	www.autobrennero.it
	Italy	Autovie Venete SpA	toll road operator	www.autovie.it
	Italy	Autostrade of Italy / Autostrade per l'Italia S.p.A.	toll road operator	www.autostrade.it
	Italy	SATAP Spa	toll road operator	www.satapweb.it
	France	SANEF / Société des Autoroutes du Nord et de l'Est de la France	toll road operator	www.sanef.com
	France	SAPRR / Autoroutes Paris-Rhin-Rhône	toll road operator	www.parisrhinrhone.fr
	France	Cofiroute / Compagnie Industrielle et Financière des Autoroutes	toll road operator	www.cofiroute.fr
	Greece	MOREAS S.A. / Αυτοκινητόδρομος Μωρέας	toll road operator	www.moreas.com.gr
	Greece	Athens International Airport S.A. (AIA) / Eleftherios Venizelos	airport	www.aia.gr
	Greece	EGNATIA ODOS S.A.	toll road operator	www.egnatia.eu
	Portugal	Brisa – Auto-estradas de Portugal, S.A.	toll road operator	www.brisa.pt
	UK	M6toll road operator	toll road operator	www.m6toll.co.uk
	UK	Second Severn Crossing PLC	toll bridge operator	www.severnbridge.co.uk
	Ireland	Celtic Roads Group		www.crg.ie
	Austria	The Karawanks Tunnel / Karawankentunnel	tunnel operator	www.karawankentunnel.de
	Sweden	The Øresund Bridge / Öresundsbron	toll bridge operator	www.oresundsbron.com
	Ireland	The Dublin Tunnel / Tollán Bhaile Átha Cliath	tunnel operator	www.dublintonnel.ie
	Netherlands	Western Scheldt Tunnel / N.V. Westerscheldetunnel	tunnel operator	www.westerscheldetunnel.nl
	Cyprus	Hermes Cyprus International Airports	airport	www.hermesairports.com
NDT geophysical survey and roadways management companies	UK	LandScope Engineering Ltd.	road infrastructure inspection, asset management	www.land-scope.com
	UK	W.D.M. Limited	road infrastructure inspection, asset management	www.wdm.co.uk
	UK	YOTTA	road infrastructure inspection, asset management	www.yotta.co.uk
	UK	P J Keary	highway surveys	www.pjkeary.co.uk

	Europe	Fugro Geospatial	<i>road infrastructure inspection, asset management</i>	www.fugrogeospatial.com
	Netherlands	KOAC•NPC	<i>NDT pavement inspection, material testing</i>	www.koac-npc.com
	UK	Zetica	<i>geophysical NDT surveys</i>	www.zetica.com
	worldwide	Fugro Aperio	<i>geotechnical engineering and NDT surveys</i>	www.fugro-aperio.com
	UK	SANDBERG	<i>consultation for roadway construction</i>	www.sandberg.co.uk
	worldwide	Steer Davies Gleave	<i>transportation engineering, consultancy</i>	http://www.steerdaviesgleave.com/
	worldwide	RSK	<i>geophysical survey provider, engineering</i>	www.rsk.co.uk
	UK	Highways Maintenance Efficiency Program	<i>highway consulting (Government)</i>	highwayefficiency@dft.gsi.gov.uk
	UK	Graham Asset Management	<i>highway maintenance</i>	www.heidelbergcement.com
	UK	CAT Surveys	<i>GPR inspection</i>	www.cat-surveys.com
	UK	COLAS Ltd	<i>management and maintenance of roadways</i>	www.colas.co.uk
	Russia	GEOTECH	<i>geophysical surveys for roads and bridges</i>	www.geotechru.com
	UK	Pavement Testing Services	<i>pavement inspection, material quality control</i>	www.ptsinternational.co.uk
	UK	ESG	<i>pavement inspection, engineering</i>	www.esg.co.uk
	Italy	L.T.M. Laboratorio Tecnologico Mantovano	<i>material quality control, pavement inspection</i>	www.labtecman.com
	Italy	C.R.S. Centro Ricerche Stradali SpA	<i>material quality control, pavement inspection</i>	www.crs-lab.it
	Italy	SINECO SpA	<i>road infrastructure inspection, asset management</i>	www.sinecoing.it
Academic Institutions	Sweden	Swedish National Road and Transport Research Institute (VTI)		www.vti.se
	Belgium	Belgian Road Research Centre		www.brcc.be
	UK	The Chartered Institution of Highways and Transportation		www.ciht.org.uk
	Sweden	Swedish National Road and Transport Research Institute		www.vti.se
	France	The French Institute of Science and Technology for Transport (IFSTTAR)		www.ifsttar.fr
	UK	The British Institute of Non-Destructive Testing		www.bindt.org
Research organisations and communities	Northern Europe	NORDIC - Nordic Road & Transport Research		www.nordicroads.com
	Europe	The European Road Transport Research Advisory Council (ERTRAC)		www.ertrac.org

	Europe	World Road Association (also known as PIARC)	www.piarc.co.uk
	UK	UK Roads Liaison Group (UKRLG)	www.ukroadsliaisongroup.org
	Europe	Trans-European Motorways (TEM) Project	www.unece.org/trans/main/tem/tem.html
	US	The American Association of State Highway and Transportation Officials (AASHTO)	www.transportation.org
	EU, Israel	EuroRAP (European Road Assessment Programme)	www.eurorap.org
	Baltic countries	Baltic Road Association (BRA)	www.balticroads.org
	UK	Research Laboratory (TRL)	www.trl.co.uk
	UK	Highways Term Maintenance Association	www.htma.info
	Worldwide	FEHRL – the Forum of European National Highway Research Laboratories	www.fehrl.org
	UK	iROADS® is TRL and TRL-Appia's innovative asset management software.	www.i-roads.com
	UK	Highways Maintenance Efficiency Programme (HMEP)	www.highwaysefficiency.org.uk
	Europe	European Asphalt Pavement Association	www.eapa.org
	Europe	European Union Road Federation	www.erf.be

2.3 Dissemination management and timescale

With respect to the time scale and management for dissemination of results & technology transfer to other organisations & end users, a policy of wide dissemination of project results will be pursued. As a basis of WP8 “Technology transfer to SMEs, Dissemination and Exploitation”, the Exploitation Board champions the dissemination of information, particularly for the purpose of ensuring future exploitation supported by other project partners.

The Exploitation Board was formed by one representative from each SMEs. The RTDs and the End-Users will also take an active role in the execution of all the tasks (Figure 2.1). It is primarily responsible for ensuring that the appropriate balance is achieved between protecting and exploiting the foreground knowledge. All participants are to fully collaborate in this matter and to avoid any unilateral actions, which could hamper the protection and use of foreground or the legitimate interests of the other participants.

In summary, the functions of the Exploitation Board include:

- preparation of a detailed PUDF and application for patent on commencement of the project,
- development of an acceptable exploitation agreement for the partners and for the exploitation dissemination of the results to outside parties,
- co-ordination of the exploitation efforts.

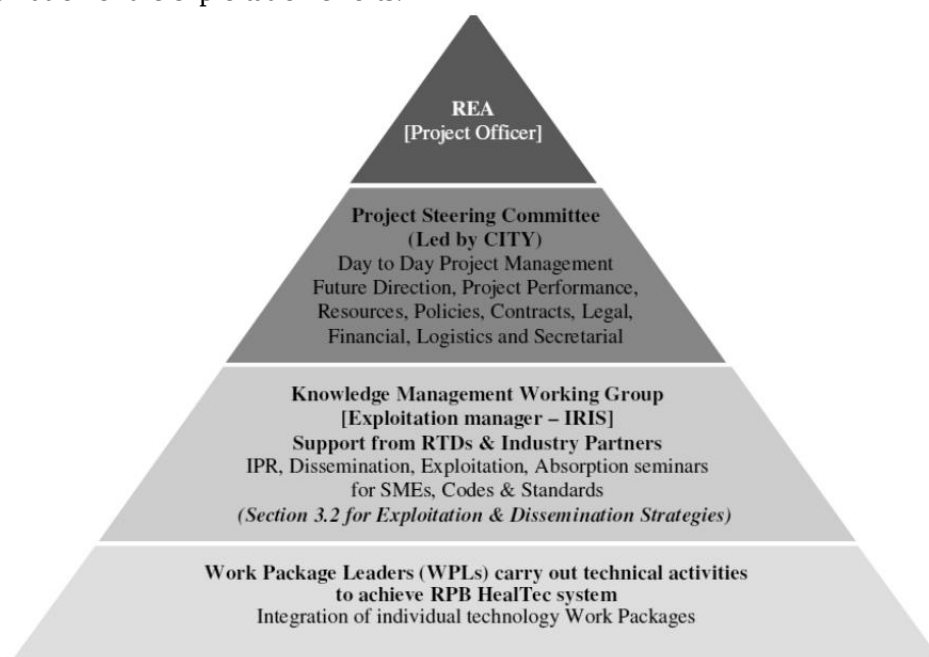


Figure 2.1 Organizational structure for Project Management

The dissemination activities are planned in accordance with the project tasks schedule specified in the DoW (Figure 2.8). Although a number of activities are scheduled for the first year (website and targeted dissemination), the major effort will be put during months 20-24 following the system and software integration stages (when the research results will become available) and release of the final RPB HealTec product, which is the main subject of dissemination.

	Work Packages	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
WP8	Technology Transfer to SMEs, dissemination and exploitation																								
8.1	Technology transfer to SMEs									D8.2															D8.5
8.2	Market research																								D8.4
8.3	Economic Feasibility Study																								
8.4	Business plan development																								
8.5	Dissemination activities			D8.1						D8.3															D8.6

Figure 2.2 RPB HealTec WP8 time schedule

2.4 Dissemination policy

Dissemination activities in the RPB HealTec project are strictly regulated in accordance with the intellectual property (IP) rights protection (EC-GA Article II.26-30).

All public dissemination tools (website, publications) are required to include the following information:

- the project acronym and full name: RPB HealTec “Road Pavements & Bridge Deck Health Monitoring / Early Warning Using Advanced Inspection Technologies”,
- the RPB HealTec project logo (Section 2.4.1) and official FP7 logo,
- link to the project website: www.fp7-rpbhealtec.org,
- acknowledgments to the EC public funds: “The research leading to these results has received funding from the European Union's Seventh Framework Programme managed by REA-Research Executive Agency <http://ec.europa.eu/research/rea> ([FP7/2007-2013] [FP7/2007-2011]) under grant agreement No 606645- RPB HealTec”.

Copyright statements will protect any written material produced during the project. All information supplied by any of the partners will be kept secret for a period of five years unless there are agreements between the partners via the Project Board otherwise. All patents and all other publications will require prior agreement from the Project Board in respect to content and the publication media.

2.5 Dissemination tools

2.5.1 RPB HealTec logo

The project logo (Figure 2.3) was created within the first month following the project initiation and approval by the RPB HealTec partners. Its concept represents the project name, road surface and non-destructive nature of the employed testing methods. The RPB HealTec logo will be used in any deliverable and publication.



Figure 2.3 RPB HealTec logo

2.5.2 Project website

The project website www.fp7-rpbhealtec.org was created following initiation of the project (Deliverable D8.1 “*Project Website – Public*”). It provides the summary information about the project objectives, recent project news, access to the public deliverables and information about the NDT technologies. It will be updated on a regular basis to ensure that it adequately reflects the work being undertaken in the project until the end of the project and beyond to include the pre-commercial and commercial phases of RPB HealTec. It acts as a useful outreach tool, disseminating information about the project, keeping interested members of the wider scientific community up to date with the project’s progress, the website is also a communication tool for the beneficiaries through the restrictive area.

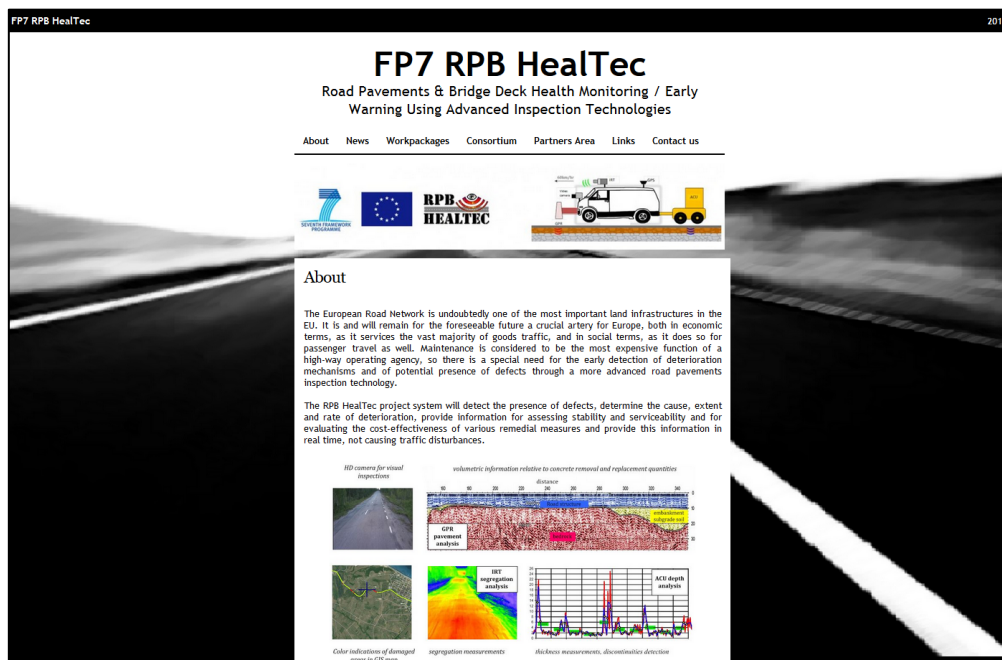


Figure 2.4 RPB HealTec website

2.5.3 Project brochure and poster

The first version of the brochure (Figure 2.4) was created in year 1 in order to provide the target audience with the project overview in printed and .pdf formats. It contains information about the project objectives and expected results and the consortium participants and will be circulated within the partners companies. In year 2, the brochure will be updated with the preliminary results of the system implementation and a poster will be created for participation in conferences/exhibitions and internal dissemination.

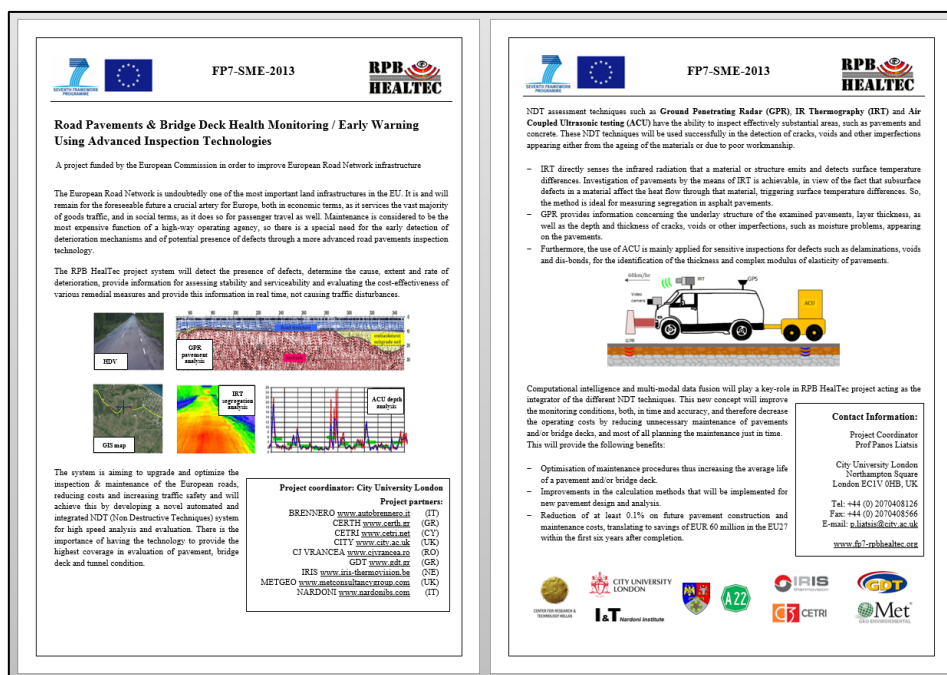


Figure 2.5 RPB HealTec brochure

2.6 Dissemination activities

In addition to attracting the interest of a large number of potential customers, dissemination activities are aimed for demonstration of how the EU community benefits from the EC-funded project, and as well as extension of the worldwide body of knowledge. The planned dissemination strategy incorporates a wide range of methods including participation in conferences and industry exhibitions, publications in scientific journals and industry-related magazines, as well as promotion of the final product through social networks and channels. At the same time, the RPB HealTec website will be used for the general communication of the project background to the target audience.

2.6.1 Conferences, workshops and exhibitions

The Exploitation Board promotes presentation of the project at scientific conferences, exhibitions, and other large events targeting NDT road infrastructure inspection related domains. The fully commercialized RPB HealTec design will be disseminated through publications in European and worldwide conferences. Table 2.2 presents the list of the conferences relevant for participation in 2015-2016 following the preliminary testing results and the release of the product prototype as well as networking, market research and investigation of the end user requirements.

Table 2.2 List of conferences, exhibitions, and workshops planned for participation (2015-2016)

#	Conference title	Date	Location	Audience	Website
1	TRAFFEX exhibition: International traffic management, road safety, parking, road maintenance and transport infrastructure industries.	21 - 23 April, 2015	Birmingham , UK	worldwide	www.traffex.com
2	Geospatial event	27-28 May, 2015	London, UK	worldwide	www.geobusinessshow.com
3	SENSORDEVICES 2015, The 6 th International Conference on Sensor Device Technologies and Applications	23-28 August, 2015	Venice, Italy	worldwide	www.iaria.org/conferences2015/SENSORDEVICES15.html
4	22 nd International Conference on Systems, Signals and Image Processing	12-15 September, 2015	London, UK	worldwide	www.city.ac.uk/iwssip2015
5	DORTRANSEXPO: Specialized Construction, Roads and Road Complex Maintenance Exhibition.	7 - 9 October, 2015	Kazan, Russia	worldwide	www.eventseye.com/fairs/f-dortransexpo-15137-1.html
6	VIIIth International Workshop NDT in Progress	12-14 October, 2015	Prague, Czech Republic	worldwide	cndt.cz/ndt_in_progress2015
7	BRENERCONGRESS 2016 (VIATEC)	17 February, 2016	Bolzano, Italy	Europe	www.fierabolzano.it/viatec
8	FEHRL Infrastructure Research Meeting 2015	February, 2016	Brussels, Belgium	Europe	www.fehrl.org
9	BRIDGES 2015 (exhibition)	March, 2016	Manchester, UK	Europe	www.bridges.surveyorvents.com
10	Intertraffic exhibition: B2B portal for professionals in the infrastructure, traffic management, safety and parking industry	5-8 April 2016	Amsterdam, Netherlands	Europe	www.intertraffic.com
11	6th European Transport Research Conference	18-21 April, 2016	Warsaw, Poland	worldwide	www.traconference.eu
12	ASECAP Study and Information Days 2016	To be announced	To be announced	worldwide	www.asecapdays.com
13	HIGHWAY MAINTENANCE, Uk's Highway Maintenance Conference and Exhibition	May 2016	London, UK	Europe	www.brintex.com
14	8th National NDT Conference of HSNT (Hellenic Society Of Non Destructive Testing)	May, 2016	Athens, Greece	worldwide	www.hsnt.gr/8oNCNDT

15	ETNDT6, the 6th International Conference on Emerging Technologies in Nondestructive Testing	May, 2016	Brussel, Belgium	worldwide	www.etndt6.be
16	8 th Rilem International Conference on Mechanisms of Cracking and Debonding in Pavements	7-9 June, 2016	Nantes, France	worldwide	mcd2016.sciencesconf.org
17	Asphaltica 2016	To be announced	Rome, Italy	Europe	www.siteb.it
18	WCNDT, 19 th Word Conference on Non-Destructive Testing	13-17 June, 2016	Munic, Germany	worldwide	www.wcndt2016.com
19	International Symposium on Non-Destructive Testing in Civil Engineering	September, 2016	Berlin, Germany	worldwide	www.ndt-ce2015.net
20	UK Infrastructure And Regeneration Conference And Expo	October, 2016	UK	worldwide	www.theukice.com

2.6.2 Publications

Following the preliminary results of the system implementation and after the final integration, a paper will be published in a high impact factor journal compiling all public information and summarizing the reached achievements. In addition, the RTD partners individually or in collaboration will publish scientific advances based on the results of the RPB HealTec system implementation. The list of journals considered to be relevant for publications is given in Table 2.3.

Table 2.3 List of journals/magazines for planned publication (2015-2016)

#	Journal	Audience	Website
1	NDT and E International	worldwide	www.sciencedirect.com/science/journal/09638695
2	International Journal of Pavement Engineering	worldwide	www.tandfonline.com/toc/gpav20/current#.VOOQLPmsV1A
3	Structure and Infrastructure Engineering	worldwide	www.tandfonline.com/loi/nsie20#.VOOQqfmsV1A
4	Road Materials and Pavement Design	worldwide	www.tandfonline.com/toc/trmp20/current#.VOOQm_msV1A
5	Journal of Transportation Engineering	worldwide	www.sciencedirect.com/science/journal/15706672
6	Journal Of Infrastructure Asset Management	worldwide	www.icevirtuallibrary.com/content/serial/iasma
7	Journal Of The Transportation Research Board	worldwide	www.trb.org/Publications/Publications.aspx
8	Journal Of Infrastructure Systems	worldwide	ascelibrary.org/journal/jitse4
9	ICE – Bridge Engineering	worldwide	www.icevirtuallibrary.com/content/serial/bren
10	ICE - Transport	worldwide	www.icevirtuallibrary.com/content/serial/tran

2.6.3 Networking activities

In addition to DoW, comprehensive research concerning the latest developments in the sector of road condition monitoring and management was completed to ensure that the technology that will be developed is innovative, generates new scientific knowledge and can be protected at the end of the project. It was verified that GPR and Thermography NDT techniques that will be used in the project have already been used in the past by other scientific teams, but in no case an integrated system as the one that will be developed during the project has been used. Some important national and international activities in similar areas of this call are listed in Table 2.4.

Table 2.4 List of the related EU/scientific project for cooperation

#	Project name	Description	Period	Audience	Website
1	FP7 SKIDSAFE	Enhanced driver safety due to improved skid resistance	2009-2013	EU	skidsafe.org
2	FP7 ROSANNE	Rolling resistance, skid resistance, and noise emission measurement standards for road surfaces	2008-2013	EU	rosanne-project.eu
3	FP7 CROSS-IT	Smart condition monitoring and prompt NDT assessment of large concrete bridge structures	2011-2014	EU	crossit-project.eu
4	FP7 SUBCTESTD EMO	Development of novel Non Destructive Testing (NDT) techniques and autonomous robots to be deployed by Remote Operating Vehicles for the sub-sea inspection of offshore structure welds - DEMOnstration	2014-2016	EU	cordis.europa.eu/project/rcn/192214_en.html
5	COST Action TU0702	Real-time Monitoring, Surveillance and Control of Road Networks under Adverse Weather Conditions	2008-2012	EU	www.cost.eu/COST_Actions/tud/Actions/TU0702
6	COST Action 354	Performance Indicators for Road Pavements	2004-2008	EU	www.cost.eu/media/cost_stories/road_safety
7	COST Action 345	Methods used in the European States to Inspect and Assess the Condition of Highway Structures	2000-2004	EU	www.cost345.zag.si
8	FP7 ISTIMES	Integrated System for Transport Infrastructure surveillance and Monitoring by Electromagnetic Sensing	2009-2012	EU	www.istimes.eu
9	FP7 TRIMM	Tomorrow's Road Infrastructure Monitoring & Management	2011-2014	EU	www.trimm.fehrl.org
10	FP5 HYGEIA	Decision support system to guide the end-user in the optimal selection of integrated techniques	2001-2004	EU	www.eugris.info/DisplayProject.asp?p=4566

11	SHRP 2 R06	A Plan for Developing High Speed, Nondestructive Testing Procedures for both Design Evaluation and Construction Inspection	2007-2008	USA	apps.trb.org/cmsfeed/TBNetProjectDisplay.asp?ProjectID=2170
12	SHRP 2 R06(A)	Nondestructive Testing to Identify Concrete Bridge Deck Deterioration	2009-2014	USA	apps.trb.org/cmsfeed/TBNetProjectDisplay.asp?ProjectID=2558
13	SHRP 2 R06 (C)	Using Both Infrared and High-Speed Ground Penetrating Radar for Uniformity Measurements on New HMA Layers	2009-2013	USA	apps.trb.org/cmsfeed/TBNetProjectDisplay.asp?ProjectID=2562
14	SHRP 2 R06 (D)	Nondestructive Testing to Identify Delaminations between HMA Layers		USA	apps.trb.org/cmsfeed/TBNetProjectDisplay.asp?ProjectID=2563
15	SHRP 2 R06 (G)	High-Speed Nondestructive Testing Methods for Mapping Voids, Debonding, Delaminations, Moisture, and Other Defects Behind or Within Tunnel Linings	2009-2013	USA	apps.trb.org/cmsfeed/TBNetProjectDisplay.asp?ProjectID=2672
16	SHRP 2 NDT Toolbox	The NDTToolbox is an online collection of techniques and technologies for identifying deterioration on concrete bridge decks, quality control of construction materials and pavements, and condition assessment of pavements and tunnels	2007-2014	USA	www.ndtoolbox.org
17	FP4 BRIME	Bridge management in Europe	1998-1999	EU	cordis.europa.eu/project/rcn/44707_en.html
18	FP5 FORMAT	Fully optimized road maintenance: in-depth research into highway maintenance works in order to improve the efficiency, safety and cost of the maintenance works by appropriate planning, timing and execution of work zone operations.	2002-2005	EU	www.transport-research.info/web/projects/project_details.cfm?id=13609

Preliminary conclusions indicate, that the three most relevant projects with respect to the RPB HealTec goals and employed NDT technologies are:

- FP7 ISTIMES “Integrated System for Transport Infrastructure surveillance and Monitoring by Electromagnetic Sensing”,
- SHRP 2 R06 (D) “Nondestructive Testing to Identify Delaminations between HMA Layers”, and
- SHRP 2 R06 (A) “Nondestructive Testing to Identify Concrete Bridge Deck Deterioration”.

The published results provided a significant insight into the NDT equipment routinely used in highway and bridge deck inspection and applicability of integration of these technologies.

2.6.4 Other dissemination activities

In addition to the project website and participation in conferences, the information about the final RPB HealTec product will be disseminated to the public community through:

- the highway and NDT industry magazines (e.g., Aspire - The Concrete Bridge Magazine),
- research and industry portals, such as that Transport Research & Innovation Portal TRIP that provides an overview of research activities at European and national levels,
- social networks (e.g., the project LinkedIn group),
- www.youtube.com channel (e.g., videos from the workshops and final RPB-HealTec video showcase).

The RTDs will publish in referred magazines on the development and application of the wider NDT and road maintenance sectors that are regularly accessed by the service companies as well as road network administrators. The list of the prospective magazines and research portals is given in Table 2.5. Some of the publications will be translated into other languages in order to access wider audience.

Table 2.5 List of magazines and portals for planned publications (2015-2016)

#	Journal title	Open access (Y/N)	Audience	Website
1	Highways Magazine	Y	worldwide	www.highwaysmagazine.co.uk
2	Roads & Bridges	Y	worldwide	www.roadsbridges.com
3	Bridge Design & Engineering	N	worldwide	www.bridgeweb.com
4	Airport Magazine	Y	worldwide	www.airportmagazine.net
5	NDT.net (NDT database)	-	worldwide	www.ndt.net
6	Routes/roads magazine	N	worldwide	www.routesroadsmag.piarc.org
7	Engineering Maintenance Solutions (EMS)	Y	worldwide	www.engineeringmaintenance.info
8	Aspire - The Concrete Bridge Magazine	Y	worldwide	www.aspirebridge.com
9	Transport Research & Innovation Portal (TRIP)	Y	worldwide	www.transport-research.info
10	The Surveyor Transport Network Magazine	Y	worldwide	www.transport-network.co.uk
11	Intertraffic World	Y	worldwide	http://www.intertrafficworld.com/
12	Le Strade	Y	Italy	www.fiaccola.com
13	Rassegna del bitumen	Y	Italy	www.siteb.it

3 CONCLUSIONS

This deliverable presented the draft plan for disseminating the use of foreground (PUDF) with the focus on definition of the major sites for dissemination and exploitation activities in the context of the market research (contact list) and list of the relevant international events (conferences, workshops, exhibitions) and journals. D8.3 is the basis of the PUDF which its turn will rely on the results of the system implementation – the final RPB HealTec product and an extensive effort from all project participants will be required for effective dissemination.

As the next milestone of the project dissemination, following the finalisation of the system integration and testing a public showcase will be performed to exhibit the performance capabilities of the RPB HealTec system and the features of GUI. The showcase will be based on videos, photos and featuring data compiled during testing and training activities. The public showcase will be also presented in a workshop or conference during the construction fairs for advertising the release of RPB HealTec prototype as a commercial product.

In addition to the RPB HealTec video showcase (D8.5) and the final PUDF (D8.6), the dissemination activities during the next 14 months will also cover the economic feasibility study (T8.3) and corresponding development of a business plan (T8.4).

The overall objective of Economic Feasibility Study (T8.3) is to produce a reliable and realistic economic feasibility study concerning the adoption and application of the RPB HealTec System. The corresponding guidelines will be extracted from market research (T8.2), qualified scenarios (T8.1, T8.5) and system testing (WP7). The cost effectiveness study of the RPB HealTec System is of high importance, since it can drive some modifications of the design in order to ensure its future introduction to the relative industry and market. A business plan (T8.4) will be developed about how the advanced integrated technology can be used in potential applications related to the monitoring and NDT assessment of civil engineering structures such as roads, airports, bridges, etc. The technological innovation of the proposed RPB HealTec, their integrated management and logistics support chain need solid economic justification in order for the RPB HealTec proposal to produce a realistic and workable NDT pavement solution.