European Innovation Partnership on Raw Materials

Application for a Raw Materials Commitment

Towards a new model of C&DW management for a circular supply chain integrating innovative solutions for a better recovery of Raw Materials

Acronym:
C&D-WRAM

Links to the Strategic Implementation Plan:
• I. Technology Pillar
  • I.B Priority Area: Technologies for primary and secondary raw materials’ production
    • Action area n° I.5: Recycling of raw materials from products
      • 3) Construction and demolition (C&D) waste recycling

Objectives of the commitment:

1. C&DW minimization in the EU: to achieve an effective culture of dismantling, to improve construction and management practices and to promote more efficient solutions for reusing C&DW
2. Developing improved recovering and recycling solutions towards near-zero waste
3. Design, development and production of novel construction products and materials (with higher levels of Secondary raw materials from C&DW and improved mechanical properties) from a life cycle perspective.
4. Pilot scale demonstration of solutions and products to validate innovative C&DW recovery solutions. Technical, environmental and economic feasibility.
5. Developing Circular economy strategies for C&DW recycled materials
6. Dissemination of expertise/experiences/knowledge and best practices derived from the commitment

Description of the activities:

The work plan will be structured in 6 Activities linked with the SIP for the EIP on Raw Materials.

A1. WASTE MINIMIZATION AT CONSTRUCTION & DEMOLITION SITES The main objective is to minimize C&DW in the EU through an effective culture of dismantling and to improve construction and management practices. The activity will be focused on production, construction and demolition phases carrying out: ○ Analysis and evaluation of existing data about national & regional waste generation and design of waste prevention models. ○ Guidelines on selective deconstruction ○ Development of secondary raw material resource planning concept ○ Waste production
minimization and raw materials needed in products through the development of new technological strategies ● A2. ADVANCED ZERO WASTE RECYCLING SOLUTIONS The main objectives are to obtain optimized and improved recycling solutions to promote an efficient reuse and recycle, and to achieve better recycling and recovery rates. Research will be focused for specific materials assessment: Mineral Fraction (aggregates, concrete, bricks), non-mineral fraction (wood, glass and metals) on the following activities: ○ Feature definitions for the correct recycling ○ Optimization methods in secondary raw material supply chain ○ Identification of the economic balances ○ Optimization methods in C&DW recycling ○ Refinement and purification of raw materials from C&DW to obtain pure material fractions. ○ Design and construction of equipment for an effective separation ● A3. INNOVATIVE PRODUCTION PROCESS FOR PRODUCTS AND MATERIALS The purpose is to design, to develop and to manufacture new production process to obtain products and materials reusing or recycling secondary resources from C&DW. The aim is to produce and to characterize new added value construction products and materials. This activity consists in increasing the emphasis on raw materials and material efficiency, without loss of functionality, in the implementation of the Eco-design Directive by ○ Eco-design ○ Product policy framework ○ Improved production techniques ○ Moving from low grade applications to high grade application ○ Research on application for energy saving ● A4. INNOVATIVE PILOT OPERATIONS The goals are to validate the effectiveness of recycling solutions and using demonstrations prototypes to check the quality and performance characteristics of the products and materials manufactured with secondary raw materials. ○ Implementation of recycling solutions ○ Testing of prototype ○ Case Studies ○ Monitoring program ● A5. DEVELOPMENT OF SUSTAINABLE CIRCULAR BUSINESS MODELS The objective is to develop a new model of circular economy management as an alternative to traditional linear economy. The aim is demonstrating the advantages associated with C&DW treatment to support a resource efficient economy, reducing the quantity and impact of waste produced whilst promoting sustainable economic growth working on: ○ Market analysis ○ Business model / Business plans ○ Policies, Standard and Regulation ● A6. DISSEMINATION & AWARENESS FOR SUSTAINABLE CONSTRUCTION The objective of this activity is to disseminate the results of the commitment to the stakeholders and the general public. Associations will be the communication channels to distribute the achievements. In line with the dissemination activities the knowledge and expertise will be transferred by the collection of experiences, creation of networks for the transfer of know-how developing dissemination plans and training activities.

Description of the expected impacts:

This commitment aims to achieve the European policy target of a minimum of 70% of C&DW prepared for reuse, recycled or other recovery according to the waste hierarchy priority established in Directive 2008/98/EC by acting in the different secondary raw materials that can be obtained from C&DW under a sustainable management system.

Highest impacts are expected for mineral fraction (80% of total C&DW) with an objective of achieving more than 80% of the recovery rate by the development of innovative technological solutions and working on new guidelines that will help to develop new local and national non-technological strategies.

3 billion tons of aggregates are needed in EU per year and currently only 6% corresponds to recycled aggregates. This commitment expects to achieve the target of 10% of virgin material substituted which could save around 480 million €, considering around 4€/ton of savings from the use of recycled aggregate.

Wood is a major construction material in northern countries. About 65% of the wood waste generated in EU was estimated to be recovered as material or energy and this commitment expects to move the use of wood to material recovery in those countries where recycling is possible. Other fractions, such as glass and metals, have a high market value when they are separated. The new management model will allow an optimized separation through improved technological
solutions. This commitment aims to support a harmonized approach to EU C&DW legislation and improved national implementation and contribution to new standards thanks to the involvement of public and standardization bodies.

Another expected impact is the increase of competitiveness of SMEs thanks to their involvement in this commitment and the generated knowledge that they can create for other SMEs.

**Expected innovation outcomes:**

- New products to the market
- New processes
- New services
- New technologies
- New business models
- New ideas to the market
- Societal innovation

**Comments:**

The Commitment involves 47 partners from 14 EU Countries (Spain, Portugal, Belgium, The Netherlands, United Kingdom, France, Italy, Sweden, Finland, Poland, Germany, Slovenia, Hungary, Greece).

- **PRIVATE LARGE COMPANIES:** ACCIONA, D’APPOLONIA, LAFARGE, KERABÉN, MOSTOSTAL, L&T
- **PRIVATE SME:** RECOVERING SARL, RECICLADOS PUCELANOS, GHIAIE PONTE ROSSO, CDE GLOBAL, EDAFOTEC, INNCEINNMAT, GEONARDO, SULENSAIO, ECOPATROL, MEDIOTEC, TOMRA, INTECUS.
- **RESEARCH INSTITUTES:** AIDICO, TECNALIA, CARTIF, CEVALOR, CBI, SP, AITEMIN, VITO, VTT, FINNISH WOOD RESEARCH OY
- **ACADEMIA:** UNIVERSITEIT GENT, ISEP, UNIVPM, GEOBIOTEC, TU DELFT, TECHNICAL UNIVERSITY OF CRETE, CICECO.
- **PUBLIC BODIES:** BRGM, OVAM, CEDEX, GEO ZS, ZAG, IOER.
- **ASSOCIATIONS:** FIR, EUROGYPSUM, ANIET, AITEX, AENOR, GERD

**Name of the coordinating organisation:**

ACCIÓN INFRAESTRUCTURAS

**Country:**

Spain

**Entity profile:**

Private sector - large company

**Role within the commitment:**

Coordinators of the commitment, ACCIONA’s research will be focused on the application of new technologies for waste recycling in construction sites and finding and applying new technologies of valorization of secondary raw materials in construction sites. ACCIONA will participate in the activities related to waste minimization, zero waste solutions, innovative processes and pilot operations.

**Other partners:**

**Name of partner:**

AIDICO. Technological Institute of Construction.

**Country:**
Spain

**Entity profile:**
Other

**Other:**
Private non-profit association

**Role within the commitment:**
Participant in the commitment for the activities focused on the recycling process of C&D wastes with special emphasis on the characterization of the stony materials, the development of equipment for suitable separation of particles, and production and characterization of new added value construction products and materials.

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**Name of partner:**
FUNDACIÓN TECNALIA RESEARCH AND INNOVATION (TECNALIA)

**Country:**
Spain

**Entity profile:**
Other

**Other:**
Private non-profit organization

**Role within the commitment:**
- Studies to promote local circular economy of C&DW materials
- Research on novel low embodied cement based materials from C&DW recycled materials
- Development of new products containing valuable materials recovered from complex C&DW streams.
- Monitoring of pilot case studies performed with materials recovered from C&DW
- Dissemination of innovative technological solutions on C&DW recycling within the global construction supply chain.

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**Name of partner:**
CEDEX. CENTRO DE ESTUDIOS Y EXPERIMENTACIÓN DE OBRAS PÚBLICAS. Ministerio de Fomento.

**Country:**
Spain

**Entity profile:**
Governmental/public body

**Role within the commitment:**
1. Optimization of production techniques of recycled aggregates to obtain high quality materials.
- Efficiency and profitability of production equipment of recycled aggregates.
- Real scale tests for recycled aggregates performance evaluation in different construction applications.
2. Demonstration of the technical, environmental and economic feasibility of using recycled materials in different construction applications.
- Technical assistance

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**Name of partner:**
Fundación CARTIF

**Country:**
Spain

**Entity profile:**
Other
Other:
Private and non-profit Technology Centre

**Role within the commitment:**
- Demonstrating solutions for recycling raw materials from complex products - Chemical recycling of plastic wastes. Obtaining the starting monomers. LCA, carbon footprint and eco-design - Increasing recycling rate of plastic packaging materials

**Name of partner:**
CEVALOR – Portuguese Technological Center for the Natural Stone

**Country:**
Portugal

**Entity profile:**
Other

**Other:**
Public Utility Association

**Role within the commitment:**
- Study and Promote the Recycling of the Mineral composition of the C&D Wastes • Study the recycling of the mineral fraction of the construction waste, has an important source of raw materials. • Economical, Environmental and Societal improvements of the natural stone and construction industries.

**Name of partner:**
Fédération Internationale du Recyclage (FIR)

**Country:**
Belgium

**Entity profile:**
Other

**Other:**
Industry association

**Role within the commitment:**
- Develop guidelines for stakeholders at Member State level to really develop recycling • Organise workshops and get stakeholders started • Besides collecting and describing best practices, the commitment should also make clear per type of construction material how loops can be closed. This must make clear which aspects hinder recycling.

**Name of partner:**
CBI. Betonginstitutet AB.

**Country:**
Sweden

**Entity profile:**
Other

**Other:**
Non-profit research organisation

**Role within the commitment:**
Expert in the use of non-organic construction materials such as cement, concrete, aggregates
and natural stones. Also recycled and alternative aggregates. Development of adapted test methods for alternative aggregates (e.g. C&DW). New cement based concrete products. Development of product certification system for market acceptance and quicker implementation of new products.

**Name of partner:**
SP Technical Research Institute of Sweden  
**Country:** Sweden  
**Entity profile:** Other  
**Other:** Non-profit research organisation  
**Role within the commitment:**  
Environmental and technical aspects of re-use and recycling of C&DW, covering the whole chain from collection and sorting of C&DW, over innovative solutions, models and services for re-use and recycling to certification and standardization of re-used and recycled products. • Develop new, environmentally and economically viable methods and services increasing re-use and recycling C&DW • Develop an effective collection and sorting of C&DW

**Name of partner:**  
D'Appolonia S.p.A.  
**Country:** Italy  
**Entity profile:** Private sector - large company  
**Role within the commitment:**  
D'Appolonia will provide expertise in the aspects of value chains and business models for the recycled building materials exploitation and to actively sustain building companies with high end ICT tools supporting such new models of recycle and reuse of waste streams deriving from the built environments. Furthermore, skills of modeling and in particular LCA modeling of complex processes can be provided to support the initiative.

**Name of partner:**  
EUROGYPSUM. European Association of plaster and plasterboard manufacturers.  
**Country:** Belgium  
**Entity profile:** Other  
**Other:** Non for profit association  
**Role within the commitment:**  
1. Achieve an effective culture of dismantling across Europe 2. Spread the results of the GtoG project to 90 plasterboard plants in Europe for effective recycling 3. R&D on design for recycling 4. Obtain the end-of waste criteria for gypsum-based waste at EU or national level; then we have no waste but secondary raw material.
Name of partner: Universiteit Gent. UGent.
Country: Belgium
Entity profile: Academia
Role within the commitment:
UGent research groups in the Department of Civil and Structural Engineering have specific research expertise on recycling of construction materials. • Minimizing construction and demolition waste by increased sustainability of materials and structures. • Substitution and recycling of materials towards high end cementitious based structural applications.

Name of partner: RECOVERING SARL
Country: France
Entity profile: Private sector - SME
Role within the commitment:
- To develop circular economy strategies for raw materials - Market analysis for the different raw materials in the different countries - Study of pilot projects to identify the good practices and / or test the different waste management schemes to develop - Identification of the economic balances to the different schemes of waste management. Suggestion of business models

Name of partner: ISEP. School of Engineering, Polytechnic of Porto.
Country: Portugal
Entity profile: Academia
Role within the commitment:
R&D of new materials solutions based on the recuperation of raw-materials provided from C&DW and to the definition of eco-efficiency indicators for the use of those secondary raw materials against the use of natural construction materials (primary raw materials). In addition, it would involve dissemination of information and technology.

Name of partner: RECICLADOS PUCELANOS, S.L.U.
Country: Spain
Entity profile: Private sector - SME
Role within the commitment:
• To obtain major efficiency in the use of recycled material. • To manage to recycle a major quantity of residues of construction and demolition. • Moving from low grade applications to high grade application: With special focus on cleaning and sorting technologies for on site valorization. • Valorization of stony fraction based on properties and requirements of applications: high grade applications for coarse recycled concrete aggregates.

Name of partner:
GHIAIE PONTE ROSSO r.s.l.
Country:
Italy
Entity profile:
Private sector - SME
Role within the commitment:
To enable the reuse of waste construction material from different origins and sites To work on the characterization of different construction waste typology To contribute to on-site cleaning and reuse of waste To support in the development of proper models for the valorization of waste as aggregate

Name of partner:
CDE Global Ltd
Country:
United Kingdom
Entity profile:
Private sector - SME
Role within the commitment:
• Material recovery of high quality recycled sand and aggregates from CD&E waste, minimise waste from the processing of CD&E material. • Enhancement of the CD&E waste recycling infrastructure, increasing application of recycled sand and aggregates in high value applications, providing a sustainable alternative to natural sand and aggregates in construction application

Name of partner:
LAFARGE SA
Country:
France
Entity profile:
Private sector - large company
Role within the commitment:
• To improve the sourcing and effective use of Recycled C&DW • To increase the share of recycled materials within ready-mixed concrete • To influence and change the current standard and norms related to sustainable construction materials • R&D into the sources and use of Recycled Construction Materials • R&D into improved production techniques and Quality Control • R&D into improved production techniques and Quality Control

Name of partner:
EDAFOTEC
Country: Spain
Entity profile: Private sector - SME
Role within the commitment:
- Waste prevention, reuse and recycling
- C&D waste minimization with on site valorization

Name of partner:Università Politecnica delle Marche - UNIVPM
Country: Italy
Entity profile: Academia
Role within the commitment:
In the Commitment UNIVPM will focus i) on the study new building materials manufactured with C&D wastes and innovative recycled materials ii) on the dissemination of the results within the construction community through link with ECTP. • Develop/test of new building materials; • Dissemination • Use C&D wastes and innovative recycled materials (ashes, foundry sands, etc.) as binder or aggregate/filler replacement. Test properties.

Name of partner:INNCEINNMAT, SL
Country: Spain
Entity profile: Private sector - SME
Role within the commitment:
Ceinnmat will contribute in technology development and machinery design for new process to recover raw material from wastes and its transformation in valuable materials. • Raw material recovery from C&D wastes and valorization in new products of metallic and non metallic nature. • Development of technology for treatment and transformation of raw material for valorization. • Separation improvement

Name of partner: KERABÉN GRUPO, S.A
Country: Spain
Entity profile: Private sector - large company
Role within the commitment:
Valorization of tile waste as alternative option to controlled disposal sites. Increase the addition in the composition currently limited to 4-5% wt, or use recycled materials in engobe and/or glaze. Study the composition behavior in the preparation stage, green body (compaction diagrams and mechanical strength), in the firing stage and in the fired product (mechanical strength).
Name of partner: Geological survey of Slovenia - GeoZS  
**Country:** Slovenia  
**Entity profile:** Governmental/public body  
**Role within the commitment:**  
- Resource management, databases, stakeholders consultations, promotion (example: www.snapsee.eu)  
- Best practices; optimisation methods in C&D waste / recycling / aggregates supply chain (modelling, material flow analysis etc...); policy analysis on national and EU level; SWOT analysis and action plans; promotion activities.

Name of partner: Associação Nacional da Industria Extractiva e Transformadora – ANIET  
**Country:** Portugal  
**Entity profile:** Other  
**Other:** Association of Employers of natural stone sector  
**Role within the commitment:**  
- Exchange of knowledge and experiences; Suggestion and nomination of companies operating in the construction and adjacent sectors; Contribute to awareness-raising and sensitization.  
- Harmonization between the subjects covered by the group and the current legislation; Collection of experiences, creation of networks for the transfer of know-how (techniques and methods).

Name of partner: Slovenian National Building and Civil Engineering Institute (ZAG)  
**Country:** Slovenia  
**Entity profile:** Governmental/public body  
**Role within the commitment:**  
- Research activities to develop high grade C&DW-based products, transfer of new knowledge to industry, preparation of guidelines, on-site demonstrations of novel practice. Networking build-up. LCA and LCBA analysis. Activities in the field of legislation in order to establish higher C&DW recycling rates through green public procurement. Recycling and reuse of C&DW will be implemented using a holistic approach over the whole chain of stakeholders.

Name of partner: Geonardo Environmental Technologies Ltd.  
**Country:** Hungary  
**Entity profile:** 
Private sector - SME  
**Role within the commitment:**  
• Enhanced recovery of C&D wastes in buildings and infrastructure with due account of eco-innovation and sustainability aspects.  
• Participate in and provide input to working groups in line with our role described above.  
• Facilitate liaison with the relevant stakeholders in the CEE region.  
• To tackle eco-innovation and sustainability aspects in the development of solutions for a better recovery of C&D wastes.  
• New ideas to the market.

**Name of partner:**
GeoBioSciences GeoTechnologies and GeoEngineering -(GeoBioTec - UA)  
**Country:**
Portugal  
**Entity profile:**
Academia  
**Role within the commitment:**  
CHARACTERIZATION OF GEOMATERIALS FOR CONSTRUCTION - Studies on properties assessment of mortars; aggregates for concrete; physical and chemical degradation mechanisms and products of natural stone, development of new commercial grades, new products and new applications of construction materials made of blends of wastes and industrial minerals and rocks; assessment of rock geotechnical properties for new applications and quality control.

**Name of partner:**
SULENSAIO – Engenharia e Geotecnia, Lda.  
**Country:**
Portugal  
**Entity profile:**
Private sector - SME  
**Role within the commitment:**  
Promote the recycling of C&DW, ensuring adequate quality and durability of the works where they are applied, without prejudice to the environment. Participation in demonstration projects:  
a) Adequacy of the construction process; b) Structural characterization of materials used in the work; c) Long-term behavior. Contribute to the creation of guide recommendations.

**Name of partner:**
ECOPATROL – Controlo e Protecção Ambiental, Lda.  
**Country:**
Portugal  
**Entity profile:**
Private sector - SME  
**Role within the commitment:**  
Collection, transport and screening of construction and demolition (C&D) waste. Production of plates from plastic, wood and paper / board rejected from the sorting of C&D waste. Prepare this product for the introduction in the market. Collection, transport and sorting of C&D waste.
AITEMIN. Association for the Research and Industrial Development of Natural Resources.

**Country:**
Spain

**Entity profile:**
Other

**Other:**
Private, non profit research organization

**Role within the commitment:**
Definition and enhancement of main potential applications and management of the C&D wastes. Development of mechanisms and solutions to achieve a better recovery of raw materials from C&DW. Environmental and technical characterisations of C&DW. Life Cycle Assessment (LCA) of new materials and applications from valorization of C&DW. Participation in the dissemination and exploitation activities together.

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**Name of partner:**
AITEX

**Country:**
Spain

**Entity profile:**
Other

**Other:**
Non-profit Research organization

**Role within the commitment:**
AITEX will develop innovative solutions to provide new uses to the lignocellulosic materials recovered from C&D waste. To implement a closed loop system to recover and reuse the lignocellulosic materials coming from construction wastes. To use the recovered lignocellulosic wastes as a new raw material for the production of new added value products able to be used either in construction industry or other industries.

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**Name of partner:**
Asociación Española de Normalización y Certificación (AENOR)

**Country:**
Spain

**Entity profile:**
Other

**Other:**
Private Association, non-commercial.

**Role within the commitment:**
As the Spanish National Standardization Body, member of European (CEN-CENELEC-ETSI) and International (ISO-IEC) Standards Organizations, our role will be aimed to the consideration, support and development of all activities related with standardization which can be promoted by the RMC.

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**Name of partner:**
MEDIOTEC CONSULTORES S.A.

**Country:**
Spain

**Entity profile:**
Private sector - SME

**Role within the commitment:**
Computer engineering / environmental consultancy specialized in projects related to waste and subsequent recovery. Research and development of new recycling processes Investigation of recycled aggregates Life Cycle Analysis of construction waste recycled

Name of partner: VITO
Country: Belgium

**Entity profile:**
Other

**Other:**
Research & Technology Organization

**Role within the commitment:**
Source separation is a key element in the maximal recovery of C&DW. VITO is strongly committed to make selective demolition into common practice. In addition, VITO will contribute in the development of a flexible tracking system to provide quality assurance of C&DW. Furthermore, VITO will focus on the implementation of new sorting systems of the stony fraction and play a role on the development of new added-value products with recycled C&DW.

Name of partner: VTT Technical Research Centre of Finland
Country: Finland

**Entity profile:**
Governmental/public body

**Role within the commitment:**
Knowledge on C&DW characteristics including demolition, collection, sorting, quality control. Development of environmental and technical criteria for reuse and recycling. Development of tools for optimisation of the environmental performance in the building or construction. Provide high technical quality and durability of the construction. Legal aspects (end-of-waste, CE-marking, dangerous substances).

Name of partner: BRGM. Bureau de Recherches Géologiques et Minières.
Country: France

**Entity profile:**
Governmental/public body

**Role within the commitment:**
Development and optimization of innovative processes related to selective fragmentation of construction and demolition waste with multi-scale tests. Calculation of the mass & energy
balances of the studied step. Integration and simulation of the whole process.

Name of partner: 
Technical University of Crete 
Country: 
Greece 
Entity profile: 
Academia 
Role within the commitment: 
Work with other partners in issues related to CDW management and valorization, carrying out LCA studies, carrying out studies to produce new materials with beneficial properties, estimate reduction of CO2 emissions through utilization of CDW, carrying out studies to assess CDW utilization potential in Greece and other European countries. • Conduct LCA studies to assess reduction of CO2 emissions • Produce new products

Name of partner: 
GERD. Spanish Association of Construction and Demolition Waste Managers. 
Country: 
Spain 
Entity profile: 
Other 
Other: 
Association of private companies 
Role within the commitment: 
• Support the development of production and improvement of C&D waste recycling rates. • Greater inclusion of recycled aggregates in the construction industry. • Use of recycled materials suitable for the construction • Calculation of recycled aggregates stock • Calculation of annual production • Increased use of recycled aggregates

Name of partner: 
OVAM. Openbare Vlaamse Afvalstoffenmaatschappij. 
Country: 
Belgium 
Entity profile: 
Governmental/public body 
Role within the commitment: 
Provide insight in the development of policies aimed at achieving and promoting the goal of increased use of recycled materials from construction and demolition waste. The OVAM works on the development of a legislative framework for a demolition waste monitoring system based on the inventory of waste streams that originate during demolition.

Name of partner: 
Mostostal Warszawa S.A. 
Country: 
Poland 
Entity profile:
Private sector - large company

**Role within the commitment:**
Mostostal Warszawa is one of the largest construction companies in Poland. Mostostal is involved in research and development activities related with the use of construction waste in new construction. The role of the company is to promote new solutions for construction waste application following sustainable construction.

**Name of partner:**
CICECO. CENTRE FOR RESEARCH IN CERAMICS & COMPOSITE MATERIALS. Universidade de Aveiro.

**Country:**
Portugal

**Entity profile:**
Academia

**Role within the commitment:**
Processing and characterization of waste-based products: microstructure, chemical, physical, mechanical properties and durability. Wastes will be incorporated in building materials, such as ceramics, concrete, mortar (current or for specific applications); novel and sustainable ('light or 'low-energy') materials (e.g. belite-based clinker/cement, geopolymer, compressed earth blocks) will be developed.

**Name of partner:**
Delft University of Technology

**Country:**
Netherlands

**Entity profile:**
Academia

**Role within the commitment:**
- To provide a very large-scale laboratory for research and education in recycling; - To provide a MOOC (Massive Open On-line Course) for professional students in (innovations in) recycling

**Name of partner:**
Tomra Sorting GmbH

**Country:**
Germany

**Entity profile:**
Private sector - large company

**Role within the commitment:**
Develop innovative sorting solutions for C&DW Increase recovery rates of C&DW by using innovative sensor based sorting technologies Upgrade quality of recycled material fractions from C&DW for a use in high-grade applications Perform sorting tests with material fractions from C&DW in own test facility. Develop technical solutions for offsite and onsite processing of C&DW Develop concepts for waste sorting facilities and feasibility studies

**Name of partner:**
Lassila & Tikanoja plc

**Country:** Finland

**Entity profile:** Private sector - large company

**Role within the commitment:**
Lassila & Tikanoja plc is a Finnish public listed company specializing in environmental services, industrial services, facility services and renewable energy sources. L&T’s waste management and recycling services cover a wide variety of different waste types including C&D waste. L&T collects, transports and processes C&D waste into recycled raw materials and solid recovered fuels. L&T’s main interest in the commitment is to develop C&D waste management in order to improve recycling and utilisation rates.

- Recycling and utilisation of C&D waste
- Improving C&D waste recycling and utilisation

**Name of partner:** Finnish Wood Research Oy

**Country:** Finland

**Entity profile:** Other

**Other:** Non-profit wood products industry joint research company

**Role within the commitment:**
Representing companies producing wood products for constructing. Participating as coordinating body in consortia for developing methods and technics of environmental performance as well as having impact in norms and standards. Concepts for reuse and recycling of wood rawmaterial / wood based products/ waste Development of product and structures using recycled/reused material Sustainable development, design for the environment

**Name of partner:** Leibniz Institute of Ecological Urban and Regional Development, IOER.

**Country:** Germany

**Entity profile:** Governmental/public body

**Role within the commitment:**
The specific role of IOER within the Group is to link technologies of practice partners with the construction scenarios of regions and nations in EU along demographic and structural changes that will affect the construction industry.

**Name of partner:** INTECUS GmbH

**Country:** Germany

**Entity profile:** Private sector - SME
Role within the commitment:
Increase knowledge base for effective recycling chains and material flow management, enhance planning and dissemination of best practice for safe and efficient secondary materials sourcing. Instruments assessment; balancing of flows (MFA); joining preparation, scientific attendance and monitoring of pilot demonstrations; preparation and conduct of sorting analyses in support of the above and other relevant issues

Existing EU contribution:
Yes
Source:
FP 7
Competitiveness and Innovation Programme (CIP)
TEN-T programme
Cohesion Policy Funds: European Regional Development Fund
Other

Period to implement the commitment:
Sunday, 1 June, 2014 to Thursday, 31 December, 2020