

Αθήνα, 01-1-2014

Θέμα: Εκδήλωση ενδιαφέροντος για την Εξωτερική Αξιολόγηση του έργου RECDEV-Innovative 3D training platform for Recycling of Waste coming from Electric and Electronic Devices/Equipment/Appliances (WEEE)

Κύριοι,

Η Εταιρεία ΑΡΒΙΣ Περιβαλλοντικές Επιχειρήσεις Ελλάδος Α.Ε., Συντονιστής Εταίρος του έργου RECDEV - Innovative 3D training platform for Recycling of Waste coming from Electric and Electronic Devices/Equipment/Appliances (WEEE), διοργανώνει πρόχειρο διαγωνισμό προκειμένου για την ανάληψη του Έργου της Εξωτερικής Αξιολόγησης.

Επισυνάπτεται η Αναλυτική περιγραφή (Description of Work- DoW) του έργου στα αγγλικά.

Το αντικείμενο της αξιολόγησης θα αφορά τόσο το Οικονομικό όσο και το Φυσικό αντικείμενο του έργου και η σύμβαση θα έχει διάρκεια 33 μήνες, με έναρξη την 1/1/2014 και λήξη την 30/09/2016 ή παρατείνεται ανάλογα με την όποια παράταση του έργου.

Η γλώσσα η οποία θα χρησιμοποιηθεί σε όλα τα παραδοτέα και για το σύνολο της υπηρεσίας θα είναι η Αγγλική.

Οι ενδιαφερόμενοι θα πρέπει να εκδηλώσουν γραπτώς πρόθεση συμμετοχής και να υποβάλουν οικονομική προσφορά μέγιστου ποσού €5.000,00 (χωρίς ΦΠΑ).

Η Καταληκτική Ημερομηνία είναι η **31^η Ιανουαρίου 2014** και οι προσφορές θα πρέπει να κατατεθούν ή αποσταλούν στα γραφεία της εταιρείας, στην Διεύθυνση: **Μάρνη 4, 10433, Αθήνα, 6^{ος} Όροφος, Τηλ: 2108232703, somleo@yahoo.com / info@arvis.gr**

Ο Συντονιστής
Λεωνίδας Σωμάκος



Lifelong Learning Programme Application Form

2013 Call for proposals

DETAILED DESCRIPTION OF THE PROJECT

(To be attached to the eForm)

Version 1

PART C. Organisations and activities

This part must be completed separately by each organisation participating in the project (applicant and partners).

Partner number - P 1

Organisation name	ARVIS ENVIRONMENTAL ENTERPRISES OF GREECE SA
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

ARVIS S.A. is a dynamic company which operates mostly in the sensitive field of the environment, with special emphasis in the sector of Recycling and Waste Management, at national level.

The company consists of the following main units and departments: "Recycling and Waste Management Equipment" Unit, comprising a. the Equipment/Installations department b. Representations and "Research Programs" Unit consisting of the departments of: relevant-to-the environment-Studies, Technical – Economical Studies and Operations Research and Organization Studies. The company supplies local governments and other public or private entities with technical equipment.

The company participates in European Research Programs and prepares studies focused in the field of Environmental Protection and Operations Research. Specifically, ARVIS has participated in numerous EU funded calls such as LIFE+, ECO-Innovation, FP7, EQUAL (A & B Phase), Leonardo Da Vinci, Grundvig, CBC MED, South East Europe, INFO 2000, Joule/COBER. In the B' phase of EQUAL, ARVIS was the Coordinating/Leading partner.

Currently ARVIS is concluding a Leonardo Da Vinci Project relevant to developing an Innovative Training Methodology on the Ecodesign of Ceramics which focuses to Large Ceramic Industries and Small (SME) Ceramic Workshops/Potteries.

ARVIS has participated in the following indicative projects:

- **INFO 2000–ELECTRONIC WASTE INFORMATION NETWORK(E WIN) (EUROPEAN COMMUNITY DG XII TELE –COMMUNICATIONS):** The European Waste Information Network/E-WIN aimed at the creation of a data base in internet in which it would give the ability of a systematic access in a very wide filed of information in different thematic areas regarding waste management and research in the relevant area
- **PROJECT JOULE III – COTTON BIOMASS ENERGY RECOVERY (COBER) (EUROPEAN**

COMMUNITY DG XII SCIENCE, RESEARCH & DEVELOPMENT DIRECTORY): Study for the use of cotton mass incineration – Full technical/economical study Scope of the project was to include all relative research and development studies from EU private industry/companies as well as research in order to develop an efficient production system of residual cotton biomass. The study focused in economic and technical thematic areas from the point of view of production of energy from the residual agricultural cotton mass in South Europe

- **InEDIC - Innovation and Ecodesign in the Ceramic Industry:** is a project funded by the EU Lifelong Learning Program, Leonardo da Vinci Sub-program, coordinated by LNEG/UPCS (National Laboratory of Energy and Geology, Sustainable Production-Consumption Unit) from Portugal. The project is a “Transfer of Innovation”: it builds upon another Leonardo da Vinci project (Transfer of Knowledge in the Field of Ecodesign, contract number CZ-04/B/F/PP-168002-ECODESIGN). The project’s primary goal is the development of ecodesign training materials and tools to the ceramic industry in order to provide designers, training and education organizations and businesses with the skills for the systematic integration of environmental considerations in the development of their products.

ARVIS S.A. co-operates with a large number of scientists and also employs software equipment, offices, warehouses and service stations of private property, in Athens as well as in several other cities of Greece. ARVIS SA represents prominent European Construction Houses with vast experience in their field, while co-operating with European universities and research entities. The training programs and seminars organized by ARVIS, which are focused in the fields of ARVIS expertise, fully complete and support the above activities.

The company has three subsidiaries:

1. “ARVIS-ZIMMERMANN Ltd” which operates in the field of Toxic Waste Management and special waste treatment and is able to supply the required know-how, suitable equipment, special scientists and previous experience in whatever concerns solving special and hazardous waste treatment problems in Greece.
2. “European Recycling Centre Ltd” which operates in the field of Recyclable Material Management offering services such as Collection, Transportation and Management of Recycling Materials.
3. ARVIS-SOLAR which operates in the field of Photovoltaic’s Energy. ARVIS SOLAR products and rendered services cover all levels of designing, planning permission and construction of renewal energy production units such as selling photovoltaic and wind systems, market research regarding the appropriate installation location, works of infrastructure, fitting and installation, location for efficient operation, electric grid connection, guarantee operation – long-term maintenance and administration as well as technical support.

ARVIS is the coordinator of the project, responsible for (a) management and administration in accordance to the Quality Plan provisions (b) monitoring the process of realization according to performance and quality standards (c) organizing and facilitating the functions of the Steering Committee. Besides, ARVIS will be playing the leading role in the content development and creation of 50 training scenarios. ARVIS will also evaluate user’s feedback and upgrade the

training scenarios during the pilot implementation phase, will organize a Workshop in Greece and produce press releases and distribute newsletters to its network of recycling related organizations. ARVIS will be responsible for the external evaluation of the project outputs, subcontracting an expert of the environmental sector to validate (or not) RECDEV's achievements. ARVIS will involve 50 employees from the Greek recycling industry to the pilot implementation phase (40 will be trained using the project tools and 10 with the traditional way ("control groups")). 10% of the target group will be higher personnel, while the 90% will be low skilled disassemblers. The main field of the pilot implementation phase will be Hellenic Recycling center (see letter of intent) that ARVIS has close cooperation and the origin of the project idea.

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.
<u>Mr. Leonidas Somakos</u>	<u>Mr. Leonidas Somakos</u> is a Planning & Regional Development Engineer (University of Thessaly), with a Masters in Science Degree in Local Sustainable Development (Harokopeion University of Athens). He is a PhD candidate at the National Technical University of Athens (NTUA) in the field of Environmental Assessment of Products & Services with Life Cycle Analysis and Cost Benefit Methods. He has extensive experience on subjects relating to Environmental protection and Waste Management by participating as a Researcher and Scientific Advisor in Research Studies and European funded Projects either for ARVIS SA or NTUA. He was the Head Administrator for a Developmental Partnership of 11 public and private bodies, funded by the European Initiative EQUAL (2004-2009) for a project relating to Management of Waste coming from Electric & Electronic Appliances. He is today responsible for the environmental Policy and Quality Management of ARVIS SA in which he is also the Supervising Engineer of the Technical Department.
<u>Mr. Antonios Papadakis</u>	<u>Mr. Antonios Papadakis</u> an Electric & PC Mechanical Engineer (National Technical University of Athens [NTUA]) with over than 15 years of experience in applied projects relating to Energy Production, Renewable Energy Sources, Project Management, Landfills, Automation of Industrial Environmental Projects and Mechanical Installations, Electrical Installations etc.
<u>Mr. Dimitrios Georgiou</u>	<u>Mr. Dimitrios Georgiou</u> is an Environmentalist with postgraduate studies (MSc) in Environmental Engineering from the Imperial College London.

	<p>He has extensive experience in Projects relating to Advanced Water and Wastewater Treatment, Design of Water and Wastewater Treatment Plants, Landfill Engineering, Solid Waste Management, GIS, Water Supply and Distribution, Urban Hydrology and Urban Drainage, Air Pollution, Contaminated Land and Groundwater.</p>
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Partner number - P 2

Organisation name	T. Alexandridis & CO (Omega technology)
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

Founded in 1985, Omega Technology is an experienced and well known company in IT services in Greece. The Company serves Greek public bodies, enterprises and other organizations with technology and services made possible by the 25 years of experience. Solutions provided include 3D applications, e-commerce applications, e-learning platforms, document and knowledge management systems, mobile applications and tailor made applications for people with disabilities. The company also offers and a broad range of management and services including consulting, research and development, digitization, annotation and preservation of content, hardware supply and installation and technical support. The company is in close cooperation with the Academic society, running several R&D projects. The company is also active in the field of employability and entrepreneurship running R&D projects with the Hellenic Organization of Small and Medium Sized Enterprises and Handicraft (EOMMEX) S.A, Institutes, Prefectures, Municipalities, Chambers, Local authorities and departmental organizations. Omega Technology is also conducting research and market validation projects in cooperation with several other RTD performers and market oriented organizations in European Level. OMEGATECH was coordinator of the "e-ceramics" (No C26787) project under the Ten-Telecom EU program, core technical partner at the e-Ten project "Job-Rotation" (Ref: 029316), core technical partners in Leonardo TOI project CGR(2010-1-GR1-LEO 05-03932) and applicant and core technical partner in the LLP-KA3 project VWE(511830-LLP-1-2010-1-GR-KA3-KA3MP). In Greece, OMEGATECH has over 500 active clients running its Products (CRM, Document Management, e-shops, etc).

OMEGATECH's technical role in the project will be to develop the Virtual Environments for the training scenarios based on the functionality required. The development will be based on the company's own research results on dynamic virtual environments. A publication of these results was presented on CEA '10 - 4th World Scientific and Engineering Academy and Society,

International Conference on Computer Engineering and Applications, University of Harvard, Cambridge, USA, 27-29 January 2010 with title “Virtual reality applications with User interface for dynamic Content development”. The company has previous experience in the recycling sector, having participated to the EQUAL project “Vital Prospects” <http://www.aktina-zois.gr> , where training e-content for recycling was developed for people with disabilities.

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	<i>Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.</i>
<u>Theofanis Alexandridis</u>	Mr Theofanis Alexandridis holds a Diploma on Electrical & Computer Engineering from National Technical University of Athens. He is the head of the Software Department of Omega Technology and the person in charge for more than 25 EU and National projects (Ten – Telecom, Adapt, Pave, Interreg, Leonardo da Vinci,). Recently he was the Project Coordinator in the Ten –Telecom project “e-Ceramics”. As the head of the Software Department of Omega Technology, his current research interests include information systems development, relational databases, web services, distribute systems. He is fluent in English and Turkish. His recent publication is on "Virtual reality applications with User interface for dynamic Content development" (2010)
<u>Nikolaos Papastamatiou</u>	Mr Papastamatiou graduated from Aegean University in 1998 with a Bachelor's degree on Mathematics. He then received a Masters degree in Distributed and Multimedia Information Systems from Heriot-Watt University, Scotland in 1999. From 2002 he is working as a web analyst/developer. His research interests are in the fields on Virtual Worlds, Web Services, Grid Computing, ontologies, semantic web and Natural Language Processing. His recent publication in on "Virtual reality applications with User interface for dynamic Content development" (2010) at the 4th World Scientific and Engineering Academy and Society, International Conference on Computer Engineering and Applications, University of Harvard, Cambridge, USA, 27-29 January.

<u>Kostas Tsergoulas</u>	Mr Tsergoulas has a Bachelor's degree on Graphic and 3D design from Athens Metropolitan College. From 2006 he is working as a 3D developer/designer. His research interests are in the fields on 3D Virtual Worlds, Game developing, 3d/2D animation, motion capture systems, programming for touch devices and web 3D/2D development.
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Partner number - P 3

Organisation name	Faculty of Chemistry and Chemical Engineering – University of Maribor
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

University of Maribor, Faculty of Chemistry and Chemical Engineering is a public institution which offers academic study programs at three bologna levels, and a higher professional study program. Faculty is organized in 9 different laboratories, one of the strongest being the Laboratory for Process Systems Engineering and Sustainable Development. The laboratory, established in 1981, represents an important research centre in Europe and provides high-quality expertise in the area of sustainable development, process engineering and education for sustainable development. The number of laboratory staff is approximately 20 (8 professors and lecturers, 7 researchers, 2 assistants, 1 technician and 4 cooperating researches from different companies). It has an extensive history of excellent scientific research results.

With its 35 -years of tradition, our laboratory belongs to the world's top leaders in developing advanced process, as well as sustainable development of chemical and other process industries. In addition, the laboratory is one of the very few in the world, which systematically works on the development of methodologies for measuring and introducing the concepts of sustainable development into industries and local/regional/national environments, including policy makers.

We collaborate in international project TRUST IN - European Training Partnership on Sustainable Innovation. The main objective of the project is to outline a European Training Course on Eco-efficiency and additional sector or area specific training courses in relevant topic targeting technical staff from companies and municipalities that will be directly applied by VET institutions or used for development of new training materials or courses. It will significantly increase knowledge and qualification of the mentioned target groups in the field of eco-efficiency and sustainable innovation all over the Europe, and thus contribute to reaching the EU goals in sustainable development area. Furthermore we collaborate in the project Corporate Sustainability Information and Training – introducing social responsibility to the SMEs through vocational trainings.

The Faculty of Chemistry and Chemical Engineering will play a role of the partner organization. It will take part in all the WPs planned for the project, including activities such as management, quality control, development of training methodology, elaboration of results and dissemination,

giving content and technical support to the project and project activities, coordinated the main coordinator, and assuring its effective and timely performance.

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	<i>Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.</i>
<p>Prof. dr. Peter Glavič</p>	<p>He earned his B.Sc in Chemical Technology from the University in Ljubljana and B.Sc in Business and Administration from the University of Maribor. He received his M.S. and Ph.D. in Chemistry from University in Ljubljana. He has authored more than 100 scientific papers, coordinated 200 scientific and professional projects, published nearly 100 professional papers, and many textbooks. He is also a member of the Core Group of PREPARE (Preventive Environmental Approaches in Europe). He has chaired the technology foresight group of the Slovenian chemical and process industries. He is a member of several international scientific committees. Furthermore, he is chairing the Association of Economists in Maribor and the national Section of Chemical and Process Engineering.</p> <p>Selected papers/projects:</p> <ul style="list-style-type: none"> • GLAVIČ, Peter, LUKMAN, Rebeka, LOZANO, Rodrigo. Engineering education: environmental and chemical engineering or technology curricula - a European perspective. <i>Eur. j. eng. educ.</i>, Mar. 2009, vol. 34, no. 1, pp. 47-61. • GLAVIČ, Peter. Natural laws dominate the human society. <i>Clean technol. environ. policy (Print)</i>, 2010, vol. 12, no. 6, pp. 591-599. • HERTWICH, Edgar, GLAVIČ, Peter, GORŠEK, Andreja. <i>Postgraduate School of Industrial Ecology : Marie Curie actions MCA Financial statement for multi-partner contracts : project no. 29529</i>, (Project acronym PSIE). [S. l.: Norwegian University of Science and Technology; Maribor: Faculty of Chemistry and Chemical Engineering, 2009.
<p>Dr. Rebeka Kovačič Lukman</p>	<p>She has earned his PhD at the University of Maribor. She is employed as a post doctoral researcher. Her research interests are in the field of sustainable development, including education for sustainable development, sustainable consumption, life cycle assessment, sustainability indicators. She has published several scientific and professional papers and coordinating many EU projects.</p>

	<ul style="list-style-type: none"> • LUKMAN, Rebeka, KRAJNC, Damjan, GLAVIČ, Peter. Fostering collaboration between universities regarding regional sustainability initiatives - the University of Maribor. <i>J. clean. prod.</i> [Print ed.], Aug. 2009, vol. 17, iss. 2, str. 1143-1153 • LUKMAN, Rebeka, LOZANO, Rodrigo, VAMBERGER, Tamara, KRAJNC, Majda. Addressing the attitudinal gap towards improving the environment : a case study from a primary school in Slovenia. <i>J. clean. prod.</i> [Print ed.], Available online 12 August 2011, • KRAJNC, Majda, LUKMAN, Rebeka. <i>Virtual campus for a sustainable Europe - VCSE : European virtual seminar on sustainable development - EVS :(e-Learning)</i>. Maribor: faculty of Chemistry and Chemical Engineering, 2011
Marija Lesjak	She is a PhD student at the University of Maribor, her research field is sustainable development including education for sustainable development and sustainable consumption and production in practice. She has worked as a research assistant on many EU projects.
Saša Hočurščak	She is employed as a research assistant at Faculty and she has participated in many European projects in the field of sustainable development.

Partner number - P 4

Organisation name	Stenum GmbH
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

STENUM was founded in 1991 and privatised in 1992. It is a fully independent Austrian consultancy focusing on practical implementation of a sustainable economy in enterprises and public institutions. The core expertise of STENUM is waste avoidance and reduction, energy efficiency, water conservation and environmental management systems. STENUM has worked for more than 1.600 clients in 33 countries (amongst others in Europe: Austria, Germany, Slovenia, Hungary, Czech and Slovak Republics, and internationally: Brazil, Colombia, South Africa, India, Korea, China, Philippines) and various industries (electronics, automobile industry, chemicals and pharmaceuticals, food and drinks, metal industry and engineering, plastics and packaging, textiles etc.).

STENUM has relevant expertise and experience in the following fields:

- knowledge management of contents regarding resource efficiency and Cleaner Production
- training capacity in delivering contents regarding sustainable development and innovation
- cooperation with officers from law writing, permitting offices and funding authorities
- identification and implementation of environmental measures

STENUM has participated in several FP research projects and a number of LEONARDO DA VINCI projects to develop training courses on environmental management, integrated management (including risk management, quality management, health and safety), innovation management and social responsibility. In this context, STENUM was as well involved in the development of web-based learning platforms and software tools. On a national level, STENUM has developed the PREPARE approach and the ECOPROFIT model to implement the approach of preventive environmental protection to support sustainable development in organisations and regions. Internationally, STENUM has developed the Cleaner Production Toolkit, and STENUM-AREC the Resource Kit on Promoting Resource Efficiency in SMEs (PRE-SME) for UNIDO and UNEP to support their Resource Efficient and Cleaner Production Programmes.

Stenum GmbH will define the Market Validation Methodology, will be responsible for the development of the business plan and will be responsible for the internal evaluation of the project. Stenum will organize a Workshop in Austria, will publish Press Releases and send newsletters to its network disseminating the project all over Europe. Stenum will involve 50 employees from the Austrian recycling industry to the pilot implementation phase (two groups, 40

to receive training with the RECDEV tools and 10 with the traditional way). 10% of the target group will be higher personnel, while the 90% will be low skilled disassemblers.

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	<i>Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.</i>
<u>Dr. Johannes Fresner</u>	Dr. Johannes Fresner is managing director of STENUM. He is a chemical engineer. Technical University Graz, Chemical Engineering with special emphasis on process technology Ph.D. (Dr. techn.). Main activities and responsibilities: Process analysis and process optimisation with the special emphasis on cleaner production, energy efficiency, implementation of environmental management systems, legal advice (permitting, legal compliance) / Trainer in the field of cleaner production -industry and authorities, environmental management systems, conduction of regional cleaner production projects / Consulting, progress monitoring and controlling of programmes (Cleaner Production and research programmes).
<u>Mag. Karin Tschiggerl</u>	Mag. Karin Tschiggerl is senior consultant with STENUM. University of Graz, Master in Business Sciences (Magistra der Sozial- und Wirtschaftswissenschaften). Innovation and Environmental Management, Trade and Marketing. Main activities and responsibilities: Project Management, independent research and development of reports and training material, trainings and workshops, Environmental Management Systems, Sustainability Reports. Acquisition and customer support. Public Relations and Marketing: Design and Administration of image brochures, online newsletter "STENO.gramm", press releases, presentations
<u>Mag. Petra Wolf</u>	Mag. Petra Wolf is senior consultant with STENUM. University of Graz, Master's Degree (Mag.rer.nat.) at the Institute of Biology. Graz Technical University, Post graduate "Technological environmental protection". Her focus on waste management and waste minimisation. She has worked in waste management with over 200 Austrian companies. Main activities and responsibilities: Project manager, trainer and consultant on Cleaner Production national and international: Process analysis and process optimisation with the special emphasis on Cleaner Production, water management, waste management, waste management plans, environmental laws and regulations, implementation of environmental management systems, environmental indicators.

Partner number - P 5

Organisation name	National Centre of Sustainable Consumption & Production
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

CNPCD has been created in March 2010, as a spin off the "Program for the sustainable development of enterprises in Romania with focus on enhancing national expertise in CP and CSR" developed under UNIDO coordination. CNPCD is a not for profit organization, independent and flexible, managed by the general assembly formed from its founder members. CNPCD develops activities for advocacy, promotion and information sessions with recipients from industry and tourism, business proposals for the implementation of Resource Efficiency and Cleaner Production concept (RECP), in plant demonstrations and trainings. The Centre through its members has also high expertise in the area of waste management, environmental management, environmental auditing and corporate social responsibilities. The mission of CNPCD is to promote sustainable development through the implementation of RECP methodology in industry and tourism. CNPCD benefits from the high expertise of its own founder members experienced consulting companies and experienced consultants. CNPCD strives to influence the academic environment for including the RECP into their programs and contribute to environmental education that promotes behavior in support of a sustainable environment.

CNPCD will be the leading partner in the development of the dissemination plan of the project. Will also run the pilot implementation and evaluation in Romania and will contribute to the dissemination actions of the project by producing press releases and sending newsletters about the project progress and achievements. CNPCD will involve at least 50 employees from the Romanian recycling industry to the pilot implementation phase (two groups, 40 to receive training with the RECDEV tools and 10 with the traditional way). 10% of the target group will be higher personnel, while the 90% will be low skilled disassemblers.

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	<i>Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.</i>
<u>DI Aida Szilagyi</u>	<p>Chairman of CNPCD, 10 years of experience in the area of environmental management , waste management and consultancy. Cleaner Production National Coordinator of the UNIDO program in Romania, International RECP expert in accommodation sector for the program in Albania; active member of the RECP Network, project manager and lecturer of Human Resource Project focused on sustainable education funded from European Structural Funds, Project Manager for Ecoprofit Novi Sad – Serbia, authorized environmental expert and auditor and lecturer.</p> <p>Relevant publications and projects:</p> <ul style="list-style-type: none"> ▪ Lecturer for Waste management training program trough Human Resource Program. ▪ Elaboration of full “Feasibility Study for a composting plant – Timisoara City Hall” ▪ Waste cost optimization projects having as objective reduction of waste disposal costs; preventive reduction of packaging and production wastes, establishment of an ongoing waste disposal controlling system, creation of awareness among staff.
<u>DI Andrei Churican</u>	<p>Founder member of CNPCD, 6 years of experience in Environmental Management Systems and Waste Management, 5 years of experience in the field of sustainable development consultancy and training, certified Environmental Management Systems Auditor, UNIDO certified CSR trainer, EcoProfit certified consultant.</p> <p>Relevant publications and projects:</p> <ul style="list-style-type: none"> ▪ National coordinator of UNIDO project in Romania “Programme for the sustainable development of enterprises in Romania with focus on enhancing national expertise in CP and CSR methodologies in particular for the tourism industry” ▪ RECP expert for UNIDO’s Cleaner Production programme in Moldova in 2010 ▪ Project manager for 7 Environmental Management System implementation projects ▪ LCA and CFP project for Carpat Sticks Romania ▪ Lecturer for Human Resource Development and Life Long Learning Project focused on sustainable education funded from European Structural Funds
<u>DI Gabriela Fistis</u>	<p>Founder member of CNPCD, 4 years experience in Environmental</p>

research in the area of Water management and Waste management, 4 years experience in Health Safety and Environment Management System in automotive industry field, 5 years experience in Environmental consultancy field.

Project manager of Climate Change Strategy for Timisoara city 2009-2010; Expert Cleaner Production National Consultant of the UNIDO program in Romania 2009-2010; Project manager of Social Waste Recycling project in Romania 2011;

Relevant publications and projects:

- Sustainable Waste Storage Area - project coordinator, TRW Automotive Romania
- Cost determination and reduction projects, focused on finding improvement opportunities in the area of production wastes; evaluation of economical as well as environmental benefits – TRW Automotive Romania
- Waste management integrated trainings for production staff and management, raising awareness related to the importance of an accurate waste management, correlated with operational control – TRW Automotive Romania
- Legal compliance audits – TRW Automotive Romania, Sonae Sierra Romania, Smithfield Prod Romania

Partner number - P 6

Organisation name	Mendel University of BRNO
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

Mendel University in Brno can pride itself on the longest history of agriculture and forestry studies on the Czech lands. It was established in 1919 as the University of Agriculture in Brno and it maintained this name till 1994. Since its establishment, it has undergone a range of structural as well as curricula changes, and provided top quality education to more than 20,000 agricultural engineers, 6,500 forestry engineers and 5,500 engineers of economics so as to be employable in a variety of spheres of the national economy and the economic practice. Concerning the foreign relations, both university staff and students frequently visit partner universities, attend conferences, participate in scholarship programmes or seek consultations. MZLU in Brno is a member of many prominent European organizations (CRE, ICA). The university also participates in a large number of international programmes such SOCRATES, LEONARDO DA VINCI, CEEPUS, AKTION.

Agromomy Faculty provides education in brench of Waste management for 15 years. The study is focused on the treatment of agricultural waste, municipal waste, industry waste andtake-back waste (including electrical and electronic waste).

Members of working team are skilled and well- prepared for solving Leonardo da Vinci project. All have experience in e-learning education and also have contacts to firms in branch of waste treatment (SITA CZ (SUEZ ENVIRONNEMENT), AVE, Marius Pedersen and others).

The role of the University in the project will be to develop the training methodology for the identification of the materials' types (metals) and qualities and evaluation of the scenarios. Dissemination of the project's training content and tools through its networks in Waste Management. CNPCD will involve at least 50 employees from Czech Republic recycling industry to the pilot implementation phase (two groups, 40 to receive training with the RECDEV tools and 10 with the traditional way).10% of the target group will be higher personnel, while he 90% will be low skilled disassemblers.

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	<i>Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.</i>
Mrs. Jana Kotovicova	<p>Mrs. Kotovicova received a Doctor degree at Mendel University in Brno in branch "Waste Management" in 1999. She habilitated in 2005 in branch Waste Management.</p> <p>She works at Mendel University in Brno from 2001. Now she guarantees study subjects "Waste Management", "Cleaner Production", "Management in Waste Treatment", "Environmental Protection and Conservation" and " Environmental Protection".</p> <p>Mrs. Kotovicova has o lot of various experience with managing international project - for example "Quality checking and ensure of the quality adherence in the Central Control and Testing Agricultural Institute (CISTA)", "The development of the newly accredited study in the field of information resources for the environment focused on Waste Management". She is intermediate in English and German.</p>
Mr. Bohdan Stejskal	<p>Mr. Stejskal graduated at Brno University of Technology, Faculty of Mechanical Engineering with Masters degree in branch of Technical Applied Technology. Then he received a Doctor degree at Mendel University in Brno in branch "Agricultural equipment and machinery" in 2001.</p> <p>He works at Mendel University in Brno from 2007. Now he guarantees study subjects "Waste Management" and "Municipal Waste and Landfilling". He is fluent in English.</p>

Partner number - P 7

Organisation name	Hellenic Solid Waste Management Association
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C.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations, size of the organisation, etc.) relating to the domain covered by the project.

Please describe also the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 4000 characters).

The Hellenic Solid Waste Management Association (HSWMA) is a non-profit non-governmental organization. The statutes (objectives, structure, working groups and membership) are directly drawn from ISWA. The city of Xanthi (seat of the Engineering School of the Democritus University of Thrace) is the official seat of the HSWMA, while offices are planned for the cities of Athens, Thessaloniki and Mitilini. Most of the activities of HSWMA, however, take place in Athens. There exists no other association in Greece covering the content of HSWMA. The objectives of HSWMA are to promote the adoption of socially and environmentally acceptable methods for Solid Waste Management (SWM), the development and dissemination of relevant scientific methods and applications, the protection of the quality of our environment, and the preservation of natural resources and energy. HSWMA, which is not a research institute neither a consulting company, shall pursue these objectives by:

1. The exchange of knowledge and experiences in the practice of all aspects of SWM.
2. Keeping abreast of and, where appropriate, promoting scientific research and development in matters of SWM.
3. The dissemination of scientific knowledge, technological advances and new procedures and practical applications to its members, as well as to the community at large, by means of newsletters, lectures, seminars, expositions, conventions, scientific and technical publications, journals, books, etc.
4. Establishing libraries and archives that will be of use to its members and to the community at large.
5. Cooperating with the industrial sector aiming at the development or the improvement of existing SWM methods, practices and technologies.
6. Cooperating with the Government Departments, which are responsible for the selection, adoption or enforcement of SWM policies, with a view at improving methods and procedures.
7. Developing links and working relations with other national and international organizations, whose activities relate to HSWMA's activities and objectives.

Hellenic Solid Waste Management Association is the National member of International Solid Waste Association for Greece. It was founded in 2001 and now comprises all the stakeholders of solid waste management (Consulting firms, universities, management authorities etc.).

C.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project.
KONSTANTINOS ARAVOSSIS	<p>He is a Mechanical Engineer (Technical University of Aachen-Germany) with M.Sc. in Management Science awarded to him at the Imperial College of the University of London. He has been an adjunct Professor at the University of Thessaly (1997-2004) and today he is an Assistant Professor at the National Technical University of Athens [NTUA] of the Sector of Industrial Management and Operations Research of the Mechanical Engineering School. He is the current President of the Hellenic Solid Waste Management Association (HSWMA - since 2008) and member of the Ordinary</p>
AIDA ANTHOULI	<p>Aida Anthouli is Environmental Consultant specialized in Solid Waste Management. She holds a degree in Physics, and a Master in Environmental Management.</p> <p>She is currently General Manager and Member of the Board of Hellenic Solid Waste Management Association. Also she works for D-WASTE HELLAS Ltd as an Environmental Consultant.</p> <p>Her expertise lies in solid waste policy, recycling, digital and mobile governance, globalisation, waste management and social issues, public awareness and communication.</p> <p>She has been consultant in EPEM SA, editor of the environmental magazine OIKOPOLIS and has worked in France, Netherlands, and Hungary as a researcher on Renewable Energy Sources. She has organised several workshops and Conferences related to SWM, and is a member of the Working Group on Communication and Social Issues of ISWA.</p>
ANNA KOKALI	<p>She is a Senior Project Officer and has been working for the past 12 years in various EU projects relative to Environmental Protection, financial topics and project management. Moreover she is the current head Administrative Officer for EEDSA.</p>

PART D. Project characteristics

D.1 Why does the consortium wish to undertake this project?

Rationale of and background to the project

Please outline the motivation behind your project, clearly identifying the specific needs or problems/challenges which it intends to solve. Explain why these needs/problems were selected over others, and how the project proposal fits within the development strategies of the partners involved. Please include references to any declared regional, national, EU or international political priority in this area.

Also, please describe briefly how your project proposal was prepared (e.g., capitalising on previous experiences, based on achieved outcomes in former projects, following previous cooperation amongst the consortium members, etc.) (limit 6000 characters).

EU legislation restricting the use of hazardous substances in electrical and electronic equipment (Directive 2002/95/EC) and promoting the collection and recycling of such equipment (Directive 2002/96/EC) has been in force since February 2003. The main objective is to increase the recycling and/or re-use of such products. Despite such rules on collection and recycling only one third of electrical and electronic waste in the European Union is reported as separately collected and **appropriately treated**. A part of the other two thirds is potentially still going to landfills and to sub-standard treatment sites in or outside the European Union. The collection target of 4 kg per person per year does not properly reflect the amount of WEEE arising in individual Member States. Illegal trade of electrical and electronic waste to non-EU countries continues to be identified at EU borders.

In December 2008, the European Commission therefore proposed to revise the directives on electrical and electronic equipment in order to tackle the fast increasing waste stream of such products. The aim is to increase the amount of e-waste that is appropriately treated and to reduce the volume that goes to disposal. The Commission proposes to set mandatory collection targets equal to 65% of the average weight of electrical and electronic equipment placed on the market over the two previous years in each Member State. This proposed 65% WEEE collection rate refers to the amount of electrical and electronic equipment placed on average on the market in the preceding two years. The proposed collection rate would need to be reached by producers every year starting in 2016. The rate applies both to household and non-household WEEE.

The EU incentives and active policies in WEEE are predicted to increase jobs further in the WEEE treatment and recovery sector in the EU. These jobs are frequently manual jobs available for lower skilled sectors of the workforce (e.g. disabled people, economic immigrants). The evolution of the WEEE sector should also lead to more jobs for socially disadvantaged people.

The project consortium works together for about a year, to identify the gaps in the training offered in the sector. In visits to recycling factories, there were identified the following important shortcomings that the proposal is going to address:

- There is a problem in the higher personnel of the factories to identify the recycling materials in the devices (especially the new ones). This leads to tones of electronic devices to wait for recycling because nobody knows exactly what to recycle from them. This is a common case for medical equipment where there exist big differences in their technology. The current practice is a time consuming one, contacting the manufacturer for technical details.
- There is a new need, not only to identify the type of materials to be recycled, but also the quality of these materials (e.g metals and plastic parts).
- There is a training need for employees (low skilled profile) to be trained in the different packaging required for the different recycling materials.
- Knowledge and recall is a key point to the recycling of the WEEE. The employees need to be trained in identifying the internal parts of the devices. For example for PCs, the factories use to hire people with previous experience in computers. But the technology evolves and continuous training for them and their supervisors is necessary. To this must be added the need for early identification and removal of the toxic parts of the aforementioned products.
- Part of the employees, as already mentioned are economic immigrants, so the language part of offered training needs to be addressed.

The WEEE devices can be divided in the following categories:

- House equipment (refrigerators, washing machines, ovens, heating equipments, air conditions, vacuum cleaners, clocks, scales, etc)
- ICT equipment (main frames, mini computers, printers, photocopiers, CPUs, laptops, monitors, etc)
- Consumer Goods (radios, TV stations, cameras, etc)
- Lighting equipment (different kinds of lamps)
- Electric and electronic tools (not industrial)
- Electric Games and game machines
- Medical Devices (with the exception of all implanted and infected products)
- All kinds of Sensors

The most common problems disassembling these devices are:

- Huge variety of different types of devices and assemblies
- Complex physical structure of the devices
- Many different materials in each device (economy and performance reasons)
- Lack of data from the manufacturers

RECDEV project comes to offer a brand new solution to these barriers by the development of specialized training methodology and content for the disassembly of electric and electronic devices and the identification of the type and quality of materials in these. The training material for the disassemblers, will be developed in the form of scenarios for 3D environments allowing the users to learn of the geometry and parts of each different device, disassembling it to the virtual world with less text and more sound and animation instructions, before it performs it to

and utilized through innovative techniques and reused to innovative products. The consortium will survey this field, with objective to identify best practices that create new job opportunities in the sector.

The participating organizations also share the experience that traditional face to face training, draw expensive resources and don't achieve a high recall rate on the contrary with the proposed ICT virtual environments that will offer the learners the possibility to apply the acquired knowledge in training scenarios (equipment disassembly) as many times as they need, from wherever they are, to interact with other learners, thus bridging the gap between theory and practical experience. The participating universities will define the training methodology and integration framework with the national VET systems.

The consortium brings together the resources of 7 participating organizations from 5 countries including 3 partners with expertise in Recycling, Environmental Protection and Waste Management (ARVIS SA, Hellenic Solid Waste Management Association and the NCSPC), 2 universities with research work in the recycling sector (Un. of Maribor and Mendel Un of Brno), a consulting company dealing with implementation of sustainable development with a special emphasis on preventive environmental protection (STENUM), as well as a strong technological partner with expertise in 3D content management systems (Omegatech).

If your proposal is based on the results of one or more previous projects / networks, please provide precise references to this / these project(s) / network(s) in the table below.

Please add tables as necessary.

Reference number			
Project / network dates <i>(year started and completed)</i>		Programme or initiative	
Title of the project / network			
Coordinating organisation			
Website	http://		
Password / login if necessary for website			
<i>Please summarise the project / network outcomes and describe (a) how the new proposal seeks to build on them and, (b) how ownership / copyright issues are to be dealt with (limit 1000 characters).</i>			

Rationale for the setting-up of the consortium

Please explain why the selected partners are best suited to participate in this European project. Describe complementary skills, expertise and competences within the consortium directly relating to the planned project activities (limit 3000 characters).

The project's consortium has been formed to be able to handle all tasks involved in the project (management and technical skills). It includes partners with profound knowledge concerning the state of the art in the field of waste disposal, universities' departments with research work and training background in the waste management sector, a strong technical partner with expertise and publications in 3D Content Management Systems (3DCMS), a partner offering vocational training and consulting services to recycling companies which will take up the task of developing the proper Teaching methodology in order to create a easily adjustable to any EU country, technical curricula regarding WEEE. The partners are also in close cooperation with WEEE recycling Factories (e.g. EKAN Hellenic Recycling Center SA, Gr, WKO Wirtschaftsjammer Steiermark, At), from where the project idea was originated, ensuring their involvement in the project since the project outputs are based on their needs.

All members of the consortium have also considerable expertise and previous experience in the management of large projects, acquired through participation in previous and on-going European and national R&D programs. The coordinator ARVIS is a dynamic company which operates mostly in the sensitive field of the environment, with special emphasis in the sector of Recycling and Waste Management, at national level. ARVIS has expertise from its participation to many national research and EU funded programs both as coordinator and main technological partner.

All roles have been matched and clearly assigned. Also all the other partners are fully compatible with the project objectives. More specifically:

- **OMEGATECH** mainly provides advanced IT services and has been involved in many national research and EU funded programs. The company is highly competitive in 3D programming and gamification.
- **University of Maribor** and more specifically the department for Interdisciplinary Research (University of Maribor) represents an important research center working on the development of methodologies for measuring and introducing the concepts of sustainable development into industries and public institutions and initiatives in the field of interdisciplinary research.
- **STENUM** has participated in several FP research projects and a number of LEONARDO DA VINCI projects to develop training courses on environmental management, integrated management (including risk management, quality management, health and safety), innovation management and social responsibility. In this context, STENUM was as well involved in the development of web-based learning platforms and software tools. STENUM will offer valuable expertise to the development of the business plan.
- **National Centre of Sustainable Consumption & Production - CNPCD** develops activities for advocacy, promotion and information sessions with recipients from industry and tourism, business proposals for the implementation of Resource Efficiency and Cleaner Production concept (RECP), in plant demonstrations and trainings. The Centre through his members has also high expertise in the area of waste management, environmental

management, environmental auditing and corporate social responsibilities.

- **Mendel University of Brno** provides education in branch of Waste management for 15 years. The study is focused on the treatment of agricultural waste, municipal waste, industry waste and take-back waste (including electrical and electronic waste).
- **Hellenic Solid Waste Management Association** is the National member of International Solid Waste Association for Greece. It was founded in 2001 and now comprises all the stakeholders of solid waste management (Consulting firms, universities, management authorities etc.).

Investigation of the field (state of the art) and innovative character

Please explain how the field of operation has been explored and indicate what the project is offering that is new and what are the main innovating elements (limit 3000 characters).

RECDEV project's objective is the development of ICT-based self- and distance learning training courses familiarizing learners/users with the disassembly of Electrical and electronic devices and the identification of types and qualities of materials embodied. It targets both low level workforce (disassembly), aiming at strengthening employability, safety at work and developing skills as well as higher employers (materials identification) covering a crucial training gap in the WEEE industry. The training material will be prepared in the form of scenarios, will be enhanced with multimedia material and developed so as to take the form of 3D training scenarios. The scenarios will in turn be transformed into 3D situations through Virtual Environment applications (ICT) stimulating the real world. In these 3D virtual representations of real devices will be enacted. The beneficiaries/learners will thus be able to participate in simulations of real-life situations (based on the training scenarios) and disassemble the devices.

A needs analysis has already been conducted by project partners, and the project is built on real needs of the WEEE recycling industries (materials identification, recognition of the different parts of the devices, toxic parts, packaging, etc) as described in detail in section D1. That's why and there is great interest from these recycling industries to follow the project's progress and exploit the project results (see attached letters of intent in Annex I).

Knowing the present state, that training is offered by traditional means and on the job training practices, the project is going to develop innovative training scenarios and will validate them using "control groups" following the traditional training methods.

The use of virtual technologies and the innovative training pedagogies they offer (learning by doing) are going to lead to the enhancement and transformation of existing training material to interactive content, offering attractive and instructive disassembly and material identification courses to people not used to read big manuals and technical details. The technological innovation to be used in the project is based on research work of Partner Omega Technology on dynamic virtual reality applications. Through a combination of common software for developing

3D models, JavaScript and web services (Papastamatiou 2010) 3-D representations of the real world become manageable through a WEB 3D CMS. The location and allocation of the objects in the virtual world and all information about them are dynamically set by content authors. The authors, in a “What You See Is What You Get” web environment can add/change/rearrange the parts in the virtual device and add/change information about them. In the current Project this technology will produce Virtual Scenarios with a crucial advantage: a “content author” will be able to modify or replicate them, to create new scenarios, to combine existing ones, to present difference between same type of devices, to model their parts and materials with the help of ontology on WEEE, etc.

RECDEV proposes a brand new solution to the training around WEEE recycling, offering 3D training tools for the development of relevant skills both to the disadvantaged target group (low skilled workers) as well as to higher personnel of recycling industries (decision makers).

There exist several projects addressing training needs on recycling, but most of them are about general practices on recycling. There is no previous project focusing on WEEE and we found no project that utilizes 3D technology in the disassembly training for WEEE.

- The WASTE-TRAIN Vocational Training, Education, Conveying Information on up-to-date Waste Management Practices to Decision Makers/Staff involved in Waste Management (TR/06/B/F/PP/178066) project developed specific training tools in the field of Modern Solid Waste Management
- The project WASTE(LLP-LDV-TOI-2008-HU-019) has been designed as a respond to urgent need of the continuously growing waste management sector to develop sustainable training for people already operating in the field who are interested in expanding their existing field of competences and pass the knowledge on others.
- ALCVET: Advanced eLearning Content for VET in Recycling Industry SME(PL/07/LLP-LdV/TOI/140008) regards transferring of the already existing courses on general recycling technologies.
- COMMAMED: Dissemination of MAMED concept of training ; revalorisation of medical equipment (142098-LLP-1-2008-1-FR-LEONARDO-LAM) is a network of European institutions composed of 21 organizations from 15 European countries, all engaged into activities around recycling medical equipment and / or vocational training in the field of recycling medical equipment.

Finally, RECDEV includes a 12 months pilot implementation phase, where the tools will be evaluated by real users (both low and high skill employees) and fine tune to lead to efficient European tools for WEEE recycling.

D.2 Aims and objectives

Please define the concrete aims and objectives of the project / network and describe the ways in which the situation set out under the previous section (D.1) will be changed. (limit 3000 characters).

In order to respond to the above challenges the RECDEV project develops a set of high-quality 3D training scenarios that simulate WEEE disassembly and offer information of the parts and materials included (types and qualities). The pedagogical context is meant to allow both for low skilled users to upgrade skills, become more efficient to disassembling and packaging, require less supervision, and minimize risks in the disassembly of electronic devices as well as higher level personnel to develop skills on identifying types and qualities of materials contained in EEE devices.

The specific objectives of the RECDEV project are:

- to integrate existing practices and experience of the partners into the design of high-quality 3D training scenarios.
- to develop, pilot implement and evaluate an interactive, multimedia and multilingual training approach that will familiarize low level trainees with the WEEE disassembly and packaging allowing them to perform it virtually before going to the physical device.
- to develop, pilot implement and evaluate an interactive training approach that will help higher level personnel of the recycling industries to develop skills on identifying the types and qualities of the material in the WEEE.
- to modernize WEEE educational content with state of the art ICT tools and an ontology on WEEE.
- To offer multilingual easy to understand, training tools for economic immigrants, a target group that constitutes a great proportion of the workers in WEEE recycling.
- to enhance networking between WEEE employers and experts in the sector from different European countries.
- To offer an incentive to EU Recycling businesses towards a periodical training of their managerial and technical staff in aspects of modern disassembly methodologies and (most importantly) to the Health & Safety issues that arise with each new developed product and raw material used
- to ensure dissemination and further exploitation of its outcomes.

All of the above will contribute to the objectives of the LLP:

1. Development of quality lifelong learning and promotion of high performance, innovation and a European dimension in systems and practices in the field of WEEE and
2. Development of innovative ICT-based content, services and practice for lifelong learning.

D.3 Methodology

Please define the methodology proposed for achieving the objectives (including major milestones, measurable indicators, etc) (limit 3000 characters).

The Consortium sums up the resources of 6 organizations from 5 EU countries thus combining diverse expertise and know-how on vocational/ adult training/recycling/guidance, research and ICT-related entities. The work plan the partners have already agreed upon, follows a modular structure, each stage/module resulting to a specific result that serves as the basis for the next one.

Project's key phases are:

- Development of the pedagogical framework, training goals, evaluation criteria and an ontology on WEEE.
- Development of the training scenarios in all languages. 5 Indicative 3d scenarios will be initially built and validated which will become the reference for the development of the remaining 45.
- Development of the 3D models, transfer of the scenarios to the virtual world, integration of the ontology and setup of pilot sites in all languages.
- Pilot implementation and evaluation conducted with target group members, resulting at the validation of the final products. These include the ICT-based training courses plus the guidelines for the application's upgrading or extension. In pedagogical terms, the pilot phase will benefit greatly with the creation of "control groups", which will be trained according to traditional methodologies. This will allow at the end of the testing a comparison of the effectiveness of both learning solutions and validate RECDEV's motto that 3D training will enhance knowledge and retention.
- Development of an exploitation plan (WP7) that will propose a methodology for the integration of the training materials to more EU countries VET systems and will propose a framework for the further exploitation of the tools. The project plans to develop an innovative guide with which all management and technical staff of a WEEE Recycling Centre/Business will be able to:
 - ✓ Learn (and be kept updated since the training method and electronic data bases will be dynamic and easily upgradable) on what kind of raw materials are used in all known and identifiable Electric & Electronic appliances
 - ✓ Participate in periodical Vocational Training courses in which they will be able to disassemble in a 3D environment the parts that all known and identifiable Electric & Electronic appliances consist of.
 - ✓ Participate in periodical Vocational Training courses in which they will be able to learn all aspects relating to Health & Safety issues of each material used in all known and identifiable Electric & Electronic appliances.
- Development of a VET methodology, the main topic of which will be how the derived materials from WEEE can be utilized for the development of innovative products, a very interesting field that can contribute to the sustainable development of countries, addressing skills mismatches and shortages in the WEEE recycling sector.

It is expected that the requirements that will arise from the discussions among the experts will be conflicting in relation to their importance and their overall appliance for the specialized training courses in WEEE. In order to overcome these conflicts and gather a representative set of views, questionnaires will be prepared and distributed through a number of the focus group members in order a framework for the training scenarios to be set.

The participation of end users is ensured through the commitment of recycling industries (e.g EKA in Greece) that are interested to exploit the project outcomes. The RECDEV project is already presented to them, after several study visits and round tables that preceded, and they have expressed their interest to follow up the project evolution.

Please explain how the overall project management will be implemented making specific reference to the management structure of the partnership, how decisions will be taken and how the partnership proposes to ensure permanent and effective communication and reporting (limit 1000 characters).

In order to achieve the timely and qualitative completion of the project, it is essential to utilise a coherent management approach that will provide the required processes, techniques and tools for managers to administrate, monitor and control the project resources. Representation from all stakeholders is obligatory in order to ensure that all interests are reflected in the course and delivery of the project. To this end, our consortium is introducing a project management approach that is based on the principals of PRINCE2 (Projects In Controlled Environments) tailored to the needs of a research & development project.

The project is set up to deal with change, and the future is always less predictable than with routine work. Risk is therefore a major factor to consider during project management and the proposed methodology incorporates the management of risk into its processes. The process model provides the flexibility to establish a number of Work Packages, each forming a distinct unit for management purposes. Each WP has a defined set of outcomes, tasks & activities, a finite lifespan, resources and an organisation structure. The completion of each WP is determined by the satisfactory completion of the agreed deliverables.

Based on the requirements of the project, two types of management entities / roles are identified:

- **Project Coordinator.** The mandate of the Project Coordinator is to represent the project and the consortium, report to the Commission, monitor overall project performance, administer project resources & promote project visibility.
- **Scientific and content Coordinator.** The mandate of the Scientific Coordinator is to audit the performance of the project and ensure accomplishment of the technical & business objectives.

D.4 European added value

Please describe the benefits of and need for European cooperation (limit 3000 characters).

EU decisions acknowledge lifelong learning as a means for socio-economic development, personal fulfillment, as well as for securing equal opportunities. It is then crucial that employees (and especially low skilled and disadvantaged) that the recycling industry employees, can profit from LLL opportunities in order to acquire vocational skills, maintain their employability and overcome social exclusion. To achieve this, effective learning tools need to be developed, such as ICTs can provide. For various reasons though, such applications are not widely spread nor available for all.

The European Added value is identifiable in three aspects of RECDEV; (a) in its efforts to enhance the European dimension in the recycling sector, (b) its contribution to the achievement of the European Environmental Objectives and (c) the combination of knowhow of the partners. More precisely UNIVERSITY OF MARIBOR will offer its expertise on plastic material types and qualities, while MENDEL UNIVERSITY will offer its expertise in metal compounds. Hellenic Solid Waste Management Association will offer its expertise in the disassembly processes.

Our Project seeks to address these issues by developing a brand new solution of 3D ICT-based training material that will respond both to the learning needs of low (academic) level workforce for WEEE disassembling as well as higher personnel's needs to identify types and qualities of materials, covering this way the full needs of the recycling industry. The project respects cultural diversity of the people working in the sector and will address these in the final products, launching different cultural versions of the tools (e.g. scenarios with less texts and more multimedia content). Meeting these objectives, given the nature of the problems they reflect, requires not just trans-national transfer but a synthesis of knowledge and experience. This synthesis will hopefully be integrated in the Project's results, targeting namely stakeholders of the recycling industry (support organizations, recycling companies, public authorities, etc). The Project's final products will enable them to provide high quality services following common specifications, thus enhancing the European dimension in the recycling sector. Also, even if national resources could suffice for such an endeavor, this would diminish any possibility of scale economies. Although ITCs can serve as a "democratic" learning means, this is only so after the relevant application is built. Its actual construction though is still a matter of adding up resources. We also note that Project results will be forwarded to the relevant Official Bodies for the application of VET systems in each participating country in order to be evaluated by them and (hopefully) to be integrated to the official national VET systems.

RECDEV project offers also a generalization aspect (and a method of work to achieve this) that ensures the applicability of the training material on a European level and thus requires a European (rather than a national or local) approach contributing to the recycling of the electronic device knowledge in 6 different countries. The main benefit of the project is it has a major pedagogical character, which is based on the adaptation of the "**Learning by doing**" method to the singularities of the recycling sector. The project contributes to the achievement of European environmental objectives by:

- exploring best practices and reinforcing virtual mobility crossing the worlds of education and work and taking account of non-traditional learning pathways

- Using on-line learning communities to develop transversal competences such as learning to learn, entrepreneurship, collaboration, working with different cultures, autonomy, etc;
- Experimenting with new formative and summative assessment approaches that support online collaborative learning, peer learning, self-directed learning and virtual mobility and capture diverse individual learning pathways.

D.5 Budget and cost effectiveness

Please describe the strategy adopted to ensure that the proposed results and objectives will be achieved in the most economical way. Explain the principals of budget allocation amongst partners. Indicate the arrangements adopted for financial management ((limit 3000 characters).

The ICT-based training tools incorporate in their design a structure that can be multiplied or extended. On this structure specific content/scenarios are adjusted depending on learning needs and goals giving to the content authors the option of formulating the training material. It must also be noted that the use of the training material in the realm of training reduces their cost because it allows for self- and distance-learning, though securing at the same time guidance and support for the learner. Given also that the Project targets employees, that is possible to be members of disadvantaged groups, in the aim of facilitating their social inclusion, it allows for intensifying "social return on investment" where are also included further costs associated usually with the unemployment benefits.

Regarding direct costs, the Consortium considers a matter of importance the dissemination of the final products a matter of utmost importance that is why it allocates a considerable sum of the budget to such activities. However, it has taken care of using "intelligent" publicity activities by investing on existing networks, previous experience and know-how.

The budget allocation has been commonly decided taking under consideration the tasks required for its implementation. Around 21,14% of the projects budget goes to the coordinating partner that will be responsible also for the development of the 50 core scenarios and the dissemination plan of the project, as well as the subcontracts for the external evaluator and the translations. Another 18,58% of the budget is allocated to partner OMEGATECH that will undertake the development of the 3D models of the WEEE devices and the technical support and fine-tuning during the pilot implementation phase. To Partner Stenum GmbH 21,01% of the budget is allocated since it will undertake apart from pilot implementation in Austria, the coordination of the pilot implementation phase, internal evaluation and the Development of the Business plan. CNPCD receives 8,75% with main activities the pilot implementation phase in Romania and the development of the dissemination plan. The universities, share equal budget share (about 10-16% each) with some differences due to different daily costs as they will undertake similar activities in their countries (Development of the training methodology for the

identification of the materials' types and qualities (plastic and metallic), the development of the ontology and pilot implementation and evaluation of the scenarios in their countries).

PART E. Impact, dissemination and exploitation, sustainability

E.1 Expected impact of the project

Who will use these project outputs / products / results and how will the consortium reach them?

Please describe how the target groups (including participating institutions, stakeholders) will be reached and involved during the life of the project and how the project will benefit the target group. What is the change your project will make? (limit 3000 characters).

Some waste electrical and electronic equipment (see categorization already made in section D1), is classified as hazardous/special waste. This includes WEEE that contains:

- polychlorinated biphenyls (PCBs)
- ozone depleting substances (ODS) (eg fridges and freezers)
- asbestos
- cadmium
- lead
- cathode ray tubes (CRTs), found in televisions and older computer monitors.

The equipment before disassembly must be de-polluted. However, de-pollution will not always remove all hazardous components. The equipment may still need to be treated as hazardous/special waste.

If people have bought electrical and electronic equipment (EEE) before 13 August 2005 and there is no like-for-like replacement, they are responsible for ensuring the equipment is disposed of appropriately.

Almost all businesses will produce some hazardous waste, for example:

- clinical waste - human or animal tissue, blood or other bodily fluids, excretions, drugs or other pharmaceutical products, swabs or dressings including nappies, syringes, needles or other sharp instruments
- garage waste - lead acid batteries, contaminated rags, used oil/fuel filters, aerosols, antifreeze and brake fluids
- Office waste - fluorescent tubes, energy-saving light bulbs, sodium lamps, toner and ink jet cartridges from printers and photocopiers and old computer monitors.

The project will be able to supply in a simple and easy to understand way what hazardous waste is, how it looks and the correct way of storing, transporting and disposing of it. It will also help citizens and businesses to produce less hazardous waste, which will save money in waste disposal costs and reduce impact on the environment. Moreover the target group, people with low academic level, will be able to follow a complete training program regarding WEEE understanding, disassembly and disposal, giving them a professional ability to work in the aforementioned sector. The project will be open to all Social Partners and can be easily

integrated to any possible academic or Vocational Training Program and can be adjusted to the needs of each target group.

In order to serve the needs of the unskilled workforce, the 3D scenarios will have an optional "video mode" where the whole procedure will be presented without the need for interaction from the trainee. This in the case that the trainees do not have the technical skills for the completion of the interactive training. Part of the pilot implementation is to train them how to use the tools and to assess the effectiveness of this training.

The persons involved in Project's pilot implementation, test and evaluation procedures are 250 (50 prs/country) employees of recycling companies involved in WEEE. From them 10% will be higher personnel, while the 90% will be low skilled disassemblers. 10 users in each country will receive traditional training to perform as control groups for the project achievements. The above targets will be monitored with goal to assess the market potential of the 3D training material in each country. The users' satisfaction, along with the system's effectiveness, efficiency and safety will be measured following ISO/IEC 9126, "Quality in use metrics".

Long term target groups include:

- vocational training providers as well as any organization at national and European level that are involved with recycling
- recycling companies (public and private) that want to train their employees or newcomers to specific requirements or to upgrade skills
- training institutions and all types of education providers that want to integrate virtual environments in their training tools

Please describe how the target groups (including participating institutions, stakeholders) will be reached after the project is finished (limit 3000 characters).

Making information available and easily accessible is an important contribution to the result's dissemination of any EU funded project. In the proposed project the dissemination and communication activities will aim to give a proper visibility of the project by creating appropriate visual and editorial support elements for all documents issued as well as by ensuring a regular information on the project's on-going progress and results obtained. This information will have to be prepared in such a way that it will be understandable also for readers not having the same technical level of expertise as the project partners.

Emphasis will be placed on appropriate selection of the information provided, on a clear and to-the-point presentation and on the protection of specific know-how of the project partners so as not to endanger exploitation of results. All the actions above will be included in a dissemination strategy and actions documents which will be updated regularly. For the consortium is very important that the outputs will be in many target groups languages and the methodology and tools will be developed to be easily extended to other recycling sectors, as well as other

industries beyond the recycling sector through dissemination & exploitation of results.

The consortium will work closely with the recycling industries during the project, already in close cooperation for the needs analysis already undertaken, on an ongoing and regular basis to ensure that RECDEV tools are appropriate, useable, accessible, engaging and effective addressing real needs. These organizations upon convinced about RECDEV's usefulness, will mainstream the product at the end of the project.

Project partners will mainstream the project results to many other European Countries, during the project, making the outputs available and well known, through demo scenarios that will be available from the project's website.

Testing and piloting of the products will measure performance against agreed indicators of both hard and soft outcomes to ensure that we meet the objectives of increasing independence and inclusion for the target groups and of reconnecting excluded learners back to their communities and lifelong learning opportunities, as well as developing softer outcomes of confidence, participation, self-esteem etc. Our valorisation plans will facilitate wider mainstreaming and exploitation of the product at regional and national levels.

E.2 Dissemination and exploitation strategy

How will the dissemination be organised and how will exploitation activities ensure optimal use of the results? (limit 3000 characters).

As mentioned above making information available and easily accessible is an important contribution to the result's dissemination of any EU funded project. In the proposed project the dissemination and communication activities will aim to give a proper visibility of the project by creating appropriate visual and editorial support elements for all documents issued as well as by ensuring a regular information on the project's on-going progress and results obtained. This information will have to be prepared in such a way that it will be understandable also for readers not having the same technical level of expertise as the project partners. A large number of publications will occur in highly reputed international conferences, workshops and journals based on the concept, vision, design and implementation results of the project all managed through a concise and constantly updated publications plan. The project's results will be published in conferences focused on recycling Sector.

Emphasis will be placed on appropriate selection of the information provided, on a clear and to-the-point presentation and on the protection of specific know-how of the project partners so as not to endanger exploitation of results. All the actions above will be included in a dissemination strategy and actions document which will be updated regularly. A User Forum will be composed early in the project that will include representatives of all key stakeholders. The User Forum members will be invited at project Workshops and events, get early information on project developments, and will be requested annually to provide structure feedback to the project (through concise and short questionnaires or templates).

Three key events / workshops will be organized: one in Greece (Fourth International Conference on Environmental Management, Engineering, Planning and Economics & SECOTOX Conference 2013), to discuss and debate project concept and initial project findings that will be determined during the early stages of the project and further two (in Austria and Czech Republic) to disseminate project results.

Moreover the partnership will produce two papers that will be forwarded to accredited scientific journals (such as Journal of Solid Waste Technology and Management, Scientific Journal International, International Journal of Environment and Waste Management (IJEWM), Nature etc.)

Further Dissemination activities will include:

- Project informative Brochures
- A multimedia application presenting interviews with representatives of the factories participated to the project.
- Development of a stakeholders' list, recipients of the dissemination materials
- Several Newsletters with information on the projects progress
- Press releases to newspapers and web sites relevant to recycling

Dissemination activities and their impact will be monitored by partner STENUM in the

framework of the internal evaluation of the project as well as from the external evaluator.

Regarding exploitation, the business partners aim to jointly mainstream and exploit the project results by the development of a joint legal entity that will undertake to commercialize the project's outputs. Regarding the business scheme of this legal entity, the formation of a European Economic Interest Grouping (EEIG) is already under negotiation within business partners. EEIG implies no specific rules in its Regulation which stipulate the requirement of a minimum capital or determine a maximum capital. This financial flexibility is important for enterprises, Universities and for NGOs, as it facilitates the formation of a cooperation framework, especially when the envisaged activities of the grouping do not require substantial capital at all. Due to the fact that, according to Article 24-1 of the Regulation, the members have unlimited joint and several liability for the debts and other liabilities of the EEIG, the grouping can rely to a certain extent on the creditworthiness of its members and can function without capital. The main revenues of the grouping will derive from the provision of the RECDEV training tools and the supplementary ones (consulting services, advertisements, etc). All these ideas will be formulated and justified in the business plan, one of the most important deliverables of the project.

Regarding Intellectual Property Rights, those will remain to the partners who generated the knowledge, but the results delivered to the end users can be freely exploited by them. It is already decided and will be officially signed in the consortium agreement that all the partners will have full rights to exploit the project outputs for in-house services. The rights of the platform remain to OMEGATECH, the rights for the scenarios to those developed it and each new opportunity for exploitation will be discussed separately between involved partners.

E.3 Sustainability

How will the impact of this project be sustained beyond its lifetime? How will the results be mainstreamed and multiplied in the sector of activity? (Limit 3000 characters)

The size and reputation of the consortium partners and their experience in the environmental and recycling sector is an added value to this endeavor. The participating organizations are all well established and respected members of regional, national and European networks consisted of peer organizations, NGOs, Consulting Companies and academia. They plan to activate these networks in order to disseminate the Project's final products. For this reason they plan a dissemination/publicity campaign where their exploitation-valorization strategy is incorporated (WP 6). This strategy refers at informing non-profit and profit-making entities on the final products (ICT-based training material, methodology for developing additional scenarios) and their potential, launching the RECDEV as a training and support WEEE service in all participating countries. For this to be known in local, national and European level a series of publicity activities are planned (WP 6) among which is the organizing of three key events/ workshops

(Greece, Austria and Czech Republic), a number of press releases and publications.

Further to the above:

a) The partners have already decided to integrate the final products of the Project in their regular activities and VET systems (universities), thus making the training method available to their future clients/beneficiaries in the 5 participating countries.

- Omegatech will further develop its 3D CMS platform giving to it further visibility, awareness and potential customers
- Arvis will use the training scenarios to offer it to its network as innovative training tools enhancing its significant role in the recycling sector in Greece. Arvis is in close cooperation with Greek Universities working together in research topics in the recycling sector and will mainstream the projects to them to integrate project results to their VET systems.
- University of Maribor and Mendel University will integrate the training tools to its recycling courses.
- Stenum will use the training scenarios to offer them to its network as innovative training and consulting tools enhancing its significant role in the recycling sector in Austria.
- CNPCD will use the training scenarios in-house to offer them as training to its network members.
- EESDA will promoting the project to public bodies and policy makers.

(b) The methodology for the development of Virtual World scenarios, i.e. for developing additional scenarios allows for their replication for different recycling industries as well as for new challenges that may arise in the future in different sectors.

(c) The partners, during the project and in the framework of the Exploitation plan will explore the possibility of creating a legal entity that will establish the RECDEV as a training and support service in all participating countries.

(d) It is already decided and will be officially signed in the consortium agreement that all the partners will have full rights to exploit the project outputs for in-house services. The rights of the platform remain to OMEGATECH, the rights for the content to those developed it and each new opportunity for exploitation will be discussed separately between involved partners.

PART F. Action or programme specific information

This section should allow you to provide specific information related to the Action under which you are submitting your application. Please refer to the "Instructions for Applicants" (limit 3000 characters).

The proposed project addresses several of the General, Action Specific and Operation Objectives of the LLP Programme; first of all, the proposed ICT virtual training environment will offer learners the possibility to apply the acquired knowledge in training scenarios (equipment disassembly) as many times as they need, from wherever they are, and interact with other learners, providing thus a *"European dimension in systems and practices in the field"*. Secondly, the project connects the popular Virtual Environments technologies to current training needs. The use of such technologies in combination with tailor made training scenarios will conclude in *"innovative ICT-based content"* for management of Waste Electrical and Electronic Equipment (WEEE), offering attractive and instructive disassembly courses.

Furthermore, the EU incentives and active policies in WEEE are predicted to increase jobs further in the WEEE treatment and recovery sector in the EU. These jobs are frequently manual jobs available for lower skilled sectors of the workforce. Efficient training in the WEEE sector will be aided by the outcomes of the proposed project, which should also lead to more jobs by *"improving skills and facilitating personal development, employability and participation in the European labor market"*. Also, the pedagogical methodology behind the project idea is based in an adaptation of the 'learning by doing' method to the singularities of the recycling sector, utilizing the interactivity and the simulation offered by virtual worlds. The learning by doing method and the simulation offered by virtual worlds makes the project idea fully compatible with this specific objective. More specifically, the combination of these methods *"supports improvements in quality and innovation in vocational education and training systems and practices"*.

The proposed project, through a) using on-line learning communities to develop transversal competencies and b) experimenting with new formative and summative assessment approaches that support online collaborative learning, peer learning, and virtual mobility, addresses an important operational objective: *"To facilitate the development of innovative practices in the field of vocational education and training other than at tertiary level..."*. Also, the use of innovative 3-D real life simulations, is expected to add to the attractiveness and accessibility of learning both in the realm of vocational and of adult training, thus *"supporting the development of innovative ICT-based content, services, pedagogies and practices for lifelong learning"*. This project promotes equality between men and women by training equal number of men and women and contributing to combating all forms of discriminations.

Last but not least, the project addresses Priority 3: *"New – Sector skills Alliances - Activities"*, as it will introduce a training methodology for low level manual workers in the WEEE sector, enhancing their employability in the continuously evolving European labor market.

For applicants under Erasmus only

Please identify which of the **Erasmus Policy Priorities** this application addresses:

- Lifelong Learning in Higher Education
- New skills for new jobs
- Recognition
- Transparency in Higher Education
- Mobility strategies / removal barriers
- Governance
- Funding
- Quality Assurance
- Employability
- Knowledge triangle
- Social dimension
- Innovation & excellence in teaching
- Curriculum development

PART G. Work plan and work packages

IMPORTANT: Sections G.1 to G.3 should be duplicated and completed together for each work package.

G.1 Identification

Work package number	1	Work package title	Project Management		
Work package type	<input checked="" type="checkbox"/> Management <input type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results				
Start Month number	1	End Month number	36	Duration in number of months	36
Description of the work package (limit 3000 characters)					

Aims

- To organize, plan and control the project, both from administrative and from technical point of view.
- To ensure continuous monitoring and evaluation of progress according to objectives.
- To establish peer-reviewing mechanism that will provide feedback to management (administrative – technical) about quality of deliverables and results of independent evaluation.

More specifically:

- Initiate the project with success by clearing out the project & work package objectives, the monitoring & reporting processes and the working responsibilities to all involved parties
- Set up & administrate the tools, operations & documents for the efficient cooperation & communication among all involved parties.
- Plan and monitor the required activities for the timely & qualitative implementation of the project deliverables within the planned work packages
- Monitor & control the project progress & resources, ensuring the direct and in-time information flow in every decision making level
- Identify potential risks & changes (internal or external) and manage them effectively through predefined techniques
- Close the project with success by delivering the project final outcomes and setting the basis for their commercialization

Task 1.1: Project Coordination

Directing a Project runs from the project initiation until its closure. This process is undertaken by the Project Coordinator. The Project Coordinator manages by exception, monitors via reports and controls through a number of decision points. The key activities for the Project Coordinator break into four main areas: the initiation (starting the project off on the right foot), the work package / phases boundaries (commitment of more resources after checking results so far), ad hoc direction (monitoring progress, providing advice and guidance, reacting to exception situations) and project closure (confirming the project outcome and bringing the project to a controlled close). One of the major activities of the Project Coordinator throughout the project life cycle is the preparation and submission of the 3 Interim Reports as well as the preparation and signing by all partners of the Project Consortium Agreement. During the project we will submit the following project reports:

- 2 Interim reports
- Final Report

In addition to the Kick Off meeting, a consortium meeting will be carried out in Austria and Czech Republic along with the workshops. Another two meetings will take place through skype to reduce travel costs as possible.

Task 1.2: Internal Cooperation and decision making

The project management is structured in such a way that allows the project to address issues

such as dynamic resource reallocation (effort and time between partners) and change management by providing processes and controls for fair and effective internal administration.

Task 1.3: Consortium Agreement

Matters related to Confidentiality and IPR handling will be defined in the "Consortium Agreement" partners initially agree that they will work closely in order to define the best possible scenario of handling Intellectual Property Rights that will leave IPR to who own and generated the knowledge, but the results delivered from the project can be freely exploited by the partner SMEs in their services. It is already decided and will be officially signed in the consortium agreement that all the partners will have full rights to exploit the project outputs for in-house services. The rights of the platform remain to OMEGATECH, the rights for the scenarios(training material) to those developed it and each new opportunity for exploitation will be discussed separately between involved partners.

Work package number	2	Work package title	Quality Assurance		
Work package type	<input type="checkbox"/> Management <input type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input checked="" type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results				
Start	1	End	36	Duration	36
<i>Month number</i>		<i>Month number</i>		<i>in number of months</i>	
Description of the work package (limit 3000 characters)					
Aims					
<ul style="list-style-type: none"> • To ensure that the project reaches the highest standards of operation, outcomes and accountability, using all the stages of the CQAF (Common Quality Assurance Framework) model (planning; implementation; evaluation and assessment; review). • To provide, at the end of the project, a critical evaluation of the project overall and, in particular, the extent to which it will have achieved its aims and objectives as defined at the outset. • To ensure that the project has the benefit, throughout its life, of an ongoing critical evaluation and review of its operation and outcomes. • To determine the extent to which the project is conforming to its work plan. • To evaluate, and provide advice upon ways in which the project may have to adapt to unanticipated contextual factors in order to achieve its planned aims and objectives. • To review and evaluate the effectiveness of the project's relationship with stakeholders, users and sectoral bodies. 					

- To review and evaluate the contribution of individual partners to the project overall.
- To review and evaluate the effectiveness of the project's procedures, activities and outcomes.
- The aim of the Quality Control Management plan is to approve, supervise and evaluate project process and partner performance in order to secure smooth progress and optimal results.

Task 2.1: Quality Control

This process describes the monitoring and control activities of the Coordinator in ensuring that a Work Package stays on course and reacts to unexpected events. The process forms the core of the Scientific Coordinator's effort on the project, being the process that handles day-to-day management of the project. Throughout a Work Package there will be a cycle consisting of authorizing work to be done, gathering progress information about that work, watching for changes, reviewing the situation, reporting and taking any necessary corrective action.

Task 2.2: Risk Analysis & Change control

This task covers all the project activities, together with the on-going work of risk analysis & management and change control and cooperation with the Project Coordinator.

Task 2.3: Internal evaluation

This task covers will be undertaken from Stenum that will undertake to evaluate the project achievements regarding the expected impact, the monitoring of the dissemination activities, quality of the cooperation between partners, efficiency of the project outputs.

Task 2.4: External evaluation

This task will be subcontracted to an external evaluator, recognized expert in WEEE recycling, that will be asked to validate (or not) project outcomes. The external evaluator will be involved from the early stages of the project to get a full view of the existing situations, the gaps and how these will be addressed by the project.

Work package number	3	Work package title	Development of the training methodology and scenarios		
Work package type	<input type="checkbox"/> Management <input checked="" type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results				
Start	1	End	18	Duration	18
<i>Month number</i>		<i>Month number</i>		<i>in number of months</i>	
Description of the work package (limit 3000 characters)					

Aims

- to establish common ground regarding the training courses framework (content outline and pedagogies)
- to define the specifications that the development of the training material will follow
- to develop two training courses based on training scenarios and the ontology for the two target groups.

The WP comprises the following tasks :

Task 3.1 Content Outline and ontology development

Collection of the existing material, analysis of the existing material, preparation (draft) of the topics (different devices, variations, sources of updates) to be included in the training scenarios.

The training content will include at least the following topics:

- WEEE types
- Disassembly techniques
- Dangerous materials and substances
- WEEE parts management
- Handling of Plastic compounds
- Handling of Metallic compounds
- Packaging

The ontology will be built based on the collected content and with goal to be fully exploitable from the learning tools.

Task 3.2. Pedagogy Framework and training material specifications.

Preparation (draft) of pedagogical goals and framework. The task will deliver the framework for two courses:

- A course for low skilled employees working on the disassembly of EEE. The topics will cover skills to identify internal parts and safely disassembly and package the materials for recycling (As in 3.1).
- A course for higher level personnel, decision makers in the WEEE industries. The topics the course will cover are what types of parts are included in the devices (plastic, metallic, etc) and how they can some identify them at first and their quality in a second stage(As in 3.1).

Task 3.3 Development of the training scenarios following the results of the previous tasks

The courses will be based on the training material developed by project partners in Task 3.1. The

scenarios will in turn be transformed into 3D situations through Virtual Environments applications (ICT) in WP4. The training scenarios will include all the necessary disassembly steps (including alternative options), description of the actions and materials/substances involved and direction.

ARVIS will undertake to prepare 5 indicative scenarios in English that will be discussed with all participants in terms of achieving the specified goals and the feasibility of transferring them in 3D. Then OMEGATECH will prepare these 5 scenarios in 3D applications (in the framework of the next workpackage that will run simultaneously for a significant period of time) and all partners will discuss on the outputs. After the end of this task, the partners will start developing training scenarios having a good idea of what is expected from them and the certainty that these will be transferred “as is” to the 3D tools.

Work package number	4	Work package title	Development and setup of the virtual environments		
Work package type	<input type="checkbox"/> Management <input checked="" type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results				
Start		End		Duration	
<i>Month number</i>	10	<i>Month number</i>	22	<i>in number of months</i>	13
Description of the work package (limit 3000 characters)					
Aims					
<p>To set-up the pilot platforms (one for each country with the 3D training scenarios uploaded) along with the required documentation and supporting material. The methodology will follow to a degree the “Incremental Development Process Engineering (IDPE)” taking under consideration the basic principles of the Rational Unified Process. Its most important element is that the determination of the final solution is not covered totally in the beginning of the work package but is determined step by step through the development of prototypes that are used for the extraction of additional requirements (see task 3.3).</p> <p>The WP comprises the following tasks :</p> <p>Task 4.1 Development of the 3D models and graphics</p> <p>Development of the 3D models and graphics where the Virtual environments, the required objects and their parts will be designed.</p> <p>Task 4.2 Development of the necessary scripts to cover all the requirements of the training</p>					

scenarios

The 3D models developed in Task 3.1 will be imported in the 3D software and the necessary scripts that allow functionality will be developed and tested. Using realistic disassembly physics, RECDEV scenarios will simulate the experience of taking everyday objects apart. Screws, bolts, nuts and every single part will be able to be removed by touch dragging in full stereoscopic 3D. Trainees will be able to interact, use and disassemble the object intuitively by just touching and dragging the parts. Camera will be controllable allowing the trainee to zoom in or out.

The development of a relational database will also be necessary to host the scenarios, the users and their achievements. The scenarios will be setup by the content authors that will select from an external repository the 3D models they need (devices and other objects), and give them “properties” by assigning them the necessary scripts. All the scenario information will be stored in the database. This architecture offers the content authors the ability to modify the scenarios, to replicate them, to combine existing ones and to create new using the available 3D models. The virtual environments will offer modules for networking where the user will be able to discuss with other employees in WEEE related issues. The tools will not require software to be downloaded in the user’s machine, like most of the 3D applications. The user will be able to run them by a common web browser.

Task.4.3 Setup of the virtual environment

Setup of the pilot platforms with all the 50 training scenarios available in 7 languages (English, French, Greek, Slovenian, Czech, Austrian, Romanian).

Work package number	5	Work package title	Pilot implementation and evaluation		
Work package type	<input type="checkbox"/> Management <input checked="" type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results				
Start Month number	23	End Month number	34	Duration in number of months	12
Description of the work package (limit 3000 characters)					

Aims

The primary objective of the WP is to validate the RECDEV virtual environment to all participating countries as a training and support tool for the recycling of Electric and Electronic Devices.

Task 5.1 Pilot implementation

The target users to participate to the pilot implementation will be those from the recycling companies already expressed their interest in the project and more from other industries that are in close cooperation with the partners in each country. At least 40 employees per country will be involved in the pilot implementation phase, while other 10 will be monitored following traditional training (“control groups”). From the 40 users per country about 35 will be low skilled personnel working in disassembling and the other 5 higher personnel involved in management and supervision (decision makers). First the users will be trained how to use the training virtual environments and they will be monitored in real use of the tools. Adaptation of the training scenarios will be taking place throughout the procedure to improve the efficiency of the tools.

Task 5.2 Validation

For the evaluation of the project's outputs, ISO/IEC TR 9126-4:2004 (E) will be used. The ISO defines quality in Use Metrics which will help the consortium measure whether the results meets the needs of its potential users to achieve specified goals with effectiveness, productivity, safety and satisfaction in a specified context of use. This, of course, can be only achieved in a realistic system environment. Quality in use depends not only on the tools evaluated, but also on the particular context in which these tools is being used. The context of use is determined by user factors, task factors, and physical and social environmental factors that will be identified early in the task.

Work package number	6	Work package title	Dissemination		
Work package type	<input type="checkbox"/> Management <input type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input checked="" type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results				
Start Month number	1	End Month number	36	Duration in number of months	36
Description of the work package (limit 3000 characters)					

Aim

The aim of this Work package is to disseminate project results among all the stakeholders in the participating countries. Early dissemination activities will attract stakeholders to participate and to commit themselves in the project proceedings. Later dissemination will focus on the mainstreaming of the project results in order to mobilize further beneficiaries to achieve recycling sector awareness.

Task 6.1: Dissemination Plan & Policy

The first task of this WP will be to establish the dissemination plan of the project and the policies that will rule the partner's publishing or disseminating the research during the whole project duration. These policies will follow the directives in the Consortium Agreement.

Task 6.2: Dissemination Activities

The project will maintain regularly a web portal a part of which will be dedicated to the promotion of the project. The web portal will be constituted by 2 levels of communication. The first level is public and open to everyone who wishes to learn more about the project objectives, activities, results etc. The upper level is addressed to the partners' members and the administrative authorities with a log-in code. The Project Management Supportive Material is provided through the website by the coordinator to all the partners.

The consortium will establish public relations with Officials from both government and regional institutions that play a positive role in the recycling sector.

The project representatives agree to participate in Concentration meetings and to workshops and/or conferences relevant to the project.

The partners will also organize informative campaigns addressed to firms. The aim is to promote the training material and the platform to recyclers, local authorities, chambers, Associations, etc.

In addition the project will prepare and distribute an informative brochure and a multimedia CDROM about the project.

Work package number	7	Work package title	Exploitation of results		
Work package type	<input type="checkbox"/> Management <input type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input checked="" type="checkbox"/> Exploitation of results				
Start Month number	13	End Month number	36	Duration in number of months	24
Description of the work package (limit 3000 characters)					

Aim

- To exploit the project results to the maximum capacity of the partnership
- To ensure valorisation in a partnership-wide concern
- To build the project's reputation through media coverage and marketing opportunities
- Establish the finished product as a valuable and unique educational aid within recycling sector
- To ensure maximum uptake and mainstreaming of products and results
- To effect changes at strategic level in the use of 3D based learning for the reconnecting of excluded communities to lifelong learning.

Task 7.1: Exploitation Strategy

In this task the strategy of the consortium will be reviewed regarding the overall idea of the project outcomes. It is very important that the evaluation of the deliverables will be available so the project team will be ready for making more effective and to the point exploitation strategy. Project packaging, presentation and positioning are main parts of the overall strategy.

Task 7.2: Business Plan

One of the major tasks involved is the one related with the exploitation of the expected outcomes. This task is launched as soon as a clear description of the project expected outcomes has been documented, and incorporates all actions involved in setting up the environment for exploiting the project's outputs & products and developing the required Business Plan. Setting up a successful commercialization case includes activities such as internal workshops in the participating organizations in order to acquire commitment for the required commercialization & re-engineering investment, presentations to potential investors for next round funding, liaisons establishment with regional vendors, distributors or business partners, cooperations with standardization bodies etc as well as those involved in Products Patenting (if required).

This business plan will include the following basic categories of information:

- Market definition (size, state of development, type of users and competitors).
- Product definition and the reasons why a recycling company would want to use outcomes of the project
- Marketing strategy and estimated fees of the platform.
- Servicing costs and forecasts of profitability.
- Management and management control systems necessary to roll-out the Service, as part of a consolidated consortium.
- Financing requirements to launch the venture.
- Further steps that will offer added value to the platform such as the utilization of the recycled parts and how these can lead to innovative products that can create opportunities for further exploitation.
- Guidelines on how the product (methodology and tools) can be replicated for other industries.

G.2 Deliverables – outputs / products / results

Please add tables as necessary.

Deliverable number	1.1		
Title	2 Interim Reports		
Type of outputs / products / results	Report		
Delivery date	Month 12,24	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>The interim reports will include all the information regarding the progress of the project. The main content of these reports is the physical and financial progress of the project. The 1st interim report will be delivered in 12th month and the second one in the 24th. For the timely and high quality delivery of the interim reports the coordinator is responsible. All the partners need to contribute to the interim reports in order the deliverable to describe the real progress of the project. The main scope of these deliverables is the consortium to understand the bottlenecks of the project in order to work on them.</p>			

Deliverable number	1.2		
Title	Final Report		
Type of outputs / products / results	Report		
Delivery date	Month 36	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)

Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other
Language versions	English
Target languages	
Description (limit 1000 characters)	
<p>The final report will include all the information regarding the implementation of the project. The report consists of the physical and financial progress of the project. For the timely and high quality delivery of the interim reports the coordinator is responsible. All the partners need to contribute to the interim reports in order the deliverable to describe the real progress of the project. The main scope of this report is the consortium to have a critical view of the project overall and also to provide a good review of the project's history</p>	

Deliverable number	2.1		
Title	Quality plan		
Type of outputs / products / results	Report		
Delivery date	Month 2	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>The Quality Assurance report describes the monitoring and control activities of the Coordinator in ensuring that a Work Package stays on course and reacts to unexpected events. The process forms the core of the Scientific Coordinator's effort on the project, being the process that handles day-to-day management of the project. Throughout the report will describe all actions of the consortium in order to achieve the monitor and evaluation of the project.</p>			

Deliverable number	2.2		
Title	Internal Evaluation Reports		
Type of outputs / products / results	Report		
Delivery date	Month 10, 20, 26	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>The reports will point out shortcomings and achievements, weaknesses and strengths in the partners' cooperation, involvement of target users, monitoring and effectiveness of the dissemination activities and materials, and will be critical for the corrections in the workplan and additional effort required for the accomplishment of each task.</p>			

Deliverable number	2.3		
Title	External Evaluation Reports		
Type of outputs / products / results	Report		
Delivery date	Month 12, 24, 36	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		

Language versions	English
Target languages	
Description (limit 1000 characters)	
<p>These reports will be made by independent external expert of the recycling sector and will reveal the effectiveness of the undertaken work, the impact and if the outputs meet the expectations of the project partners, the EU and target users.</p>	

Deliverable number	3.1		
Title	Content outline and Ontology		
Type of outputs / products / results	Report		
Delivery date	Month 6	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Target languages	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Description (limit 1000 characters)			
<p>The content describing the WEEE devices and their characteristic, plus additional material on the characteristics of recycling materials will be collected (different devices, variations, sources of updates) and categorized per WEEE type. An ontology will be built based on the collected content and with goal to be fully exploitable from the learning tools. Additionally up-to-date and trustworthy sources of information will be identified for the continuous update of the training courses.</p>			

Deliverable number	3.2		
Title	Training material framework and specifications		
Type of outputs / products / results	Report		

Delivery date	Month 12	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input checked="" type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>The report will describe the pedagogical framework resulting at outlining the training courses to be developed. The report will describe the specific requirements that the courses should follow, based on the selected content (task 3.1) and depicting the concept of "common ground" constructed through the cooperation of the partners. The task will deliver the framework for two courses:</p> <ul style="list-style-type: none"> ▪ A course for low skilled employees working on the disassembly of EEE. The topics will cover skills to identify internal parts and safely disassembly and package the materials for recycling. ▪ A course for higher level personnel, decision makers in the WEEE industries. The topics the course will cover are what types of parts are included in the devices (plastic, metallic, etc) and how they can some identify them at first and their quality in a second stage. 			

Deliverable number	3.3		
Title	Training Scenarios for the two courses		
Type of outputs / products / results	Report		
Delivery date	Month 18	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)

Nature	<input type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input checked="" type="checkbox"/> Other
Language versions	English, French, Greek, Slovenian, Czech, Austrian, Romanian
Target languages	English, French, Greek, Slovenian, Czech, Austrian, Romanian
Description (limit 1000 characters)	
The deliverable will describe at least 50 training scenarios in English for all the selected different types of devices.	

Deliverable number	4.1		
Title	3D Models		
Type of outputs / products / results	Other		
Delivery date	Month 12	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input checked="" type="checkbox"/> Other		
Language versions	English		
Target languages	English		
Description (limit 1000 characters)			
The deliverable regards 3D models and graphics of the WEEE devices and their parts that will be required for the training scenarios.			

Deliverable number	4.2		
Title	RECDEV 3D training platform		
Type of outputs / products / results	3D Software		
Delivery date	Month 22	Dissemination level	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input type="checkbox"/> Report <input checked="" type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Target languages	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Description (limit 1000 characters)			
Setup of the pilot platforms with all the 50 training scenarios available in 7 languages (English, French, Greek, Slovenian, Czech, Austrian, Romanian).			

Deliverable number	5.1		
Title	Mid Term Evaluation Report		
Type of outputs / products / results	Report		
Delivery date	Month 24	Dissemination level	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>This report will include all evidence of the pilot implementation plus the users' reactions and performance. Among else, they will be asked to compare these experiences with traditional training groups. The opinion of their supervisors will also be monitored and analysed. The results of the evaluation will give useful input for the finalization of the training material and development of the exploitation plan. The mid term results will accompany the second progress report.</p>			

Deliverable number	5.2		
Title	Final Evaluation Report		
Type of outputs / products / results	Report		
Delivery date	Month 34	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event		

	<input type="checkbox"/> Other
Language versions	English
Target languages	
Description (limit 1000 characters)	
<p>This report will include all the final evidence of the pilot implementation, the changes made to the scenarios and tools plus the final users' reactions and performance with comparison to the mid term evaluation results. The results of the evaluation will give useful input for the finalization of the training material and development of the exploitation plan.</p>	

Deliverable number	6.1		
Title	Dissemination plan		
Type of outputs / products / results	Report		
Delivery date	Month 34	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>This deliverable consists and describes the dissemination plan of the consortium. The policies that will rule the partner's publishing or disseminating the research during the whole project duration. The dissemination plan report also describes all the activities that the consortium will make in order to promote the results of the project.</p>			

Deliverable number	6.2		
Title	Web portal		
Type of outputs / products / results	Website		
Delivery date	Month 6	Dissemination level	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input type="checkbox"/> Report <input checked="" type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Target languages	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Description (limit 1000 characters)			
<p>The main dissemination activity of the consortium is the integration of the project's web portal which consists of two major levels of communication. The first level is public and open to everyone who wishes to learn more about the project objectives, activities, results etc. The upper level is addressed to the partners' members and the administrative authorities with a log-in code.</p>			

Deliverable number	6.3		
Title	DVDROM and Informative brochure		
Type of outputs / products / results	Brochures and DVD		
Delivery date	Month 17	Dissemination level	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input checked="" type="checkbox"/> Other		
Language versions	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Target languages	English, French, Greek, Slovenian, Czech, Austrian, Romanian		
Description (limit 1000 characters)			
This deliverable consists the multimedia DVDROM of the project and the informative brochure which will consist all advertisement material.			

Deliverable number	6.4		
Title	3 Workshops		
Type of outputs / products / results	Events		
Delivery date	Month 14,26,35	Dissemination level	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input checked="" type="checkbox"/> Event <input type="checkbox"/> Other		

Language versions	English
Target languages	
Description (limit 1000 characters)	
As mentioned above the consortium will make 3 workshops for the best communication and dissemination of the project. The timing of the workshops is connected with the project milestones (development of 5 indicative 3d scenarios, Mid Term evaluation results, End of the pilot implementation period).	

Deliverable number	7.1		
Title	Business Plan		
Type of outputs / products / results	Report		
Delivery date	Month 36	Dissemination level	<input type="checkbox"/> Public <input type="checkbox"/> Restricted to other programme participants (including Commission services and project reviewers) <input checked="" type="checkbox"/> Confidential, only for members of the consortium (including EACEA and Commission services and project reviewers)
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Service / Product <input type="checkbox"/> Demonstrator / Prototype <input type="checkbox"/> Event <input type="checkbox"/> Other		
Language versions	English		
Target languages			
Description (limit 1000 characters)			
<p>The business plan will include the following basic categories of information:</p> <ul style="list-style-type: none"> • Market definition (size, state of development, type of users and competitors). • Product definition and the reasons why a company would want to use outcome of the project • Marketing strategy and estimated fees of the Service. • Servicing costs and forecasts of profitability. • Management and management control systems necessary to roll-out the Service, as part of a consolidated consortium. • Financing requirements to launch the venture. • Sustainability plan. Future work for the in-house (or in-country) utilization of the recycled parts and how these can lead to innovative products/raw materials that can create further exploitation opportunities of the WEEE parts. 			

G.3 Consortium partners involved and resources required to complete the work package

Please add lines as necessary.

Indicative input of consortium staff - The total number of days per staff category should correspond with the information provided in the budget tables.

WP1: Project Management

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
Lead partner	P1	Greece	ARVIS	90			58	148	coordination
	P2	Greece	OMEGATECH	35			20	55	project management
	P3	Slovenia	FKKT-UM	21			25	46	project management
	P4	Austria	STENUM	23			15	38	project management
	P5	Romania	CNPCD	20			15	35	project management
	P6	Czech Republic	MENDELU	27			17	44	project management
	P7	Greece	EESDA	15			5	20	project management
Total				232	2	3	159	386	

WP2: Quality Assurance

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
Lead partner	P1	Greece	ARVIS	90			58	148	Development of the Quality Plan
	P2	Greece	OMEGATECH	35			20	55	Quality Control, external evaluation
	P3	Slovenia	FKKT-UM	21			25	46	Quality Control
	P4	Austria	STENUM	23			15	38	Quality Control, Internal Evaluation
	P5	Romania	CNPCD	20			15	35	Quality Control
	P6	Czech Republic	MENDELU	27			17	44	Quality Control
	P7	Greece	EESDA	15			5	20	Quality Control
Total				232	2	3	159	386	

WP3: Development of the training methodology and scenarios

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
Lead partner	P2	Greece	ARVIS	5	80		14	99	Development of 50 Draft Scenarios on WEEE Dissasembly
	P3	Slovenia	FKKT-UM	37	150		37	224	Development of the training methodology for the identification of the materials' types (plastic) and qualities. Development for the ontology focusing on plastic parts and evaluation of the scenarios
	P4	Austria	STENUM	5	50		5	60	Translation and evaluation of the scenarios
	P5	Romania	CNPCD	5	50		7	62	Translation and evaluation of the scenarios
	P6	Czech Republic	MENDELU	6	125		11	142	Development of the training methodology for the identification of the materials' types (metals) and qualities. Development of the ontology focusing on metallic parts and evaluation of the scenarios
	P7	Greece	EESDA	5	25		10	40	Contribution to dissassembly techniques and practises
Total				64	482	3	88	627	

WP4: Development and setup of the virtual environments

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
Lead partner	P1	Greece	ARVIS	5	65	30	10	110	Development of the 3d training scenarios
	P2	Greece	OMEGATECH	25	35	190	22	272	Evaluation -adaptation of the scenarios content to the 3d environment needs
	P3	Slovenia	FKKT-UM	2	7		2	11	Evaluation of the scenarios
	P4	Austria	STENUM	2	10		2	14	Evaluation of the scenarios
	P5	Romania	CNPCD	5	15		3	23	Evaluation of the scenarios
	P6	Czech Republic	MENDELU	6	15		5	26	Evaluation of the scenarios
	P7	Greece	EESDA	5	5		10	20	Evaluation of the scenarios
Total				51	154	223	58	476	

WP5: Pilot implementation and evaluation

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
	P1	Greece	ARVIS	5	35	30	5	75	Technical support during pilot implementation
	P2	Greece	OMEGATECH	5	25	60	24	114	Pilot implementation in Greece. Modification of the scenarios according to the findings
	P3	Slovenia	FKKT-UM	12	33	40	10	95	Pilot implementation in Slovenia
Lead partner	P4	Austria	STENUM	8	60	30	20	118	Market Validation Methodology, Coordination of the Work package, Pilot implementation in Austria
	P5	Romania	CNPCD	12	60	40	25	137	Pilot implementation in Romania
	P6	Czech Republic	MENDELU	18	50	40	30	138	Pilot implementation in Czech Republic
	P7	Greece	EESDA	5	20	10	5	40	Pilot implementation in Greece
Total				66	285	253	123	677	

WP6: Dissemination

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
	P1	Greece	ARVIS	5			10	15	Development of the Project web site
	P2	Greece	OMEGATECH	5			2	7	Workshop in Greece, Press Releases , Newsletters
	P3	Slovenia	FKKT-UM	4			3	7	Press Releases , Newsletters
	P4	Austria	STENUM	4			3	7	Workshop in Austria Press Releases , Newsletters
Lead partner	P5	Romania	CNPCD	20	30		15	65	Development of the dissemination plan. Press Releases , Newsletters
	P6	Czech Republic	MENDELU	17			12	29	Workshop in Czech Republic, Press Releases , Newsletters
Total				56	32	3	49	130	

WP7: Exploitation of results

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category 3	Category 4	Total	
	P1	Greece	ARVIS	5	10		5	20	Contribution to the Business Plan
	P2	Greece	OMEGATECH	5	30		4	39	Contribution to the Business Plan.
Lead partner	P4	Austria	STENUM	33	60		20	113	Business Plan Development.
	P5	Romania	CNPCD	13	35		10	58	Marketing plan. Product positioning.
Total				57	137	3	43	230	

Tasks that will be subcontracted

Please add lines as necessary.

Partner responsible for entering into a sub-contract with a sub-contractor	N° days (where appropriate)	Brief description of task
P(1)	30	External Evaluation
P(2)		A web server will be required to host the project 3D engines and training tools for demonstration purposes.
P1,P2,P3,P4,P5,P6		Translation cost include the translation of sector experts of the scenarios context in order high quality standards to be applied in all countries training materials

Explanation of work package expenditures

Please explain and justify budget items included in the detailed budget that relate to this work package, specifically, where relevant under the headings: "travel and subsistence (of the staff of the consortium)", "equipment" and "other" (limit 3000 characters).

Apart from personnel costs (74,97%), other expenditures regard travelling of staff of the consortium for project meetings and workshops (6,8%). There are three steering committees (one each year) and the same number of workshops scheduled for the project. More steering committee meetings will take place through online meetings. (10,37%) of the budget is reserved for translation of sector experts and other 7,57% dissemination and evaluation. Regarding equipment, a web server (About 3.000 Euros) is needed to host the project 3D engines and training tools for demonstration purposes.

WP1

Travel Costs: around 4. 000 regard partners travel expenses for the participation to the project steering committees and other 2.880 are for travels to Brussels.

Other Costs: 3.500 Euro for the organization of 3 steering committee meetings

WP6

Travel Costs: around 4.000 regard partners travel expenses for the participation to the project's workshops

Other Costs: 12.000 Euro for the organization of three workshops

Other Costs: 2.000 for the printing of 5.000 leaflets in several languages

Other Costs: 4000 Euro for press releases

Other Costs: 1000 for participation to a conference

Other Costs: 6000 for participation to exhibitions with reserved space

Other Costs: 3000 Euro for the printing of a DVD with demo examples of disassembling a PC to raise awareness.

Third country participation

(where applicable)

Please complete this section if the application includes participation from third country partner(s). It must contain only information relating to organisations in third countries and their activities.

PART H. Organisation and activities

This part must be completed separately by each third country organisation participating in the project.

Third country partner number - **P x** [P1 – Pn]

Organisation name	
--------------------------	--

H.1 Aims and activities of the organisation

Please provide a short presentation of your organisation (key activities, affiliations etc.) relating to the domain covered by the project.

Please describe the role of your organisation in the project. Provide information on the operational and financial management of the project within the organisation (limit 3000 characters).

--

H.2 Operational capacity: Skills and expertise of key staff involved in the project / network

Please add lines as necessary.

Name of staff member	<i>Summary of relevant skills and experience, including where relevant a list of recent publications related to the domain of the project (limit 750 characters per person).</i>

PART I. Work plan and work packages

I.1 Added value of the third country participation

Please describe the added value that the third country participation will bring to the main project in terms of project outputs/results, the impact on the target groups in the main LLP application, the choice of partners and value for money. (limit 2000 characters)

IMPORTANT: Sections I.2, I.3 and I.4 should be duplicated and completed together for each work package.

I.2 Identification

Please describe the activities that will be undertaken by the partner organisation(s) in third countries following the logic of the work packages already established in the main application form. Activities that are **additional to existing work packages** should be completed using the existing work package number. **New work packages** need to take a new work package number. All the information presented in this section should relate to the activities of the third country participants only.

Work package number		Work package title		
Work package type	<input type="checkbox"/> Management <input type="checkbox"/> Implementation (the substance of the work planned including production, testing, etc) <input type="checkbox"/> Quality Assurance (quality plan) <input type="checkbox"/> Dissemination <input type="checkbox"/> Exploitation of results			
Start <i>Month number</i>		End <i>Month number</i>		Duration <i>in number of months</i>
Description of the third country partner activities in the work package (limit 2000 characters).				

I.3 Deliverables – outputs / products / results

Please specify any additional deliverables that will be produced by partner organisation(s) in third countries.

Please add tables as necessary.

Deliverable number	
Title	
Type of outputs / products / results	
Description (limit 500 characters)	

I.4 Consortium partners involved and resources required to complete the work package

Please include only the partner organisation(s) in third countries.

Please add lines as necessary.

	Partners involved	Country	Short name	Number of staff days					Role and tasks in the work package
				Category 1	Category 2	Category	Category 4	Total	
Lead partner	P(n)								
Total									

Explanation of work package expenditures

Please explain and justify budget items included in the detailed budget that relate to third country organisations working on this work package, specifically, where relevant under the headings: "travel and subsistence (of the staff of the consortium)" and "other" (limit 2000 characters).

ANNEX LETTER OF INTENT



Ag.Theodori, 30/1/2013

LETTER OF INTENT

Dear Mr. Somakos

With this letter we would like to confirm our interest in the RECDEV project.

More specifically after the discussion we had on the potential use of the RECDEV training content and tools, our organization believes that could exploit the project's outputs as training services to our managers and employees. There is a great need in our organization, which is one of the biggest authorised WEEE recycling units in Greece, on techniques to identify the different materials existing to WEEE devices (especially the new ones) as well as instructions to safely disassembly them.

We would like to further discuss some details on the system's operation and adaptation to the needs of our recycling activities, but we overall confirm our interest for the system upon the project is approved.

Sincerely,

E.K.A.N. S.A
HELLENIC RECYCLING CENTER S.A
THESI PALAIO CHORIO
20003 AG.THEODORI - KORINTHOS
TEL.+30 27410 5500 FAX.+30 27410 46600


Georgios Vakontios

President of the board