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COORDINATION OFFICE  
Auf der Morgenstelle 15  
72076 Tübingen, Germany

coordination@clear-up.eu  
www.clear-up.eu

clean and resource efficient  
buildings for real life

## PROJECT PERIODIC REPORT

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**Project title: Clean buildings along with resource efficiency enhancement using appropriate materials and technology**

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**Name, title and organisation of the scientific representative of the project's coordinator<sup>1</sup>:**  
**Udo Weimar, Dr., Eberhard Karls Universitaet Tuebingen**

**Tel: +49 7071 29 77634**

**Fax: +49 7071 29 5960**

**E-mail: upw@ipc.uni-tuebingen.de**

**Project website<sup>2</sup> address: www.clear-up.eu**

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<sup>1</sup> Usually the contact person of the coordinator as specified in Art. 8.1. of the grant agreement

<sup>2</sup> The home page of the website should contain the generic European flag and the FP7 logo which are available in electronic format at the Europa website (logo of the European flag: [http://europa.eu/abc/symbols/emblem/index\\_en.htm](http://europa.eu/abc/symbols/emblem/index_en.htm) ; logo of the 7th FP: [http://ec.europa.eu/research/fp7/index\\_en.cfm?pg=logos](http://ec.europa.eu/research/fp7/index_en.cfm?pg=logos)). The area of activity of the project should also be mentioned.

## Declaration by the scientific representative of the project coordinator<sup>1</sup>

I, as scientific representative of the coordinator<sup>1</sup> of this project and in line with the obligations as stated in Article II.2.3 of the Grant Agreement declare that:

- The attached periodic report represents an accurate description of the work carried out in this project for this reporting period;
- The project (tick as appropriate):
  - has fully achieved its objectives and technical goals for the period;
  - has achieved most of its objectives and technical goals for the period with relatively minor deviations<sup>3</sup>;
  - has failed to achieve critical objectives and/or is not at all on schedule<sup>4</sup>.
- The public website is up to date, if applicable.
- To my best knowledge, the financial statements which are being submitted as part of this report are in line with the actual work carried out and are consistent with the report on the resources used for the project (section 6) and if applicable with the certificate on financial statement.
- All beneficiaries, in particular non-profit public bodies, secondary and higher education establishments, research organisations and SMEs, have declared to have verified their legal status. Any changes have been reported under section 5 (Project Management) in accordance with Article II.3.f of the Grant Agreement.

Name of scientific representative of the Coordinator<sup>1</sup>: ...Udo Weimar

Date: 23th/December/2009

Signature of scientific representative of the Coordinator<sup>1</sup>: .....

<sup>3</sup> If either of these boxes is ticked, the report should reflect these and any remedial actions taken.

<sup>4</sup> If either of these boxes is ticked, the report should reflect these and any remedial actions taken.

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# 1 Publishable summary

## 1.1 Project objectives

Clear-up will develop sustainable approaches to providing an optimised indoor environment, optimised in terms of **energy** and **usability**. It does not propose to directly investigate the topic of 'comfort'. However, Clear-up recognises that the needs of building occupants are a key component of any strategy for reduction in operational energy.

The core of Clear-up's approach is to use sensors and intelligent control to provide an **energy-optimised** indoor environment where active and passive systems for lighting, ventilation and temperature are combined in one building. Day lighting and natural ventilation will work in conjunction with artificial systems. Clear-up will achieve these aims by the integration of a range of nano and micro technology-enabled components in a holistic system. Simulation and modelling will be used along with **economic** and **ecological** analysis to address the business and resource aspects in a **whole lifecycle approach**. The role of the **user** will be addressed by work on user perceptions of Clear-up enabled buildings and specific human machine interfaces to provide feedback to users on their energy use and motivate their behaviour towards lower energy use.

Clear-up will develop new components and subsystems for control of temperature, light and air. The project will integrate a range of different technologies into subsystems. For example, phase change materials, natural ventilation, passive and active cooling and window shades and electrochromic windows may all contribute to moderating temperature. Clear-up will develop models backed up with real-life testing to help inform building designers and users about which combinations are most appropriate for different buildings in different climatic zones. In practical terms, it addresses four key elements of a building:

- **Windows.** Clear-up will advance the practical use of shutters and electrochromic window foils which reduce the building cooling load and along with light-guide technology, reduce the need for artificial lighting. It will address applications and solutions for controlled natural ventilation with integrated heat recovery potential reducing the need for heating in winter and cooling in summer.
- **Walls.** Clear-up will use photocatalytic materials for air purification and nano-porous vacuum insulation in combination with phase change materials to passively control temperature.
- **Air conditioning.** Clear-up will advance technologies for demand controlled ventilation and the intelligent combination of natural and artificial ventilation.
- **Sensors and control** provide an underpinning technology for Clear-up's approach. New sensors will be developed, and their use optimised for the operation of smart windows; demand controlled ventilation; and catalytic purification.

## 1.2 Description of the work performed since the beginning of the project

The project activities are organized in eight work packages, namely:

- **WP1: Design, simulation and performance characterisation;**  
The workpackage aims at identifying the energy performance of the technologies developed in Clear up in different types (hotels, schools, office buildings etc.) of new and existing buildings within the range of European countries (EU27) by simulation. A second aim is to support the development process by optimisation by simulation of the different applications with respect to energy performance, resource efficiency and costs.
- **WP2: Intelligent control and monitoring;**  
The objectives of this work package are the development of control and monitoring strategies, the development of methods to design and commission the control and monitoring strategies for a given building, the evaluation of the developed control and monitoring strategies and the extension of the existing simulation tool to support this development and evaluation.

- WP3: Component / subsystem design, development and test;  
The objective of this work package is to develop the technology components required for the Clear-up concept. Within each of the identified tasks components will be modelled, tested etc but in contrast to WP1, this is at the component level.
- WP4: System integration, testing and proof of concept;  
The work package objectives are: Integration of functional subsystems with control system; Ensuring safety of subsystems prior to real world testing and demonstration; Provide performance and durability data for comparison with models.
- WP5: Whole building demonstrators;  
The objective of this WP is to demonstrate the viability of the new components researched in the clear-up project, by taking the results of the extended testbed building, and doing the demonstrators in two selected buildings: the kindergarden in Copenhagen (Denmark), and the hotel complex in Benicarló (Spain)
- WP6: Preparing industry;  
It communicates the project's objectives and results to a range of audiences.
- WP7: Maximising impact on resource use;  
It ensures that the premise behind the implementation of technology is sound by undertaking whole lifecycle analysis of Clear-up solutions from economic and environmental viewpoints. It investigates how public and private procurement systems may impact on the uptake of Clear-up solutions, looking at models including public private partnerships. Further it explores the supply chain, and in particular how smaller contractors can be incorporated into a 'systems' solution.
- WP8: Consortium management.  
The objectives are to achieve the technological aims of the project and promote the use of Clear-up results in other scientific disciplines and market sectors; to ensure that all 19 Clear-up partners achieve the objectives which their organisations set out for participating; to use European R&D resources efficiently and effectively, including maximising links to relevant national, European and worldwide initiatives; to broaden the expertise of all participants working within the project in both technology and exploitation.

In the initial stages of the project, WP1 is responsible for information exchange between all the disciplines to enable initial system designs and performance targets to be elaborated. The main activities that took place are:

- Collection and definition of reference buildings
- Implementation of building descriptions in simulation environment
- Definition of representative locations for simulations
- First realization of technology models
- Inquiry on statistical information on European building stock

In WP2 work on the initial specifications of the interfaces between the high level control function and the subsystems was performed together with the extension of the available simulation environment to Clear-up technologies and work on high level control and monitoring strategies.

In WP3 the focus was on the improvement of the components performance with more emphasis on the gas sensors and photocatalytic materials. In WP4 work on the subsystem integration was performed together with activities leading to the selection of the testbed locations. In WP5 the focus was on the demonstrators for the Climate Summit.

WP6 activities were dedicated to the tuning of the communication programme. In WP7 the starting of the activities linked to the internal training of the consortium was primarily targeted. In WP8 the successful starting of the project activities was the main focus with the establishment of all project structures and the launching of all project management processes.

### **1.3 Description of the main results**

In WP1 a database of building descriptions of different building types that will be used in the simulation work was put together followed by the implementation of the building descriptions in the

simulation environment TRNSYS. Besides that, a database describing the European building stock was started.

In WP2 the very important task of defining the initial specification of the interfaces between the high level control function and the subsystems was executed. Besides that, the existing simulation framework were adapted and expanded according to the needs of the new strategies to be developed. Several new models and new control strategies were implemented in such a manner that simulation can easily be run for different sets of the relevant parameters. The development of control and monitoring functions for all subsystems was initiated. In addition, a simple high level control strategy has been implemented in the doll-house demonstrator controlling electrochromic windows, natural and mechanical ventilation.

In WP3 the main achievement related to the performance of the electrochromic foils is the improvement of their optical quality. On the side of photocatalytic materials new materials were developed and tested. For the sensors already two rounds of prototypes were provided for the chemoresistive VOC sensors and in the case of SGFET transducers new sensitive layers were realized and tested. To support the orientation towards the priority indoor pollution gases, namely formaldehyde, a new setup for dosing concentrations in the range of interest was designed and realized. Linked to the improvement of the insulation construction materials, advancements in VIP technology were brought about. Also, new concepts for light balancing were explored.

In WP4 prototypes for all subsystems were realized including components controllers and interfaces. A first use was made for the demonstrator to be presented at the UN Climate Summit in Copenhagen. A crucial WP4 activity, the selection of the testbed location, was successfully executed.

In WP5 the realization of three demonstrators for the Climate Summit is the main achievement.

In WP6 the development of messages, logo and branding; production of materials to support dissemination; website; publications; and media relations is already achieved.

In WP7 the first consortium training was organized around the topic of Indoor Air Quality (IAQ).

In WP8, besides the general coordination of Clear up activities, the kick off meeting and two general assemblies were organized. The internal project communication platform is up and running as well as the progress monitoring, planning and reporting processes.

## **1.4 Expected final results and their potential impact and use**

Clear-up is designed to make significant advances in technologies to improve energy efficiency in buildings, to increase awareness within the construction industry, facility managers and home owners about the potential for improving their buildings, and to remove barriers to the adoption of Clear-up concepts.

The project has clear quantitative targets for the different goals it has set. They are selected to ensure that in all respects, from component to subsystems to integrated solutions breakthroughs in the field. Examples for the performance at the component level are given below:

- Development of roll to roll production technology for foils based on polymer materials to enable large-scale production of retro-fittable electrochromic glazing.
- Development of daylight transport methods suitable for light balancing and anti-bacterial action of ultra-violet light.
- Development of photo-catalytic materials active at wavelengths longer than 420 nm to allow activation by visible light to improve air quality by decomposition of NO<sub>x</sub> and VOC.
- Incorporation of both phase-change material and nano-porous vacuum insulation in construction materials utilizing gypsum sheets, new building blocks or external thermal insulation composite systems to allow heat storage and insulation in a single component.
- Development and incorporation of more cost- and resource-effective nano-porous core materials in vacuum insulation panels.

For the energy-optimisation adaptive sensing and control strategy for buildings that will be developed in the project, the validation will be made in field. The integration of technologies in a large scale demonstrator will prove that it is possible to deliver reduction in energy use by 8 - 38% in a typical building without compromising the indoor environment.

Clear-up will create impact by enabling substantial savings in operational energy use in Europe's buildings without negative ecological consequences and whilst providing a high quality environment for building occupants. Secondly, by developing new directions for the European construction industry, raising its worldwide competitiveness.



Figure 1 Clear-up logo

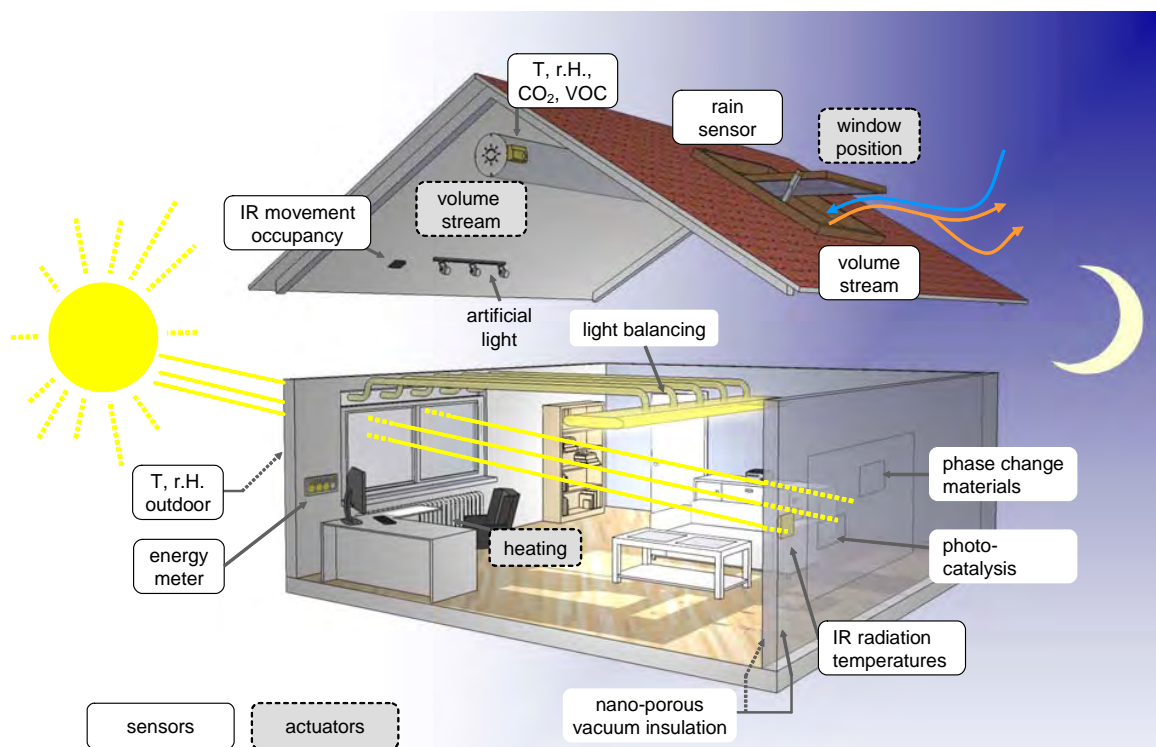


Figure 2 Clear-up technologies for energy-optimised control of indoor environment

Clear-up Coordination Office  
 Auf der Morgenstelle 15  
 72076 Tübingen, Germany

T +49 7071 29 77634  
 F +49 7071 29 5960  
 coordination@clear-up.eu  
[www.clear-up.eu](http://www.clear-up.eu)



## 2 Project objectives for the period

The first year of the project is essential for the overall success because, due to the extremely ambitious Clear-up goals, it is crucial to avoid any delays that could start to accumulate and negatively impact the follow up activities. There are clear milestones that need to be met and missing one, e.g. absence of positive test bed evaluations, would jeopardize the others, e.g. installation of subsystems in the real life demonstrator. Already from the very beginning, the project started under time pressure because in the initial planning a high impact demonstrator was planned close to the project midterm at the UN Climate Summit in Copenhagen. The delays in the contract negotiations were bringing this very important activity at the end of the project's first year. Besides that, some of the activities, e.g. testing and operation of subsystems in real buildings, are extremely complex and unprecedented for most consortium members.

The big lines of the first project period are given by the need to ensure that all essential activities are kick started successfully. In terms of PMs, most of the efforts were planned in WP1-4 and 8; individually, WP3 is the one which concentrated most R&D.

In the case of WP1, the focus was on the collection and definition of the reference buildings (D1.1) and their implementation in the simulation environment as well as the elaboration of the first technology models. One has to state here that for the combination of passive and active components proposed by Clear-up there are no off-shelf models so they need to be elaborated. In WP2 the initial specifications of the interfaces between the control and monitoring and the subsystems was the highest priority; without it, no development in the control and monitoring strategies was to be possible. Besides that, and using it, advancements in the control and monitoring were planned, especially for the subsystem air and for the components (e.g. electrochromic windows) where no such strategies were available. For all components to be developed in WP3 the focus was on the individual performance in view of meeting the specific scientific and technological objectives of the project. Because of their relevance to the project and of the high levels of performance they will have to show, clear criteria were established for the gas sensors (D.3.1 and D3.3) and the electrochromic foils (D3.2). In the case of WP4 the most important activities were the identification of the test bed buildings (D4.1) and the formulation of the design guidelines for system integration (D4.2). In the case of WP5 the objective of the period was the realization of the demonstrators to be presented at the UN Climate Summit in Copenhagen (December 2009). For WP6 in the first period it was important to produce the initial publicity materials and branding: messages and background document, logo and design guidelines; project brochure and presentation. It was also planned to have a first stakeholder workshop. The organisation of the first annual training of the consortium (D7.1) was the main task in WP7.

## 3 Work progress and achievements during the period

### 3.1 Summary of progress WP1

#### 3.1.1 Task 1.1 Knowledge forum, roadmap and reference models

##### Statistical information

To be able to predict the impact of the new and improved technologies information about the present energy performance is needed. With the help of collected data on existing buildings "base case" scenarios can be generated and the holistic impact can be extrapolated from the simulation results.

There are several kinds of information needed to be able to get to these conclusions:

- Number of buildings/households per reference region
- Typical construction materials (insulation, glazing)
- Typical HVAC-systems

Input has been provided by Acciona Real Estate and Siemens Building Technology.

Acciona sent a report entitled "Buildings statistics in Europe" in which real state activities in Europe and Spain are studied. This report shows statistics from the dwelling stock by type of buildings, average of private households, population per household, distributions of household size, average useful area per dwelling and per person as well as the amount of hotels, office buildings, hospitals and educational buildings in Spain.

The information provided by Siemens BT consists of data about the existing stock of residential buildings and their period of construction as well as the amount and age of the complete building stock. Moreover, information was gathered about dwellings in other European countries and the average energetic performance in some regions.

### Reference buildings

In order to make the number of cases manageable we decided to use six buildings from different categories as reference for the simulation studies. They include

- offices
- school
- dwellings

A detailed description of the buildings can be found in Deliverable 1.1. It has been discussed, that – depending on the region and country discussed – the construction and the materials used will typically differ. Nowadays even in one region very different construction details can be found. However, this influences mainly the performance of the base case. When Clear-Up technology, e.g. vacuum insulation, is applied the final buildings will be much more coherent in different regions. Nevertheless we tried to consider the cultural diversity by taking examples (e.g. offices) from different regions.

Due to differences in the climate, different technologies will have significantly different influences on the possible energy savings and therefore different optimum configurations are to be expected. Moreover, it is necessary to have exemplary results to get an idea of the overall possible effect of an application of clear-up developments.



Figure 3 Map of Europe with the locations chosen for the simulation studies

The chosen locations are listed in Table 1. Further information can be found in Deliverable 1.1.

Table 1 Synoptical table of the chosen locations					
Location	Longitude	Latitude	Altitude	Average Temperature	Sum of Global Rad.
Stockholm	17.95 °E	59.35 °N	11 mNN	6.9 °C	980 kW/m <sup>2</sup>
Warsaw	20.983 °E	52.267 °N	130 mNN	8.4 °C	1000 kW/m <sup>2</sup>
London	0.183 °W	51.15 °N	59 mNN	10.7 °C	1000 kW/m <sup>2</sup>
Strasbourg	7.63 °E	48.55 °N	150 mNN	9.8 °C	1100 kW/m <sup>2</sup>
Madrid	3.55 °W	40.45 °N	582 mNN	13.5 °C	1660 kW/m <sup>2</sup>
Athens	23.717 °E	37.967 °N	107 mNN	17.6 °C	1560 kW/m <sup>2</sup>

### 3.1.2 Task 1.2 Integrated building simulation model

#### Ventilation

Simple ventilation control algorithms have been implemented in the simulations that allow a definition of control conditions.

Helena Hülsey participated in the clear-up Indoor Air Quality seminar in October 2009 in Copenhagen.

#### Vacuum Insulation

Vacuum insulation is a way reducing thermal losses through the walls of a building. Of the three means of heat transfer, two (convection and conduction) are eliminated in an evacuated layer, leaving only thermal radiation to loose heat through vacuum.

In reality there will also be losses at the edges of a vacuum element, but the heat loss per thickness of insulation is drastically reduced which leads to a considerable reduction of the necessary space required for insulation. For energy performance an idealized system description is being used, using area averaged conductivities but not detailing 2D or 3D thermal bridges in detail (as is similarly being done for ordinary insulation often using anchors and dowels)

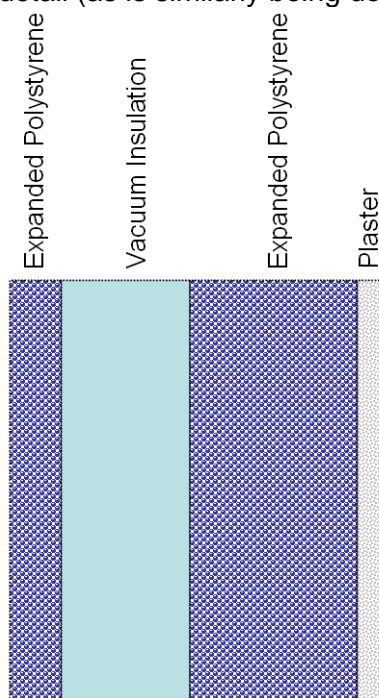


Figure 4 Schematic illustration of the cross section of a vacuum insulation system

### **Photocatalysis**

For the simulation of photocatalysis a simplified model of the actual physical process, of which many parameters are unknown or whose influence is too small to actually reproduce in an energetic simulation, has been developed.

The main premise of the model is a constant quantum efficiency of the photocatalysis which leads to the following decomposition rate:

$$p = \eta \cdot I \cdot A$$

*A* – area of photocatalytically active surfaces

*I* – Irradiance (photons per  $m^2$  and s) in relevant spectral range

*$\eta$*  – Quantum efficiency of the photocatalysis

### **Electrochromic windows**

An algorithm has been realized that changes the light and solar transmission properties of windows according to definable conditions of a controller.

### **Phase change materials**

In agreement with the given milestones in the description of work, no work has been done on this task yet.

### **Light guiding technology**

In agreement with the given milestones in the description of work, no work has been done on this task yet.

## **3.2 Summary of progress WP2**

The main objectives of this WP are the development of control and monitoring strategies, the development of methods to design and commission the control and monitoring strategies for a given building, the evaluation of the developed control and monitoring strategies and the extension of the existing simulation tool to support this development and evaluation.

### ***3.2.1 Task 2.1 Specifying the interfaces between the high level control function and the subsystems***

This task consists in specifying the interfaces between the high level control and monitoring function and the subsystems to enable both, the subsystem and component supplier, as well as the overall control and monitoring beneficiaries to have a clear work frame.

The specification of the interfaces between the high level control and monitoring function and the subsystems is an iterative process as described in the DoW (page 38): “A first version of such a specification is made very soon after the project start. It serves as working assumption for those working on the control and monitoring functions and for those working on the subsystems. This specification can be modified during the progress of the work if it turns out to get an improvement, and will finally result in the final specification at the end of the project.”

The initial specification was delivered in due time as agreed on at the Clear-up Kick-off meeting. It was approved by the end of May, 2009.

Contractual work content is in time. In addition to the contractual work it has already been demonstrated that the specified interface is working in practice (doll-house demonstrator), please refer to WP 4 (deliverable D4.2).

### ***3.2.2 Task 2.2 Extension of Siemens' simulation environment***

In order to be able to develop the control and monitoring strategies (task 2.3 – 2.5) a simulation environment is required. The Siemens' simulation environment already existing is extended by elements required for the Clear-up technologies.

The existing simulation framework were adapted and expanded according to the needs of the new strategies developed in WP2. Several new models and new control strategies were implemented. The implementation was done in such manner that simulation can easily be run for different sets of the relevant parameters. Thus, studies on parameter sensitivity can be performed and are supported by specific plotting functions.

A detailed description of the achievements in term of the simulation environment is given in chapter 3 in the deliverable report D2.2 (document PD100771-232791-S-0204\_EN\_D2-2\_ControlStrategies.doc)

### ***3.2.3 Task 2.3 Development of the high level control and monitoring strategies***

In the first project year for the high level control and monitoring functions emphasis has been put on indoor air quality. This is due to the expected rise in energy demand for indoor air purification. Many cities show rapid growth and are on the way to become megacities. In many places air pollution is still raising, despite environmental protection measures. At the same time awareness for health concerns is growing. Thus, in the near future presumably there will be an increased demand for air purification. Conventional purification by air filtering is energy demanding due to the filter induced flow resistance that needs to be compensated with additional ventilation power. Therefore, in Clear-up novel control strategies are developed that can ensure good indoor air quality with minimal energy demand. The clue to reach this goal is to take outdoor air quality into account as well as the purification activity of photocatalytic materials. As photocatalytic materials require light to operate the strategies will have to comprise eventually both subsystems 'air' and 'light'. So far, strategies that include outdoor air quality have been developed, implemented and evaluated. The results look promising and suggest further research in this topic. The work done is

documented comprehensively in the deliverable D2.2 document that was approved by the WP leaders on November 30.

In addition a simple high level control strategy has been implemented in the doll-house demonstrator controlling electrochromic windows, natural and mechanical ventilation.

### ***3.2.4 Task 2.4 Development of control and monitoring of the subsystems air and temperature***

In the first project year as described in section 2.3 the main research activity has been targeting on improved demand controlled ventilation strategies. The goal of the new developed control strategies was not only to accomplish a good air quality inside, but also to improve the costs and to keep the carbon dioxide level in the comfort zone. Two new strategies both making use of the fluctuations in the outdoor air quality were investigated. Therefore, these strategies as well as the required models were implemented in Siemens' simulation environment. The reference strategy for comparison was a state of the art demand controlled ventilation strategy based on carbon dioxide concentration. Even though, a preliminary evaluation by simulation showed substantial benefits in terms of indoor air quality and at the same time in terms of energy demand. As an example we obtained for the case of the Swiss city Zurich and the summer period 2008 an air quality improvement of 8 % at an energy saving of 16 %. This said, performance showed strong dependency on outdoor fluctuation characteristics, even a higher performance is possible (e.g. case of Lugano, summer period).

So far, the strategies developed don't consider any purification mechanisms. This will have to be tackled within the next project period. The work done is documented comprehensively in the deliverable D2-2 document.

### ***3.2.5 Task 2.5 Development of control and monitoring of subsystem lighting***

A control algorithm for electrochromic windows has been achieved. The algorithm allows to set the window transparency to any intermediate level between the states 'fully clear' and 'fully dark'. Operation of the window is effectuated by push buttons (up/down). The algorithm has been implemented in the dollhouse demonstrator.

Regarding the Clear-up light guiding systems no control algorithm was developed so far. To develop such control algorithms additional input from task 3.5 will be required.

### ***3.2.6 Task 2.6 Development of the design and commissioning methods***

This task aims at board acceptance of high performing control and monitoring strategies. Important factors for their acceptance are a) performance assessment methods and b) methods to tune the controller parameters. These methods have to correspond to the requirements of the relevant target groups (e.g. designers, commissioners).

All control strategies developed in the first year can be assessed and tuned using the implemented Siemens' simulation environment (task 2.2). This simulation environment is dedicated to researchers. Once advanced versions of new control strategies will be available then methods (including simulation tools) can be developed for dedicated target groups. Thus, these actions will be tackled at a later stage in the project.

### ***3.2.7 Task 2.7 Develop and evaluate new concepts for HMI***

This task is about energy related feedback to specific target groups (e.g. occupants, facility manager, service engineers) and group specific control opportunities.

A few internal workshops and discussions have taken place. Further work is required in order to compile these outcomes.

### 3.3 Summary of progress WP3

#### 3.3.1 Task 3.1 Electrochromic Glazing and windows

Partners, Univ. of Uppsala (UU) and Chromogenics are the main contributors for Task 3.1 dealing with the development of new electrochromic thin films based on mixtures of tungsten and nickel oxides with superior performance i.e. is colour-neutrality and maximum/minimum transparency in the clear/dark state. Deposition of ZnO:Al coatings as TCO contact for electrochromic windows was provided by FhG/IST.

The work at **UU** has been divided into two main parts, focusing on the cathode and anode separately. This means, first investigation of Ni-doped WO<sub>3</sub> and second, W-doped NiO. Successful tests have shown that adding Ni into the cathode (WO<sub>3</sub>) improved the colouration efficiency in the visible (400-700 nm) for a certain amount of nickel (about 12% Ni). This sub-task effort is considered completed. Work on the anode with W-doped NiO is under development.

The work at **Chromogenics** has focused on *Colour Neutral* (in both bright and tinted state) window prototypes, *High transmittance* bright state, *Extended test methodology* with heat, humidity and UV-cycling and *Accelerated test methodology*. In parallel with the above research activities by UU, ChromoGenics performed an activity during Q1&Q2 2009 to realize an improved version of the original (yellow tinted) ConverLight™ technology. In this new version, two modifications were achieved:

- the yellow colour tone was minimized using the existing materials
- the window devices were balanced in colour tone by using a weakly blue-coloured plastic film.

This technology (within the Clear-Up project denoted ConverLight™ Neutral) was ready for use in prototypes in August 2009. It is used in the scaled prototype smart window system for the “Doll-House” demonstration at COP-15 (demonstrator agreed during the June 2009 General assembly) and as part of the deliverable D3.2. Tests have shown improved transmittance characteristics: *Bleached state*: T<sub>lum</sub> = 57.5 %, T<sub>sol</sub> = 61 %      *Coloured state*: T<sub>lum</sub> = 17 %, T<sub>sol</sub> = 18 % with colour neutral in both sides operating between -10 and +50 °C. Optical modulation tests on Doll-House have shown T-inc (80%) at 530 nm in 7 min and T-dec (80%) in 10 min.

In addition, cost reduction efforts lead to the replacement of ITO with alternative TCOs. In this context, collaboration with **FhG/IST** was developed for the introduction of less expensive /equal performance ZnAlO (ZAO) films. ZAO films at IST grown by sputtering from a ZnO: 1.0 wt. % Al<sub>2</sub>O<sub>3</sub> target showed a carrier concentration in the order of  $n_e = 1 \times 10^{20} \text{ cm}^{-3}$ , which exhibited metallic conductivity, a high NIR transmittance with transmittance @ 1000 nm > 70 % and a good mobility in the order of 20 cm<sup>2</sup>/Vs. Films were deposited in glass and PET substrates. With the addition of hydrogen into the process there was an increase in carrier concentration by a factor of 1.6 and also the transmittance @ 1000 nm was greater than 80 %. The transparency and resistivity of the coatings is improved with the addition of hydrogen in to the process (hydrogen acts as a shallow n-type donor). Additional growths (using ceramic and metallic targets) and test are still running.

Within this WP Task ChromoGenics has developed a test methodology for evaluating *Durability of the core technology*. Significant progress has been achieved in this area as listed in the attached analytical report by the partner.

Finally, there has been progress in the area of scaling up production and manufacturing dimensions. The aim is to make full sized windows. ChromoGenics production facilities can now (Q4-2009) produce 2,1 x 0,80 m<sup>2</sup> large foils of ConverLight™. The newly implemented production process will be released for making prototypes in Dec-2009.

#### 3.3.2 Task 3.2 Photocatalytic surface materials

The Task deals with efforts to produce prototype photocatalytic materials able to decompose aromatic compounds, aldehydes and inorganic gases and formulation of cement-based paint to be used for the production of prototype panels to be tested for effective photocatalytic activity with indoors lighting.

Partners FORTH, CTG, FhG and JRC were responsible for the work envisaged within this task with valuable contribution from BME Budapest. The aim was to develop doped nanocrystalline photocatalytic materials based mainly on TiO<sub>2</sub> and complementary ZnO, effectively sensitive to visible light for indoors application.

**FORTH** undertook the task to develop “novel” TiO<sub>2</sub> doped nanostructures in powder form starting with the synthesis of Mn- TiO<sub>2</sub> at concentrations of 1, 10 and 30 wt %, while CTG would introduce “commercial” powders. Tests on 3-4 type of products (cementitious paint, plaster, lime based and hybrid on glass or plastic) prepared by CTG were to be tested by JRC in their EU certified INDOORTRON test facility at ISPRA.

Within the first 12 months, **CTG** has tested some commercially available types of TiO<sub>2</sub> and some experimental types of Mn doped TiO<sub>2</sub> prepared by FORTH. Two important parameters were considered in the choice of the photocatalyst for indoor applications:

- chemical stability in alkaline environment (high pH)
- long-term stability (in terms of photocatalytic performances)

On these products, a physical-chemical characterization was firstly carried out followed by some photocatalytic tests on the same pure TiO<sub>2</sub> products and on paints, prepared using determined percentages of TiO<sub>2</sub> products.

Following this screening, a few panels surface-painted with selected types of paint were prepared and shipped to JRC for their evaluation. Saint-Gobain Weber GmbH sent out a sample of photocatalytic active plaster “Airfresh” to CTG for testing. The plaster “Airfresh” can act as a commercial available benchmark for the new photocatalytic product, which will be developed within clear-up by CTG. Tests on these are not concluded yet.

In parallel, **FORTH** synthesised and in-house characterized their own material both physically and chemically developing for this purpose two dedicated testing set-ups. Additional significant structural analysis was provided by XPS test performed by partner BME Budapest providing important information on powder purity and verifying doping concentrations.

Photocatalytic test performed by Rhodamine-B and Gas-circulation apparatus using both UV (OSRAM Vitalux 300W) and visible (fluorescent) lamps at **CTG** and external collaborators in Venice and CNR-ITC on CTG “commercial” powders have shown a significant photocatalytic activity (within 60min) both on VOC (toluene) and NO tests. Corresponding tests on FORTH’s material (Mn-TiO<sub>2</sub>) were showing negligible responses and were rather inconclusive.

However, tests of FORTH’s material (at **JRC** in ISPRA) using a “static” analysis set-up and applying both the same Vitalux 300W - with a UVA content of ~15% - and a visible (fluorescent) lamp (at FORTH) have shown comparable photocatalytic reduction of the order of 80% within the same time frame for NO. FORTH’s material performance was verified by tests performed by the JRC using the same Vitalux 300W also applied for the initial tests on CTG panels with “off-the shelf commercial” powders and on FhG panels (applying Hollow-cathode gas –flow sputtering instead of sputtering) supplied in the first six months of the project. FORTH has also performed tests on acetaldehyde degradation and shown a peak reduction with a corresponding increase of the CO and CO<sub>2</sub> peaks indicating a photocatalytic activity on aldehydes too. All above results were obtained for the 1% Mn-TiO<sub>2</sub> powders.

Progress so far shown that the consortium partners involved in this task have developed an expertise both on the synthesis and testing of effective photocatalytic row materials and panels exhibiting a significant reduction in inorganic and organic indoors pollutants. At the remaining time span to task completion and the delivery of D3.4 on month 14 partners should coordinate their efforts to test their materials under an agreed process (flow or dynamic) using the same type of exposure lighting in line with efforts developed in WP1, WP2 and particularly WP4. Activities on alternative doping materials for TiO<sub>2</sub> and ZnO are still going on and will undertake the same testing as soon as they are available.

### **3.3.3 Task 3.3 Sensors**

Main partners in this Task activity are AppliedSensors (AS) and Siemens CT as providers of gas sensor solutions, responsible for the development, testing and validation of sensitive layers, sensor components and sensor modules for the detection of the defined target gases CO, CO<sub>2</sub>, NO<sub>2</sub> and



VOCs. Two available complementary transducer platforms are available, the micro-hotplate of AS and the SGFET – in the special sensor setup developed by Siemens CT called Hybrid Flip Chip GasFET, - of Siemens: the former is to be operated at temperatures between RT and 500°C and allows for resistance readout, the latter is more for RT operation and allows for work function changes readout. That opens up the possibility to extract different features from even the same sensing materials and, by that, increase both sensitivity and selectivity. Both are miniaturized and low power so they can be easily integrated (together) into devices.

AS are collaborating with Siemens CT and EKUT for the development, evaluation, testing and qualification of their iAQ modules. Complementary tests from BME on behalf of Siemens CT and AS have been developed. Siemens BT, although not officially involved in this WP has contributed directly with the hosting of an IAQ workshop in Zug on March 19, 2009 which resolved outstanding issues related to critical iAQ parameters terminology while re-directing priority activities work-plan. In line with the sensor group agreement (on April 7<sup>th</sup>) on target gases and re-clarification of research priorities, **AS** focused on advancement and testing of the iAQ-2000 Indoor Air Quality Module in order to fulfil the requirements of deliverable D3.1 and the development and testing of the second set of VOC sensors, the iAQ-Engine modules, according to deliverable D3.2. Both modules provide air quality prediction based on detection of VOCs for demand-controlled ventilation. Long-term stability tests were carried out showing no significant change in sensitivity has been obtained for 6 modules (iAQ-2000 type, equipped with a single micro-machined metal oxide semiconductor -MOS- gas sensor element for detecting a broad range of VOCs while correlating directly with CO<sub>2</sub> levels and perceived air quality in the room) during the observation time of almost one year.

Extensive real-life as well as long-term stability tests have been initiated in a school, a kitchen and meeting rooms. Analytical instrumentation (PT-GC/MS) and reference sensors (humidity and temperature, CO<sub>2</sub> sensor based on near NDIR) were applied at the same time in order to elucidate the sensitivity and efficiency of monitoring IAQ correlated to quantifiable human effluents (VOCs) and perceived air quality.

Measurements regarding outdoor and indoor air at the same time have been carried out in order to see if the design of a DCV system, taking into account indoor as well as outdoor air would be feasible applying the modules. Results demonstrated that it should be possible to design of a DCV system, considering both, indoor and outdoor air at the same time using AS Modules as control systems for supply air and indoor air conditions.

Real-life tests at the **DTU** in cooperation with **CTG S.p.A.** – Italcementi are in progress to evaluate performance of iAQ-2000 Modules in relation to perceived air quality evaluated by a human sensory panel and quantifiable VOCs regarding different load conditions in rooms (building materials, occupancy, photocatalytic paints, lightning and ventilation).

Also, new and commercial sensitive materials (Pd, Ag, Cu doped SnO<sub>2</sub>) have been analyzed by the Department of Atomic Physics at the **BME** in Hungary. Surface analytical studies were performed on doped SnO<sub>2</sub> thick-layer sensor layers prepared by AS. The SnO<sub>2</sub> sensor layers were deposited on Si substrate. All the layers were studied with SIMS, Auger and XPS spectrum analyses. The composition (dopant and impurity concentration) was determined at the surface and in 5-6nm depth as well. The lateral homogeneity was also studied. Conclusions were drawn on the bonding states of compounds forming the samples.

Regarding influence of humidity, activities on cross-sensitivity of VOCs and methane that seems to be the main challenge on sensor performance and CO detection have been realized using gas-mixing station. Different modes of operation (isothermal and pulsed), filter materials ( zeolites, charcoal) and sensitive layers have been investigated in order to find the most promising material and suitable working conditions for a reliable CO detection. So far no decision has been made which operation mode and sensitive material will be used in the future.

Chemoresistive layers from Siemens CT for CO<sub>2</sub> detection have been tested on the micro-hotplate of AS and the development of CO detection towards high performance based on actual materials has been started as well. Extensive investigations on different filter materials and operation modes have been made.

For the HFCFET platform of **Siemens CT** the objectives were to develop and test VOC and smell sensing layers for RT operation based on a catalytic system similar to metal oxide sensor operated at elevated temperatures using a range of gaseous components, which reflects the indoor air quality. Tests were performed on an automated multichannel gas test rig monitoring Gas concentrations, Total gas flow, Relative humidity (%) and Ambient temperature (T).

The limit of detection (LOD) for a specific gas have been estimated taking in account the gas response itself as well as the noise level observed without a specific gas exposure. Results on AS platform sensors have shown a LOD for Toluene in the range of 0.5ppm, 1ppm for CO, 2ppm for Ethyl Acetate, 200ppb for Ethanol and lower than 100 ppb for NO<sub>2</sub>. In conclusion, the iAQ2000 modules delivered by AppliedSensor are able to detect VOC components at concentrations << 1ppm. **The lowest detection limit within the VOCs tested was obtained for ethanol with LOD ~ 200µg/m<sup>3</sup>, which is better than the limit of 300µg/m<sup>3</sup> proposed in the description of work.**

Screen printed layers of Platinum dispersed on Ga<sub>2</sub>O<sub>3</sub> have been investigated for their workfunction response to various gases relevant for IAQ monitoring. In Kelvin Probe tests it has been shown, that the response to different gas components can be optimized by variation of the particle size of the dispersed Platinum. Sensing layers of different thickness have been mounted in the GasFET platform. It has been demonstrated, that the gas response can be increased by increasing the thickness of the sensing layer. The maximum layer thickness which can be used in the GasFET is limited by the properties obtain by the screen printing process to ~ 20µm. The thermal reactivation used during Kelvin Probe measurements has been validated with the GasFET sensors. A good response to different hydrocarbons CO, H<sub>2</sub> and ethanol was obtained after the reactivation.

Additional work within this Task included the study by **BME** on the corrosion resistance of Ga<sub>2</sub>O<sub>3</sub>/Pt based VOC sensors prepared by SIEMENS CT. The sensitivity of Pt/Ga<sub>2</sub>O<sub>3</sub> based VOC sensors were examined using ethanol, CO and H<sub>2</sub>. The sensors were corroded in SO<sub>2</sub>, H<sub>2</sub>S, HMDS and NH<sub>3</sub>, then the sensitivity tests were repeated. The effect of corrosion was also studied by surface analytical method, XPS. Results concluded that both the regeneration step and the corrosion increased the sensor sensitivity as a function of the corroding gas.

Following the meeting in Zug (hosted by Siemens BT) where all partners prioritised their small interest in such materials EKUT, although initially planned to work on Ethyl mercaptane sensitive materials, had to change direction. **EKUT** reoriented its work towards formaldehyde (HCHO), which is one of the high priority compounds recommended by EC (INDEX) and is a material widely used in many manufacturing processes due to its chemical reactivity, high purity and low cost. Because of the extremely low concentrations that are the target for this specific gas, the first activity undertaken by EKUT was the design and realization of a set up able to reproducibly deliver the required test atmospheres; the chosen approach was the use of the headspace of an aqueous paraformaldehyde mixture in combination with a reference channel equipped with a permeation tube (all details are presented in a separate document uploaded on the website). By end of September 2009 the set up was ready and the tests showed that it is possible to deliver formaldehyde concentrations between 15 ppm and 1700 ppb in a reliable manner. Currently different commercial sensors and newly developed materials are tested.

### **3.3.4 Task 3.4 High Performance wall materials and components**

The aim of this Task is to study and evaluate materials and components for transforming walls to high-performing slim walls with extremely high thermal insulation and thermal inertia such as Vacuum Insulation Panels (VIPs) and Phase Change Materials (PCMs). Successful results will have to be integrated with photocatalytic coatings for novel indoors applications.

Partners Porextherm Dämmstoffe GmbH and Saint-Gobain Weber GmbH are the main contributors in accomplishing the work envisaged within this Task.

**Porextherm** has been focusing on reduction of existing thermal bridges caused by the usually used three-edge-sealing-bag by a new kind of type of packaging without any sealing flaps on the long sides of the VIP. Owing to the necessity for sustainability and thus for a reduction of the amount of primary energy generated with fossil fuels, vacuum insulation panels (VIP) have caught the attention in the building industry. These panels consist of a porous core material which is tightly

sealed into a barrier envelope after evacuation. Due to this state of vacuum, the thermal conductivity of the product is reduced significantly to a value of approximately  $4 \times 10^{-3} \text{ W}/(\text{m} \times \text{K})$ , as a result ideally outperforming all conventional gas filled thermal insulation materials by a factor 5 to 10. In conventional VIP structures, the high barrier envelope – including either Aluminium layers or metallized layers – causes a thermal bridge at the panel edges and corners. This effect influences the total thermal conductivity value of a VIP in a negative way which means that this value increases. Besides the already described problem with the thermal bridge caused by barrier envelope, the dimensional accuracy of this high efficient heat insulation product and the crack free assembling of different VIPs are an important subject too. Due to the fact that the usually used three-edge-sealing-bag with its distant sealing flaps generates such a crack in case of assembling two VIPs, another reason for searching an appropriate solution for packaging and bending technology for vacuum insulation panels is given.

To this end, different solutions to create an envelope for a vacuum insulation panel were judged according to feasibility and functional compliance. For that the different combinations were ranked and judged in terms of production expenditure, tightness and joining area with a point system. Out of this procedure a ranking list was made and best solution was chosen with the two centre-seams located on one VIP. Porextherm GmbH possess now the first automatic packaging machine for vacuum insulation panels, and now a vacuum insulation panel with a ratio value  $\varphi$  of 1.0, an accurate to dimension construction and a shape for a crack free assembling of VIPs can be realised. In addition, mathematical verification of linear thermal transmittance of panel edge was accomplished and now for the border area of vacuum insulation panel with a nominal thickness of 20 mm and 40 mm the following linear thermal transmittances result:

In parallel, **Saint-Gobain Weber GmbH** has focused on the LockPlate™ System production improvement within the plate protection stage EPS (the link to another insulation material) embedding to tackle problems related to non-professional and careless handling. A new design of VIP incorporation into EPS has brought exclusion of non-desired adhesives, which increases fire strain of the whole system. The new composition achieves the degree B1 of fire resistance for the whole LockPlate™ System according to DIN 4102/ part 1. Efforts to improve real insulation efficiency has resulted in a 90 mm composition of LockPlate™ System with new generation VIP ( $7\text{mW}/\text{mK}$ ), reaching the U Value  $0,157 \text{ W}/\text{m}^2\text{K}$ .

Saint-Gobain Weber GmbH has also focused on Sound reduction value improvement, smaller wall tests, with the use of LockPlate™ System and detailed solution and information for designers about how to work with LockPlate™ Planner. It is intended to demonstrate this set up at the “Bright Green” exhibition in Copenhagen, December 2009. The main strategic target of Saint-Gobain Weber GmbH is to get a Certificate for LockPlate™ System of Passive House Institute in Germany. In addition, Saint-Gobain Weber GmbH has constructed a transportable box containing two doll houses, one being coated inside with PCM plaster. The doll houses are equipped with a thermometer and an external heat source. As soon as the heat source is switched on, the spectators can watch the temperature rising much faster in the house without PCM plaster. PCM plaster has also been mixed and sent out to CTG Bergamo (20 kg) to test if the PCM plaster is a suitable substrate for their photocatalytic coating, to BBRI (1000 kg) for tests and to the Danish Technical University (50 kg) for preparation of a demonstration wall for “Bright Green”.

### **3.3.5 Task 3.5 Light Balancing**

The aim of Task 3.5 Light Balancing is to achieve comfortable light level using daylight as the primary light source. The use of a light guiding system is intended to bring daylight to the interior of the room, while electrochromic films are used for dimming of the windows. Light redirecting blinds are also considered, in combination with electrochromic foils, to redirect the light from the upper part of the window further into the room. The integration of the different techniques is essential for an optimal performance.

The sole work-effort in this task comes from **UU** who in line with the DoW should develop a novel light guiding technology to improve light balancing providing the light guide system based on internally reflecting ducts and supplying them with electrochromic foil by Chromogenics. In fact UU adopted an approach where an existing light guiding system is purchased and potentially retrofitted

with diffusers and/or electrochromic film. The interpretation of the light balancing objective has therefore been extended to include more detailed work on day-lighting strategies other than light guides.

Work focused on Light scattering and diffusing sample for day-lighting applications in windows or in combination with light guides to diffuse the light entering the room and prevent shadow effects and sharp edges. Due to the angle dependent properties, light scattering samples are notoriously hard to characterize and the industry is asking for a standard procedure to determine their optical properties. Through collaboration with the International Commission on Glass, Technical Committee 10, a method for more accurate transmittance measurements of low angle scattering samples using a standard optical instrument have been proposed and now the measurement accuracy of hemispherical transmittance can be improved by approximately 4 % for some low angle scattering samples. On the other hand the use of light redirecting blinds has been proposed to reduce the light intensity close to the window and at the same time direct light further into the room. Using light redirecting blinds on the upper part of the window and electrochromic foils on the main part could be beneficial for the light condition as well as the function of the photocatalytic paint, without adversely affecting the view through the window. A Venetian blind system was optically characterized using a combination of optical measurements and ray-tracing. A work flow that can be applied to other samples was proposed and the results supported the hypothesis that detailed optical data are needed to accurately determine the light scattering properties of a Venetian blind system. In conclusion a method for more accurate characterization of low angle scattering samples using a standard instrument has been proposed. The simplicity of the method makes it desirable for use in industry and the results are promising. However, further validation is needed to make the model applicable to a broader range of samples.

Contractual work content for the Light balancing task is under way with a noticeable deviation from the proposed work in the DoW. Due to the economical budget for light guiding systems and limited expertise in development of such a system, a current approach has been adopted where an existing light guiding system is purchased and potentially retrofitted with diffusers and/or electrochromic film. The interpretation of the light balancing objective has therefore been extended to include more detailed work on day-lighting strategies other than light guides.

### **3.3.6 Task 3.6 Safety of materials**

The aim of Task 3.6 is to provide an evaluation (mainly by JRC) on the emissions of chemicals and by products applied to the different materials and components used or developed within WP3 and the project as a whole.

Material and components safety issues are an integral part of the work-effort each partner is providing for. As new synthesis methods and new materials are developing the individual labs are taking measures in ensuring the safety of their products. However, verification and safeguarding procedures should be scrutinized and JRC is having a dominant role on verifying and authorizing the safety of all products and by-products developed. No explicit initiatives have been adopted so far for the verification and certification of products and processes. Such an action needs to be agreed and adopted by all partners soon.

## **3.4 Summary of progress WP4**

### **3.4.1 Task 4.1 Subsystem integration**

Milestone D4.2 (Siemens BT) is about integration of the subsystems. Integration of the subsystems was demonstrated in practice on the scale of a “Doll-House” demonstrator. The “Doll-House” was presented at the ESSC event in Brussels and will be shown at ‘Bright Green’ (Copenhagen, Dec. 12 – 13, 2009). Therewith the principles of the components interactions are contained in the specification and documentation of the “Doll-House”: ‘PD100771-232791-S-0202\_EN\_Dollhouse’. Within system integration, the main output of ChromoGenics is related to the “Doll-House”. ChromoGenics has assisted in the development of a Control Protocol for the Building Automation System, realized a sub-controller compatible with this protocol and an appropriate electrical interface. Window units have been developed (in terms of design, mechanical design, electrical cables and window frame integration) and delivered for the Doll House activity. Refer to ChromoGenics Technical Specification: ConvertLight™ application in “Doll House” windows version 0.2 – 2009-11-05

Within the extended test-bed work the main output is related to establishing the necessary partnership and supplier agreement for producing full-sized prototypes in terms of integration in window unit. A realizable development plan is now in progress resulting in a planned delivery of Test bed window units in Q3-2010.

### **3.4.2 Task 4.2 - Subsystem temperature**

With respect to WP4, there were no milestones to meet and deliverables to deliver according to the Table B 1.3.4 in the Annex I –“Description of Work” (DoW) to the Grant Agreement number CP-IP 211948-2 during the present reporting period.

### **3.4.3 Task 4.3 - Subsystem air**

TUD conducted two series of experiments in TUDs field laboratory (space imitating office environment, but having possibility to control the environmental parameters), in which both performance of IAQ sensors and photocatalytically active cementitious paint were tested at the same time. Photocatalytic paint was applied on plasterboard plates and illuminated by artificial light bulbs emitting both visible and UV light. The indoor pollution load in the field laboratory was simulated by adding different types of typical building materials (chipboard, linoleum, carpet). Moreover, two people were seated in the laboratory to introduce human bio-effluents, which are significant indoor pollutants in non-industrial buildings. A group of 35 subjects was recruited among the students of TUD. They evaluated conditions in the field laboratory for ten days between 9-20 November, 2009.

The work on Task 4.3 will now continue with the analysis of the collected data. Despite the fact that the Task was completed with about 2 months delay according to the project schedule, the work on a follow-up task (Task 3.3, Sensors – WP3) will not be endangered. The data necessary for accomplishment of Task 3.3 will be analyzed with the highest priority and shared with involved beneficiaries.

With respect to WP4, TUD was not obliged to meet any milestones and deliver any deliverables according to the Table B 1.3.4 in the Annex I –“Description of Work” (DoW) to the Grant Agreement number CP-IP 211948-2 during the present reporting period.

### **3.4.4 Task 4.4 - Subsystem light**

With respect to WP4, there were no milestones to meet and deliverables to deliver according to the Table B 1.3.4 in the Annex I –“Description of Work” (DoW) to the Grant Agreement number CP-IP 211948-2 during the present reporting period.

### **3.4.5 Task 4.5 - Extended test-bed**

The objective of task 4.5 for the first year of Clear-Up was to identify the selected building (Deliverable D4.1 - Bouygues) and to sign a contract between Clear-Up and the building's owner.

The first step has been to identify the components to install in the test-bed in accordance with their availability, and to define the constraints on the building due to the components and tests, and their awaited outputs, finalised for the General Assembly of June 2009.

Four partners became candidates for the Extended TestBed. Two of them were particularly interested to become the TestBed, and were also both interesting for Clear-Up objectives, in different matters.

These two candidates are:

- Siemens office building in Steinhausen (CH) is a building already under the control of a modern and updated building management system, with intelligent interaction between air conditioning, heating, lighting, blinding systems.
- CVUT office building in Prague (CZ) is an older building (1970's) without air conditioning, representative of a large majority of European office buildings.

After visits and discussion, we decided to provide the Extended TestBed in both buildings as following:

1. A complete TestBed in CVUT building in Prague, including all the components (passive and active) in 6 rooms, for the global impact on energy consumption and endusers comfort.
2. An "active" TestBed in Siemens Building in Steinhausen, with the active components, namely sensors & actuators for ventilation, EC Glazing, and the BMS to develop and test the interactions between all these active subsystems.

(Refer to Deliverable D 4.1 Version 0.3 from Bouygues).

As this second step took more time than estimated, the contract writing has just started, but this will not be a problem as we will start the detailed studies for the design of the office rooms in parallel. The objective is to implement the first TestBed in Prague in April 2010.

### 3.5 Summary of progress WP5

#### 3.5.1 Task 5.1 Demonstration in SOLTAG building – UN Climate Summit (Velux)

Because of the time pressure related to the late start of the project (relative to the Climate Summit), the plans for the demonstrator had to be changed. The location for the presentation was the Bright Green exhibition, where the project acquired a booth, and there will be three elements that will demonstrate the Clear up technologies:

- The doll-house, already described previously;
- Demonstration wall
- PCM-Model house

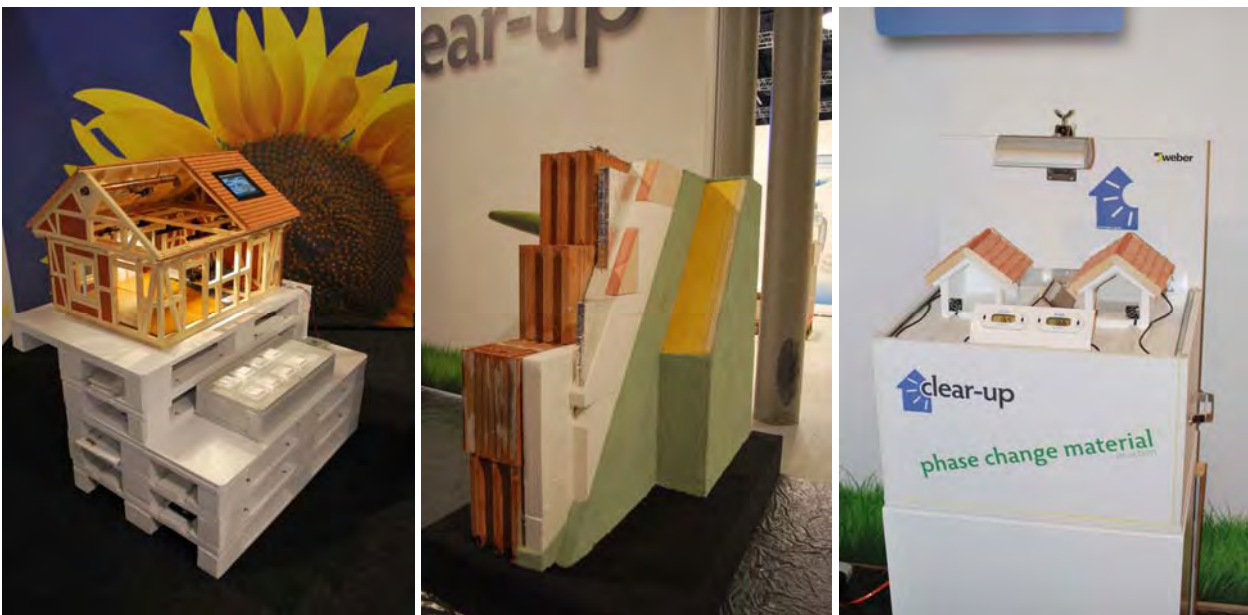


Figure 5: This figure is showing the 3 exhibits provided at the BrightGreen in Copenhagen Nov. 2009. The dollhouse (left), the demonstration wall (middle) and the PCM-demonstrator (right)

The demonstration wall was designed by TUD in cooperation with the project coordination and involved beneficiaries (Porextherm, SGWT, CTG). It was decided that the exhibit will comprise of the brick wall section showing on one side the phase change material (PCM) plaster and photocatalytic paint (considered as an inner side of the building construction) as well as demonstration of the vacuum porous insulation (VIP) in a Lock Plate fulfilment (considered as an outer side of the building construction). The vacuum porous insulation will be compared to the traditional mineral wool insulation.

#### 3.5.2 Task 5.2 Demonstration in Hotel Complex - Whole Year Demonstrator (Acciona)

This task has not yet started.

## 3.6 Summary of progress WP6

### 3.6.1 Task 6.1 Communications programme

The activities performed were the development of messages, logo and branding; production of materials to support dissemination; website; publications; and media relations. A corporate identity style was developed, including:

- The Clear-up logo
- The Clear-up fact sheet: a 2 page information leaflet on the project
- Templates for
  - Presentations
  - Reports
  - Deliverables

These templates are mandatory for all internal and external communications by project participants.

- A Clear-up pin
- The Clear-up website [www.clear-up.eu](http://www.clear-up.eu) where all documents and templates are available for project participants (members area)
- The “Clear-up News” newsletter



Figure 6 The CLEAR-UP logo

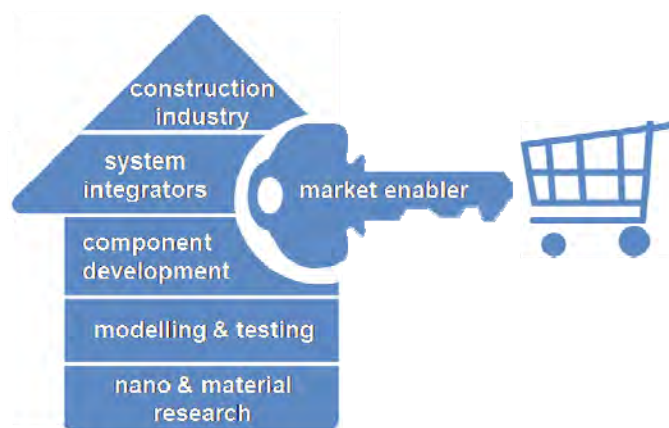


Figure 7 The organisation of the project

### 3.6.2 Task 6.2 Stakeholder round-tables and workshops

It was planned to organise twice a year a workshop or seminar or round table with the industry stakeholders, in order to inform them and to raise awareness about the objectives and achievements of the Clear-up project.

A first seminar was scheduled to be organised in conjunction with the ECTP Conference in November 2009. This idea has been abandoned, because it was deemed too early for the project



(not sufficient concrete results yet to discuss with the stakeholders). The intervention of Clear-Up at the ECTP Conference has been limited to a poster and an oral presentation, to raise awareness about the existence of the project and the further opportunities for interaction with the European stakeholders in a later phase.

Nicolae Barsan (EKUT, Clear-up Coordination) presented "*Clean Buildings along with Resource Efficiency Enhancement Using Appropriate Materials and Technology*" during the plenary Energy Efficiency in Buildings Session on Wednesday 25th November 2009. The Clear-up poster was on exhibit during the whole of the conference.

Interaction with potential users has been made available also at the 'Save it!' event (EESC 'energy efficiency days', 22-25 September 2009 in Brussels, organised by the European Economic and Social Committee. The Clear-up model house with working demonstrations of the different technologies attracted interest from a variety of visitors, both from the professional sector as from the larger public. Also a presentation was given at the seminar on 22<sup>nd</sup> September.

### **3.6.3 Task 6.3 Understanding industry concerns (SME focus)**

This task has not yet started. An electronic survey will be set up in 2010.

### **3.6.4 Task 6.4 Overcoming SME barriers (SME focus)**

This task has not yet started.

### **3.6.5 Task 6.5 Input to standards and EPD**

This task will be set up in collaboration between BBRI and CSTB. No results are available yet.

## **3.7 Summary of progress WP7**

### **3.7.1 Task 7.1 Lifecycle analysis for resource minimisation**

In agreement with the given milestones in the description of work, no work has been done on this task yet.

### **3.7.2 Task 7.2 Economic lifecycle analysis – finance models for buildings (public and private procurement)**

In agreement with the given milestones in the description of work, no work has been done on this task yet.

### **3.7.3 Task 7.3 Internal training for consortium**

Two activities took place in the first period:

- Firstly, a series of technical preparatory meeting before the kick-off meeting;
- Secondly, a Indoor Air Quality (IAQ) seminar

#### **Technical Preparatory Meetings**

The purpose of the meetings was to review the objectives and structure of the project, to discover the motivation of participants for taking part and to examine the technical programme with respect to the current state of the art (the list of preparatory meetings is provided in the management part of the report). They enabled detailed planning of the initial work and also the identification of any areas of risk or concern. Finally, the meetings provided the basic administrative information to get started with project. One of the ideas that appeared during the meeting was the need to organize a seminar that will aim to increase knowledge and awareness of the consortium members on the issue of Indoor Air Quality (IAQ) and the quality of indoor environment in general.

#### **IAQ seminar**

It was judged useful to organize an Indoor Air Quality (IAQ) seminar with the purpose of the seminar was to increase knowledge and awareness of the consortium members on the issue of indoor air quality and the quality of indoor environment in general. The goal of the Clear-up project is to provide healthy and comfortable indoor environments; however the consortium consists of partners with expertise in many diverse topics ranging from the development of specific chemical sensors to building construction contracting. The program of the seminar was designed to provide all Clear-up partners with a general overview on IAQ problems and ensure more insight in the issue for those who were interested. The seminar took place at the International Centre for Indoor Environment and Energy on the 6 and 7 October, 2009. There were 26 participants at the seminar. The topics of the presentations included: indoor air pollution monitoring and exposure assessment; indoor air quality perceived by humans; indoor air quality effects on productivity and mental performance; mould and fungi associated with the indoor environment; chemicals, chemical reactions and particles in the indoor environment. The panel discussions scheduled at the end of each seminar day served as an opportunity for open discussions of the topics important for consortium members.

The topics discussed thoroughly during the panel sessions were: the role of Semi Volatile Organic Compounds (SVOC) in indoor air chemistry, the role of different building construction materials in ozone initiated chemistry indoors, home-used-chemicals indoors and their effect on indoor air quality and health, dampness in buildings and its relation to air quality and health problems, the possibility to use sensors measuring selected Volatile Organic Compounds (VOC) for demand controlled ventilation and more broader – need for ventilation in general.

The seminar was rounded off by an excursion to the research facilities at TUD.

### **3.7.4 Task 7.4 Seminars for construction industry**

In agreement with the given milestones in the description of work, no work has been done on this task yet.

### **3.8 Summary of progress WP8**

See 5 Project Management

## 4 Deliverables and milestones tables

### 4.1 Deliverables (excluding the periodic and final reports)

TABLE 1. DELIVERABLES <sup>5</sup>									
Del. no.	Deliverable name	WP no.	Lead beneficiary	Nature	Dissemination level	Delivery date from Annex I (proj month)	Delivered Yes/No	Actual / Forecast delivery date Date/proj month	Comments
D2.1	Initial specification of interfaces between high level control, components and subsystems	2	Siemens BT	R	PU	3	Yes	May 2009 / 7	
D6.1	Initial publicity materials and branding, backgrounder	6	AO Action	R	PU	3	Yes	January 2009 / 3	
D8.1	Nomination of the different committees	8	EKUT	O	RE	3	Yes	December 2008 / 2	
D8.2	Full establishment of management tools	8	EKUT	O	PP	4	Yes	February 2009 / 4	
D4.1	Identified dwelling acting as an extended testbed	4	Bouygues	O	PP	5	Yes	October 2009 / 12	
D3.1	First VOC sensor prototypes	3	AppliedSensor	O	PP	6	Yes	July 2009 / 9	
D4.2	Design guidelines for the subsystem	4	Siemens CT	R	PP	6	Yes	September 2009 / 11	

<sup>5</sup> For Security Projects the template for the deliverables list in Annex A1 has to be used.

	integration								
D6.2	Bi-annual stakeholder workshop	6	BBRI	O	PU	6++	Yes	November 2009 /13	
D7.1	Annual training for the consortium	7	AO Action	O	RE	6++	Yes	October 2009 / 12	
D1.1	Typical climates and reference buildings for building simulation tool	1	Fraunhofer ISE	O	PU	10	Yes	September 2009 / 11	
D2.2	Simple control and monitoring strategies	2	Siemens BT	R	RE	12	Yes	November 2009 / 13	
D3.2	First electrochromic samples	3	ChromoGen ics	O	PP	12	Yes	October 2009 / 12	
D3.3	Second set of VOC sensors	3	AppliedSensor	O	PP	12	Yes	October 2009 / 12	

## 4.2 Milestones

TABLE 2. MILESTONES							
Milestone no.	Milestone name	Work package no	Lead beneficiary	Delivery date from Annex I	Achieved Yes/No	Actual / Forecast achievement date Date / proj. month	Comments
1	Marketing messages and branding established	6	AO Action	M2	Yes	February 2009 / 4	Exploitation committee approval achieved
2	Reference buildings defined for models	1	Fraunhofer ISE	M10	Yes	Nov 2009 / 13	Approval by Steering Committee and Exploitation Committee achieved
3	Extended testbed announced	4	Bouygues	M12	Yes	Jan / 2010 / 15	Selection of testbed locations finished with approval of the full consortium. Negotiations with the building owners started.

## **5 Project management**

### **5.1 Consortium management tasks and achievements**

The objectives of the management activities, as described in section B.2.1 of the DoW are:

- To achieve the technological aims of the project and promote the use of Clear-up results in other scientific disciplines and market sectors
- To ensure that all 19 Clear-up partners achieve the objectives which their organisations set out for participating
- To use European R&D resources efficiently and effectively, including maximising links to relevant national, European and worldwide initiatives
- To broaden the expertise of all participants working within the project in both technology and exploitation

To achieve the objectives, the management activities have been divided in the following tasks:

- Progress monitoring
- Planning
- Internal project communications
- Reporting
- Quality

In the first reporting period the focus was on a successful kick-off of the project by ensuring the build up of the management structure and the full establishment of all management tools. Both targets were met according to the plans outlined in the DoW with one change, agreed upon at the kick-off meeting: the role of the planned Quality Assurance Team was taken by the Project Technical Assistant.

All deliverables related to the management activities (D8.1-3) were met.

### **5.2 Problems which have occurred and how they were solved or envisaged solutions**

The main problem encountered during the first period is related to the attitude of Velux, which lost interest in assisting Chromogenics to realize windows equipped with electrochromic folis. The reason given to the coordinator is the new financial situation of Velux: they were confronted with big losses in 2008 and, as a consequence, decided to cut costs. The X Lab, the direct Clear up partner in Velux was restructured and all activities that were not directly linked to the roof windows, the core business of Velux, were rationalized.

In the new circumstances the coordination team was facing two problems: the lack of a partner for Chromogenics developments and by that the danger of not having electrochromic windows for the test bed activities. For solving the former Chromogenics was asked to look for a development partner and the coordination team make the commitment to ensure the needed additional budget. For the latter problem, the coordination team started discussions with alternative providers (e.g. Saint Gobain) for making sure that electrochromic windows will be available in time for the test bed activities. This approach was discussed at the Clear-up General Assembly and got the approval of the consortium.

Besides that, the coordination team had to invest a lot of efforts in order to be able to present a Clear up demonstrator at COP15. The situation was more difficult than expected because in the initial planning the project was supposed to start 6 months earlier. In the current situation it was needed to adjust all activities and the coordinator (EKUT) took on the task to build the project experimental model (in fact a new deliverable in the form of a doll house fully equipped with models for all Clear up components) in Tuebingen; EKUT was also able to allocate the needed resources. One has to say that the response of the consortium was extremely good and that the demonstrator is a success.

There have been also personnel problems because of the illness of Dr. Kwoka, who was in charge with the project administration in the coordination team. Her tasks were taken over by the other members of the coordination team and we hope to have her back as soon as possible.

### **5.3 Changes in the consortium**

Maxit Group AB has sent a request for termination of its participation. A request for accession of two new beneficiaries (Saint Gobain Weber GmbH and Saint Gobain Weber Terranova a.s) has been initiated.

### **5.4 List of project meetings, dates and venues**

Technical Preparatory Meetings

Reutlingen/Germany, AppliedSensor, November 5, 2008

Brussels/Belgium, Bouygues, November 12, 2008

Ispira/Italy, JRC, November 17, 2008

Freiburg/Germany, Fraunhofer, November 18, 2008

Kempten/Germany, Porextherm, November 24, 2008

Copenhagen/Denmark, Velux, November 28, 2008

Kick-off Meeting

Tübingen/Germany, Hotel Stadt Tuebingen, December 8-10, 2009

Working Group Meeting Photocatalysis

Bergamo/Italy, CTG Italcementi, February 2, 2009

IAQ Meeting

Zug/Switzerland, Siemens BT, March 19, 2009-11-20

Extended Testbed Meeting

Strasbourg/France, Hotel Novotel, March 30, 2009

General Assembly

Strasbourg/France, Hotel Hilton, June 17-18, 2009

New electrochromic windows approach

Uppsala/Sweden, Chromogenics, July 3, 2009

Evaluation of alternative providers for electrochromic windows

Saint Gobain meeting, Tuebingen, July 30, 2009

### **5.5 Project planning and status**

All deliverables planned for the first period were met and there are good reasons to think that the project is on track in spite of the problems caused by the change in policy of Velux.

### **5.6 Impact of possible deviations from the planned milestones and deliverables**

Not expected.

### **5.7 Any changes to the legal status of any of the beneficiaries**

Beneficiary 6 Chromogenics has changed its legal name from ChromoGenics Sweden AB to ChromoGenics AB. The legal documents have been sent to the Commission by the LEAR.



Maxit Group AB is now owned by Saint-Gobain Weber. As a consequence Maxit Group AB has withdrawn from the contract. A request of amendment has been initiated by the coordinator.

## 5.8 Development of the Project website

EKUT is taking care of the project web site. Since the site is running on a CMS (Content Management System) users are also adding content. The content management system handles the user access rights and the structure of the website.

## 5.9 Use of foreground and dissemination activities during this period

Actual Dates	Type and reference	Type of audience	Countries addressed	Size of audience
	<b>Conferences:</b>			
26.02-01.03.2009	International Conference "Salubrita &Costruzioni Sostenibili organized by Piemmeti	Research, policy makers , industry	International event	
31.03-03.04.2009	Functional. Materials and Nanotechnologies (FM&NT) Riga, Latvia	Research, industry		
19.-20.03.2009	ICT4EE, Brussels	Research, policy makers	Europe	
13.-14.05.2009	3rd Velux Daylight Symposium –Van Nelle Design Factory, Rotterdam	architects, daylighting specialists,	Europe	~200 delegates
19.05.2009	IHK Tübinger Innovationstage Umwelttechnik -		Germany	
20.05.2009	AAMG-RSC, Chemical and Biochemical Sensors, London	Research, policy makers, industry		
02.-05.06.2009	EuroNanoForum, Prag	Research, policy makers, industry	Europe	
13.-17.9.2009	Healthy Building	Research, policy makers, HVAC industry	Europe, North America, Asia	~ 1000 attendees
18.-19.2009	International insulation conference related to the Vacuum plates, London	Producers, users, designers	Europe	~ 200 participants
01.-02.10.2009	Buildair	Research, policy makers, HVAC industry	Germany, Austria, Switzerland	~ 500 attendees
06.-07.10.2009	Clear-up Seminar on Indoor Air Quality (IAQ), Copenhagen	Research, industry	Europe	20 attendees
11.-14.10.2009	ISES Solar World Congress, Johannesburg, South Africa	Research, media, policy makers, industry	78 countries	~ 2003 people

Actual Dates	Type and reference	Type of audience	Countries addressed	Size of audience
	<b>Exhibition:</b>			
10.- 14.03.2009	ISH, Frankfurt	HVAC industry	Europe, North America, Asia	~ 100000 visitors
26.- 28.05.2009	Sensor and Test, Nürnberg	Research, policy makers, industry	Europe	537 exhibitors, ~7,000 visitors
22.- 25.09.2009	EESC Energy Efficiency Days, Quai aux Briques/ Baksteenkaai, Brussels	General public, industry, designers,	Europe	~ 250 participants
09.10.2009	Exhibition and presentation of PCM doll houses, EnBW conference, Stuttgart	Architects and craftsmen	Germany	~ 500 spectators
	<b>Publicity materials:</b>			
	<ul style="list-style-type: none"> <li>• Clear-up web-site</li> <li>• Clear –up Flyers</li> <li>• Clear –up Factsheets</li> <li>• Clear-up Newsletter</li> <li>• Clear-up Posters</li> <li>• Clear-up pull- up</li> </ul>			
Since Oct 2008 until now	web page <a href="http://www.accionainmobiliaria.es">www.accionainmobiliaria.es</a>	General public	Spain	~ 10000 visits every month
	<b>Media briefing</b>			
04.11.2008	News in Acciona's intranet	Industry, workers of Acciona	Spain	~ 30000 people
01.12.2008	Press release “clear-up kick-off”	General public	Germany	5 publications, ~ 100,000 circulation
06.07.2009	“Nanotechnik für alte Häuser Innovationen aus den Forschungslabors ermöglichen große Energieeinsparungen – EU fördert Umsetzung” Die Welt	General public	Germany	

## 6 Explanation of the use of the resources

<b>TABLE 3.1 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY EKUT FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
3	Personnel	19.937,71 €	Salaries of two researchers
6	Personnel	18.767,44 €	Salaries researcher and assistant preparing events and constructing dollhouse
6	Consumables	3.162,59 €	Dollhouse BrightGreen, EESC
7	Travel	10.326,49 €	Daylight Symposium, EESC, BrightGreen Prepayment Accommodation Participants
7	Other Costs	10.525,00 €	Booth BrightGreen
8	Personnel	56.064,88 €	Salaries of coordinator and assistant
8	Durable equipment	15.533,91 €	Specific infrastructure and support for communication
	Remaining direct costs	41625,26	
	<b>TOTAL DIRECT COSTS</b>	<b>175.943,28</b>	

<b>TABLE 3.2 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY 2 (ACCIONA) FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
1 and 4	Personnel	59.371,09€	Jose M <sup>a</sup> Marín Herrera <i>having more than 20 years of experience working in building design and installations. He has done the reports and has managed all the work in WP1 and WP4, he has done the input specifications, building statistics, simulations and all that was needed in these two WPs.</i>
	Remaining direct costs	20.859,23	Salaries and travel costs
	<b>TOTAL DIRECT COSTS</b>	<b>80.230,32€</b>	

<b>TABLE 3.3 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY VELUX FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
			<i>No costs in period 1 claimed</i>
	Remaining direct costs		
	<b>TOTAL DIRECT COSTS</b>	<b>0,00</b>	

<b>TABLE 3.4 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY SIEMENS SCHWEIZ AG FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
2	Personnel costs	114850 €	Direct personnel costs excluding personnel of the HVAC Laboratory
4	Personnel costs	10761 €	Direct personnel costs of personnel of the HVAC Laboratory
4	Large consumable items	1790 €	Material for the control rack for the dollhouse demonstrator at BrightGreen, Dec. 12 – 13, 2009
2	Travel & workshops	1564 €	'Clear-up' specific travel, hosting of IAQ workshop

			at Zug (March 19, 2009)
	Remaining direct costs	0 €	
	<b>TOTAL DIRECT COSTS</b>	<b>128965 €</b>	

<b>TABLE 3.5 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY CTG FOR THE PERIOD</b>			
Work Package	Item description	Amount	Explanations
3	Personnel costs	46.789 €	Salaries of 1 senior researcher, 4 junior researchers and some technicians for 12 months (not full time on the project).
3	Subcontracting	20.000 €	Photocatalytic activity measurements performed by ITC-CNR. Measurement of the photocatalytic depollution activity against airborne micropollutants, particularly toluene and nitrogen oxides.
3	Air module	700 €	2 testkit Air classification module for the measurement of NOx level in indoor environments.
3	Paint	5.208 €	Commercial paint for the preparation of new photocatalytic paints based on types of TiO2 active in indoor environments.
3	Travel & subsistence	5.447 €	Kick-off Meeting Tuebingen Test-bed meeting Strasbourg General Assembly Strasbourg Meeting in Ispra Meeting in Milan with subcontractor
3	Remaining direct costs	1.592 €	
	<b>TOTAL DIRECT COSTS</b>	<b>79.736 €</b>	

<b>TABLE 3.6 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY CHROMOGENICS FOR THE PERIOD 1 (01.11-08-31.10.09)</b>			
Work Package	Item description	Amount	Explanations
1	Personnel costs	866	Cost for developing models and measurements methods for evaluating energy efficiency of window units
3	Personnel costs	28139	4 manmonths salary development engineers and specialists. Development for achieving a window compatible prototype production process (Free Form Design)
3	Personnel costs	18733	2,7 manmonth salary development specialists. Development of methodology for measuring Durability of window foils.
3	Personnel costs	40890	5,9 manmonth salary material development specialists and engineers. New prototype EC-material for windows and evaluation of these. Also for developing Doll-House window units.
4	Personnel costs	6887	1 manmonth salary for product development engineers. Doll-House system integration work.
8	Personnel costs	738	19 hours salary for Administrative personell (CFO, CEO, CTO) to administrate and write reports
3	Subcontracting	13088	Development by Shortlink of the switch modulation and interface signalling.
3,4	Personnel costs	33511	Salaries for production personnel for manufacturing of the laminates and devices used in wp 3 and 4.
3,4	Consumables	11978	Direct material for ex the laminates/devises, tools and rent of equipment of small value (not fixed assets).
3,4	Durable Equipment	13119	Percentage of leasing fee and depreciation on

			production equipment used for producing laminates/devices used in wp 3 and 4.
3,4	Travel Expenses	4882	Clear-Up official KickOff meeting (Tübingen Dec 2008) - participated with two persons Testbed meeting (Strasbourg Mar2009), Fraunhofer workshop (Transparent conductor development), Project Mgr meeting with Inwido (Windows for Testbed). Clearup meeting Stuttgart
TOTAL DIRECT COSTS		172831	

**TABLE 3.7 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY APPLIEDSENSOR FOR THE PERIOD 1 (01.11.08-30.10.09)**

Work Package	Item description	Amount	Explanations
3	Personnel Costs	163.442 €	Salaries
	Remaining direct costs	14.984 €	Consumables and Travel Expenses
TOTAL DIRECT COSTS		178.426 €	

**TABLE 3.8 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY POREXTHERM FOR THE PERIOD 1 (01.11.08-30.10.09)**

Work Package	Item description	Amount	Explanations
3	Personnel costs	26255,- €	Salaries of production manager (2 months) and project manager (3 months) for bringing the automatic VIP packaging machinery into service
3, 8	Personnel costs	14000,- €	Salaries of R & D Director (2 months) for evaluating and mathematical verification of new packaging concept; report writing job, financial report (Form C)
3	Personnel costs	5491,- €	Salaries of laboratory staff (2 workers)
3, 4	Personnel costs	8409,- €	Production and laboratory staff for manufacturing samples and demonstrators (3 workers)
7	Personnel costs	1879,- €	Salary of one laboratory colleague for evaluating question of environmental impact of VIPs (components)
1	Other direct costs	871,50 €	Expenses for overnight accommodation and daily delegate rate (travel & subsistence)
3, 4	Other direct costs	12127,64 €	Material costs for producing samples, demonstrators and bringing the machinery into service (consumables)
	Remaining direct costs	-	
TOTAL DIRECT COSTS		69033,14	

**TABLE 3.9A PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR FRAUNHOFER ISE FOR THE PERIOD 1 (01.11.08-30.10.09)**

Work Package	Item description	Amount	Explanations
WP1, WP3, WP4	Personnel costs	35542 €*	Work in WP1 WP3 mainly, also project management by two scientists, one engineer and one student*
	Remaining direct costs	1828€*	
TOTAL DIRECT COSTS		37370€*	

<b>TABLE 3.9B PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY FHG IST FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
3	Personnel costs	45 813 €	Salaries of 2 PhD students, 3 scientists and 4 technicians
3	Travelling	3 019 €	Work program meeting at Italy Cementi, Technical meetings at Chromogenics, General Assembly meeting in Strasbourg
3	Direct costs	9 539 €	Target materials (1 x Zn:Al, 1 x ZnO:Al <sub>2</sub> O <sub>3</sub> , 1 x ITO), substrate holder for Chromogenic foils
TOTAL DIRECT COSTS		58 371€*	

<b>TABLE 3.11 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY TUD FOR PERIOD 1</b>			
Work Package	Item description	Amount	Explanations
1, 4, 6	Personnel costs	61.133.38 €	Salary of one postdoctoral researcher during 11 months and one senior researcher during 0.5 months
1,5	Consumables	1.012.69 €	Preparation of experiments and exhibition material
1,4,6,8	Travel and subsistence	7.498.42 €	Consortium meetings
TOTAL DIRECT COSTS		69.644.49 €	

<b>TABLE 3.12 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY UU FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
3, 4 3, 8 3, 4	Personnel costs	66235,08 €	Salary of 2 postdoctoral students for 8 months each. Project leader for 0,6 months Ph D Student supervisor for 1,5 months
3, 4, 8	Travel costs	10467,55	
	Remaining direct costs	98,62	
TOTAL DIRECT COSTS		76802,25	

<b>TABLE 3.13 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY FORTH FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
WP3	Personnel costs	77.683,76	32.31 person months of 4 employees of FORTH involved in the project
WP3	Major cost item-Travel	26.446,09	Participation in three consortia meetings, three international conferences and training school
WP3	Major cost item-Consumables	9.933,78	Parts for the construction of two new small test chambers for photocatalysis analyses and corresponding consumables.
	Remaining direct costs	2.000,00	
TOTAL DIRECT COSTS <sup>6</sup>		116.063,63	

<sup>6</sup> Total direct costs have to be coherent with the direct costs claimed in Form C

<b>TABLE 3.14 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY (JRC) FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
3	Personnel costs	15.055,80 €*	Salaries of 2 scientists and one lab technician
3	Travel costs	5.829,44 €*	Mission costs
3	Consumables	727,70 €	Supply of glassware and small lab instruments
	Remaining direct costs		
TOTAL DIRECT COSTS		21.612,94 €	

<b>TABLE 3.15 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY (AO ACTION) FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
6, 7, 8	Personnel costs	34.074,38€	Salary of WP leader and assistant
8	Travel costs	6.368,88€	Preparation kick-off, kick-off and GA
	Remaining direct costs		
TOTAL DIRECT COSTS		40.443,26	

<b>TABLE 3.16 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY CSTB FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
1	Personnel costs	9.835€	1.44 month : Jacques CHEVALIER, Julien CHORIER, Pierre RAVEL including clear up meeting
	Remaining direct costs	9.835€	
TOTAL DIRECT COSTS		9.835€	

<b>TABLE 3.17 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY MAXIT FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
			No costs in period 1
	Remaining direct costs		
TOTAL DIRECT COSTS		0,00 €	

<b>TABLE 3.18 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY BOUYGUES FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
4	Personnel Costs	37.620 €	Extended TestBed (Task 4.5) 48 working hours of Design & Sustainable Construction Manager 210 working hours of Technical Design Manager 51 working hours of Regulations Studies Engineer
4	Personnel Costs	3.280 €	General assembly – 17 <sup>th</sup> & 18 <sup>th</sup> June 2009 8 working hours of R&D Sustainable Construction Director 16 working hours of Technical Design Manager
4	Other Direct Costs	3.164 €	Travel & subsistence :

			<i>two return flights Strasbourg-Lille, one return flight Stuttgart-Prague, one return train ticket Paris-Strasbourg, one meeting room in Strasbourg for Extended Testbed in Strasbourg including lunch for the attendees, and miscellaneous : car park, taxi according to the previous items.</i>
8	Other Direct Costs	171 €	<i>Travel &amp; subsistence : one return train ticket Paris-Strasbourg, and taxi in Strasbourg</i>
	Remaining direct costs		
TOTAL DIRECT COSTS		44.235 €	

<b>TABLE 3.19 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY BBRI FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
WP 6	Personnel costs Management	<i>857.28</i>	<i>Coordination meetings</i>
WP 6	Personnel costs RTD	<i>13904.96</i>	<i>Salaries 2 engineer-researchers</i>
WP 5	Personnel costs Demo	<i>1218.24</i>	<i>Test-bed building selection</i>
WP 6	Personnel costs Other	<i>1680.36</i>	<i>Preparation newsletter</i>
WP 6,5	Other direct costs	<i>2676.62</i>	<i>Travel costs meetings, lay out newsletter</i>
TOTAL DIRECT COSTS <sup>7</sup>		<i>20437.46</i>	

<b>TABLE 3.20 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY SIEMENS CT FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
WP3	Personnel costs	<i>109.785,70</i>	<i>12,9 person months Siemens CT</i>
WP4	Personnel costs	<i>0</i>	<i>No activities in this period</i>
WP8	Personnel costs	<i>0</i>	<i>No activities in this period</i>
	Remaining direct costs	<i>565,76</i>	
TOTAL DIRECT COSTS		<i>110.351,46</i>	

<b>TABLE 3.21 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY BME FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
WP3	Personnel costs	<i>18.889 EUR</i>	<i>Staff (scientists and technicians) affiliated to the project per hour (14 months total with 1230€/month average)for work in tasks 3.2 and 3.3</i>  <i>Project financial/technical management: 0.3 months</i>  <i>The total sum contains the daily allowance during travel</i>
WP3	Travel	<i>2.751 EUR</i>	<i>4-6.11.2008, Tübingen, Preparatory meeting, G.Kiss and F.Réti</i> <i>7-11.12.2008, Tübingen, Kick-off meeting, G.Kiss</i>

<sup>7</sup> Total direct costs have to be coherent with the direct costs claimed in Form C



			<i>and F.Réti 16-19.6.2009, Strassbourg, General Assembly, G.Kiss and F.Réti</i>
WP3	High purity gases	<i>565 EUR</i>	<i>for gas sensor sensitivity tests</i>
WP3	High purity gases	<i>496 EUR</i>	<i>for gas sensor sensitivity tests</i>
WP3	8 pieces of MFC	<i>2.272 EUR</i>	<i>for the gas-mixing station</i>
WP3	8 pieces of special magnetic valves	<i>2.160 EUR</i>	<i>for the gas-mixing station</i>
	Remaining direct costs	<i>3.142EUR</i>	
TOTAL DIRECT COSTS		<i>30.275 EUR</i>	

<b>TABLE 3.22 PERSONNEL, SUBCONTRACTING AND OTHER MAJOR DIRECT COST ITEMS FOR BENEFICIARY CVUT FOR THE PERIOD 1 (01.11.08-30.10.09)</b>			
Work Package	Item description	Amount	Explanations
WP1	Personnel	10.286,32€	<i>Salaries for researchers</i>
WP4	Personnel	3.473,89	<i>Salaries for researchers</i>
	Remaining direct costs	3.986,86	<i>Travel costs and management costs (financial report)</i>
TOTAL DIRECT COSTS		17.747,07€	

# 7 Financial statements – Form C and Summary financial report

FP7 - Grant Agreement - Annex VI - Collaborative project

Summary Financial Report - Collaborative project															
Project acronym		Clear-up		Project nr.	211948		Reporting period from	01/11/2008		to	31/10/2009		Page	1/1	
Funding scheme		CP		Type of activity								Total (A)+(B)+(C)+(D)			
Beneficiary nr.	#3rd Party, linked to beneficiary	Adjustment (Yes/No)	Organization Short Name	RTD (A)		Demonstration (B)		Management (C)		Other (D)		Total	Max EC Contribution	Receipts	Interest
				Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution	Total	Max EC Contribution				
1		No	EKUT	43,294.10	32,470.58	95.84	4.7.92	154,236.40	154,236.40	83,882.91	83,882.91	281,509.25	270,637.81	0.00	0.00
2		No	Accona	106,847.04	53,423.52	9,136.54	4,568.27	2,255.95	2,255.95	7,241.20	7,241.20	125,480.73	67,488.94	0.00	0.00
3		No	VELUX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4		No	Siemens BT	147,021.00	73,510.50	19,599.00	9,799.50	0.00	0.00	0.00	0.00	166,620.00	83,310.00	0.00	0.00
5		No	CTG	90,205.86	45,102.93	0.00	0.00	1,477.98	1,477.98	0.00	0.00	91,683.84	46,580.91	0.00	0.00
6		No	ChromoGenics	203,894.00	152,920.50	0.00	0.00	885.60	885.60	0.00	0.00	204,779.60	153,806.10	0.00	0.00
7		No	AppliedSensor	214,111.20	160,583.40	0.00	0.00	0.00	0.00	0.00	0.00	214,111.20	160,583.40	0.00	0.00
8		No	Porexthems	80,224.97	60,168.73	0.00	0.00	380.00	380.00	2,254.80	2,254.80	82,839.77	62,783.53	0.00	0.00
9		No	Fraunhofer	185,899.23	139,424.42	0.00	0.00	0.00	0.00	0.00	0.00	185,899.23	139,424.42	0.00	0.00
11		No	TUD	96,687.25	72,515.44	14,007.76	7,003.88	736.18	736.18	0.00	0.00	111,431.19	80,255.50	0.00	0.00
12		No	LIJ	122,883.60	92,162.70	0.00	0.00	0.00	0.00	0.00	0.00	122,883.60	92,162.70	0.00	0.00
13		No	FORTH	194,524.23	145,893.17	0.00	0.00	0.00	0.00	0.00	0.00	194,524.23	145,893.17	0.00	0.00
14		No	JRC	34,580.70	25,935.53	0.00	0.00	0.00	0.00	0.00	0.00	34,580.70	25,935.53	0.00	0.00
15		No	AD>Action	0.00	0.00	0.00	0.00	33,859.70	33,859.70	14,672.21	14,672.21	48,531.91	48,531.91	0.00	0.00
16		No	CSTB	20,712.00	15,534.00	0.00	0.00	0.00	0.00	0.00	0.00	20,712.00	15,534.00	0.00	0.00
17		No	Maxit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18		No	Bouygues	44,235.00	22,117.50	0.00	0.00	0.00	0.00	0.00	0.00	44,235.00	22,117.50	0.00	0.00
19		No	BBRI	0.00	0.00	1,461.89	730.95	1,028.74	1,028.74	21,914.33	21,914.33	24,404.96	23,674.02	0.00	0.00
20		No	Siemens CT	213,998.00	106,999.00	0.00	0.00	0.00	0.00	0.00	0.00	213,998.00	106,999.00	0.00	0.00
21		No	BME	48,440.22	36,330.17	0.00	0.00	547.15	547.15	0.00	0.00	48,987.37	36,877.32	0.00	0.00
22		No	CVUT	28,395.31	21,296.48	0.00	0.00	0.00	0.00	0.00	0.00	28,395.31	21,296.48	0.00	0.00
TOTAL				1,875,953.71	1,256,388.57	44,301.03	22,150.52	195,387.70	195,387.70	129,965.45	129,965.45	2,245,607.89	1,603,892.24	0.00	0.00
Requested EC contribution for the reporting period (in €)													1,603,892.23		

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	EBERHARD-KARLS-UNIVERSITAT TUEBINGEN	Participant Identity Code	999991916
Organisation short Name	EKUT	Beneficiary nr.	1
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	60.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	19,937.71	0.00	56,064.88	18,767.44	94,770.03
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	7,121.10	59.90	40,332.87	33,659.38	81,173.25
Indirect costs	16,235.29	35.94	57,838.65	31,456.09	105,565.97
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>43,294.10</b>	<b>95.84</b>	<b>154,236.40</b>	<b>83,882.91</b>	<b>281,509.25</b>
Maximum EC contribution	32,470.58	47.92	154,236.40	83,882.91	270,637.81
Requested EC contribution					270,637.81

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Jutta Pickel
	Date & signature
	18/12/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	ACCIONA INMOBILIARIA SL	Participant Identity Code	998812202
Organisation short Name	Acciona	Beneficiary nr.	2
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	63,771.29	5,710.34	1,409.97	4,525.75	75,417.35
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	4,812.97	0.00	0.00	0.00	4,812.97
Indirect costs	38,262.78	3,426.20	845.98	2,715.45	45,250.41
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>106,847.04</b>	<b>9,136.54</b>	<b>2,255.95</b>	<b>7,241.20</b>	<b>125,480.73</b>
Maximum EC contribution	53,423.52	4,568.27	2,255.95	7,241.20	67,488.94
Requested EC contribution					67,488.94

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €), if charged under this project	

**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €)	

**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Juan Manuel Mieres & César Bascones Chamero
	Date & signature 30/11/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

<b>Form C - Financial Statement (to be filled in by each beneficiary)</b>			
Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	VELUX AS	Participant Identity Code	999504491
Organisation short Name	VELUX	Beneficiary nr.	3
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	0.00	0.00	0.00	0.00	0.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00
Indirect costs	0.00	0.00	0.00	0.00	0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00	0.00	0.00
Maximum EC contribution	0.00	0.00	0.00	0.00	0.00
Requested EC contribution					0.00

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?  
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No  
No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No

Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Lars-Ove Persson	
	Date & signature	08/12/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

<b>Form C - Financial Statement (to be filled in by each beneficiary)</b>			
Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	Siemens Schweiz AG	Participant Identity Code	998411592
Organisation short Name	Siemens BT	Beneficiary nr.	4
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	114,850.00	10,761.00	0.00	0.00	125,611.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	1,564.00	1,790.00	0.00	0.00	3,354.00
Indirect costs	30,607.00	7,048.00	0.00	0.00	37,655.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>147,021.00</b>	<b>19,599.00</b>	<b>0.00</b>	<b>0.00</b>	<b>166,620.00</b>
Maximum EC contribution	73,510.50	9,799.50	0.00	0.00	83,310.00
Requested EC contribution					83,310.00

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?  
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

Yes

No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No

Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Dr. Dominic Habermacher	
	Date & signature	
	27/11/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	C.T.G. SPA	Participant Identity Code	998819574
Organisation short Name	CTG	Beneficiary nr.	5
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	20.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	45,557.24	0.00	1,231.65	0.00	46,788.89
Subcontracting	20,000.00	0.00	0.00	0.00	20,000.00
Other direct costs	12,947.64	0.00	0.00	0.00	12,947.64
Indirect costs	11,700.98	0.00	246.33	0.00	11,947.31
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>90,205.86</b>	<b>0.00</b>	<b>1,477.98</b>	<b>0.00</b>	<b>91,683.84</b>
Maximum EC contribution	45,102.93	0.00	1,477.98	0.00	46,580.91
Requested EC contribution					46,580.91

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €), if charged under this project	

**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €)	

**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	dott. Federico Vitaletti
	Date & signature 09/12/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	ChromoGenics Sweden AB	Participant Identity Code	999438822
Organisation short Name	ChromoGenics	Beneficiary nr.	6
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	20.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	129,026.00	0.00	738.00	0.00	129,764.00
Subcontracting	13,088.00	0.00	0.00	0.00	13,088.00
Other direct costs	29,979.00	0.00	0.00	0.00	29,979.00
Indirect costs	31,801.00	0.00	147.60	0.00	31,948.60
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>203,894.00</b>	<b>0.00</b>	<b>885.60</b>	<b>0.00</b>	<b>204,779.60</b>
Maximum EC contribution	152,920.50	0.00	885.60	0.00	153,806.10
Requested EC contribution					153,806.10

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	Yes
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €), if charged under this project	

**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €)	

**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Thomas Almesjö
	Date & signature
	19/11/2009



**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	AppliedSensor GmbH	Participant Identity Code	998819671
Organisation short Name	AppliedSensor	Beneficiary nr.	7
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	20.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	163,442.00	0.00	0.00	0.00	163,442.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	14,984.00	0.00	0.00	0.00	14,984.00
Indirect costs	35,685.20	0.00	0.00	0.00	35,685.20
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>214,111.20</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>214,111.20</b>
Maximum EC contribution	160,583.40	0.00	0.00	0.00	160,583.40
Requested EC contribution					160,583.40

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €), if charged under this project	

**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €)	

**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Henrik Kennäs
	Date & signature
	09/12/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	POREXTERM-DAMMSTOFFE GMBH	Participant Identity Code	998820738
Organisation short Name	Porextherm	Beneficiary nr.	8
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	20.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	53,855.00	0.00	300.00	1,879.00	56,034.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	12,999.14	0.00	0.00	0.00	12,999.14
Indirect costs	13,370.83	0.00	60.00	375.80	13,806.63
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>80,224.97</b>	<b>0.00</b>	<b>360.00</b>	<b>2,254.80</b>	<b>82,839.77</b>
Maximum EC contribution	60,168.73	0.00	360.00	2,254.80	62,783.53
Requested EC contribution					62,783.53

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €), if charged under this project	

**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €)	

**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II. 14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Hans-Frieder Eberhardt
	Date & signature 08/12/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	FRAUNHOFER-GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V	Participant Identity Code	999984059
Organisation short Name	Fraunhofer	Beneficiary nr.	9
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	81,355.80	0.00	0.00	0.00	81,355.80
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	14,386.64	0.00	0.00	0.00	14,386.64
Indirect costs	90,156.79	0.00	0.00	0.00	90,156.79
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>185,899.23</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>185,899.23</b>
Maximum EC contribution	139,424.42	0.00	0.00	0.00	139,424.42
Requested EC contribution					139,424.42

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?

No
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Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No
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Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Henning Metzloff	
	Date & signature	27/11/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

<b>Form C - Financial Statement (to be filled in by each beneficiary)</b>			
Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	DANMARKS TEKNISKE UNIVERSITET	Participant Identity Code	999990655
Organisation short Name	TUD	Beneficiary nr.	11
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	60.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	53,425.60	7,247.67	460.11	0.00	61,133.38
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	7,003.93	1,507.18	0.00	0.00	8,511.11
Indirect costs	36,257.72	5,252.91	276.07	0.00	41,786.70
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>96,687.25</b>	<b>14,007.76</b>	<b>736.18</b>	<b>0.00</b>	<b>111,431.19</b>
Maximum EC contribution	72,515.44	7,003.88	736.18	0.00	80,255.50
Requested EC contribution					80,255.50

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?  
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No  
No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No

Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Michael Teis/Jørn Toftum	
	Date & signature 26/11/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

<b>Form C - Financial Statement (to be filled in by each beneficiary)</b>			
Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	UPPSALA UNIVERSITET	Participant Identity Code	999985029
Organisation short Name	UU	Beneficiary nr.	12
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	60.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	66,236.08	0.00	0.00	0.00	66,236.08
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	10,566.17	0.00	0.00	0.00	10,566.17
Indirect costs	46,081.35	0.00	0.00	0.00	46,081.35
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>122,883.60</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>122,883.60</b>
Maximum EC contribution	92,162.70	0.00	0.00	0.00	92,162.70
Requested EC contribution					92,162.70

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?  
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No  
No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No

Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Margareta Uvhagen	
	Date & signature 03/12/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS	Participant Identity Code	999995893
Organisation short Name	FORTH	Beneficiary nr.	13
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	77,683.76	0.00	0.00	0.00	77,683.76
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	38,379.87	0.00	0.00	0.00	38,379.87
Indirect costs	78,460.60	0.00	0.00	0.00	78,460.60
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>194,524.23</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>194,524.23</b>
Maximum EC contribution	145,893.17	0.00	0.00	0.00	145,893.17
Requested EC contribution					145,893.17

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	G.Kiriakidis (Scientist in charge) & Z. Papatheodorou (financial officer)	
	Date & signature	
	27/11/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	COMMISSION OF THE EUROPEAN COMMUNITIES - DIRECTORATE GENERAL JOINT RESEARCH CENTRE - JRC	Participant Identity Code	999992304
Organisation short Name	JRC	Beneficiary nr.	14
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	60.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	15,055.80	0.00	0.00	0.00	15,055.80
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	6,557.14	0.00	0.00	0.00	6,557.14
Indirect costs	12,967.76	0.00	0.00	0.00	12,967.76
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>34,580.70</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>34,580.70</b>
<b>Maximum EC contribution</b>	<b>25,935.53</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>25,935.53</b>
<b>Requested EC contribution</b>					<b>25,935.52</b>

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?

Yes
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Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No
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Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Elke Anklam	
	Date & signature 26/11/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	STEINBEIS GMBH & CO. KG FUER TECHNOLOGIETRANSFER	Participant Identity Code	999965823
Organisation short Name	AO Action	Beneficiary nr.	15
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	0.00	0.00	21,847.54	12,226.84	34,074.38
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	6,368.88	0.00	6,368.88
Indirect costs	0.00	0.00	5,643.28	2,445.37	8,088.65
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	33,859.70	14,672.21	48,531.91
Maximum EC contribution	0.00	0.00	33,859.70	14,672.21	48,531.91
Requested EC contribution					48,531.91

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Emil Kremm	
	Date & signature	04/12/2009



**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	CENTRE SCIENTIFIQUE ET TECHNIQUE DU BATIMENT	Participant Identity Code	999580151
Organisation short Name	CSTB	Beneficiary nr.	16
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	9,835.00	0.00	0.00	0.00	9,835.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00
Indirect costs	10,877.00	0.00	0.00	0.00	10,877.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>20,712.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>20,712.00</b>
Maximum EC contribution	15,534.00	0.00	0.00	0.00	15,534.00
Requested EC contribution					15,534.00

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	COLONNEAUX ORLANDO	
	Date & signature	
	04/12/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

<b>Form C - Financial Statement (to be filled in by each beneficiary)</b>			
Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	Maxit Group AB	Participant Identity Code	999504394
Organisation short Name	Maxit	Beneficiary nr.	17
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	0.00	0.00	0.00	0.00	0.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	0.00	0.00
Indirect costs	0.00	0.00	0.00	0.00	0.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	0.00	0.00	0.00	0.00
Maximum EC contribution	0.00	0.00	0.00	0.00	0.00
Requested EC contribution					0.00

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?  
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No  
No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No

Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Jonas Cronqvist	
	Date & signature	30/09/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

<b>Form C - Financial Statement (to be filled in by each beneficiary)</b>			
Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	BOUYGUES CONSTRUCTION	Participant Identity Code	999457349
Organisation short Name	Bouygues	Beneficiary nr.	18
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	34,356.00	0.00	0.00	0.00	34,356.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	3,335.00	0.00	0.00	0.00	3,335.00
Indirect costs	6,544.00	0.00	0.00	0.00	6,544.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>44,235.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>44,235.00</b>
Maximum EC contribution	22,117.50	0.00	0.00	0.00	22,117.50
Requested EC contribution					22,117.50

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?  
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No  
No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No

Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	JUIF Thierry	
	Date & signature 11/12/2009	

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	CENTRE SCIENTIFIQUE ET TECHNIQUE DE LA CONSTRUCTION	Participant Identity Code	999432129
Organisation short Name	BBRI	Beneficiary nr.	19
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	20.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	0.00	1,218.24	857.28	15,585.32	17,660.84
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	0.00	0.00	0.00	2,676.62	2,676.62
Indirect costs	0.00	243.65	171.46	3,652.39	4,067.50
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	0.00	1,461.89	1,028.74	21,914.33	24,404.96
Maximum EC contribution	0.00	730.95	1,028.74	21,914.33	23,674.02
Requested EC contribution					23,674.02

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Michiels Bart	
	Date & signature	16/12/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	SIEMENS AG	Participant Identity Code	999987260
Organisation short Name	Siemens CT	Beneficiary nr.	20
Funding % for RTD activities (A)	50.00	If flat rate for indirect costs, specify %	N/A

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	109,786.00	0.00	0.00	0.00	109,786.00
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	566.00	0.00	0.00	0.00	566.00
Indirect costs	103,646.00	0.00	0.00	0.00	103,646.00
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>213,998.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>213,998.00</b>
Maximum EC contribution	106,999.00	0.00	0.00	0.00	106,999.00
Requested EC contribution					106,999.00

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
--	----

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	No
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €), if charged under this project	

**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
Name of the auditor	
Cost of the certificate (in €)	

**6. Beneficiary's declaration on their honour**

**We declare on our honour that:**

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement
	Hans-Reiner Leikard
	Date & signature 24/11/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	BUDAPESTI MUSZAKI ES GAZDASAGTUDOMANYI EGYETEM	Participant Identity Code	999904228
Organisation short Name	BME	Beneficiary nr.	21
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	60.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	18,888.71	0.00	341.97	0.00	19,230.68
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	11,386.43	0.00	0.00	0.00	11,386.43
Indirect costs	18,165.08	0.00	205.18	0.00	18,370.26
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>48,440.22</b>	<b>0.00</b>	<b>547.15</b>	<b>0.00</b>	<b>48,987.37</b>
Maximum EC contribution	36,330.17	0.00	547.15	0.00	36,877.32
Requested EC contribution					36,877.32

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement?  
If yes, please mention the amount (in €)

No
----

**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19?  
If yes, please mention the amount (in €)

No
----

**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?

No
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Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?

No
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Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?

No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Etelka Thury	
	Date & signature	18/11/2009

**FP7 - Grant Agreement - Annex VI - Collaborative project**

**Form C - Financial Statement (to be filled in by each beneficiary)**

Project nr.	211948	Funding scheme	Collaborative project
Project Acronym	Clear-up		
Period from	01/11/2008	Is this an adjustment to a previous statement?	No
To	31/10/2009		
Legal Name	CESKE VYSOKE UCENI TECHNICKE V PRAZE	Participant Identity Code	999848744
Organisation short Name	CVUT	Beneficiary nr.	22
Funding % for RTD activities (A)	75.00	If flat rate for indirect costs, specify %	60.00

**1. Declaration of eligible costs/lump sum/flat rate/scale of unit (in €)**

	Type of Activity				Total (A+B+C+D)
	RTD (A)	Demonstration (B)	Management (C)	Other (D)	
Personnel costs	14,572.29	0.00	0.00	0.00	14,572.29
Subcontracting	0.00	0.00	0.00	0.00	0.00
Other direct costs	3,174.78	0.00	0.00	0.00	3,174.78
Indirect costs	10,648.24	0.00	0.00	0.00	10,648.24
Lump sums/flat rate/scale of unit declared	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>28,395.31</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>28,395.31</b>
Maximum EC contribution	21,296.48	0.00	0.00	0.00	21,296.48
Requested EC contribution					21,296.48

**2. Declaration of receipts**

Did you receive any financial transfers or contributions in kind, free of charge from third parties or did the project generate any income which could be considered a receipt according to Art.II.17 of the grant agreement? If yes, please mention the amount (in €)	No
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**3. Declaration of interest yielded by the pre-financing (to be completed only by the coordinator)**

Did the pre-financing you received generate any interest according to Art.II.19? If yes, please mention the amount (in €)	No
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**4. Certificate on the methodology**

Do you declare average personnel costs according to Art.II.14.1?	Yes
Is there a certificate on the methodology provided by an independent auditor and accepted by the Commission according to Art.II.4.4?	No

Name of the auditor		Cost of the certificate (in €), if charged under this project	
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**5. Certificate on the financial statements**

Is there a certificate on the financial statements provided by an independent auditor attached to this financial statement according to Art.II.4.4?	No
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Name of the auditor		Cost of the certificate (in €)	
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**6. Beneficiary's declaration on their honour**

We declare on our honour that:

- the costs declared above are directly related to the resources used to attain the objectives of the project and fall within the definition of eligible costs specified in Articles II.14 and II.15 of the grant agreement, and, if relevant, Annex III and article 7 (special clauses) of the grant agreement;
- the receipts declared above are the only financial transfers or contributions in kind, free of charge, from third parties and the only income generated by the project which could be considered as receipts according to Art.II.17 of the grant agreement;
- the interest declared above is the only interest yielded by the pre-financing which falls within the definition of Art.II.19 of the grant agreement;
- there is full supporting documentation to justify the information hereby declared. It will be made available at the request of the Commission and in the event of an audit by the Commission and/or by the Court of Auditors and/or their authorised representatives.

Beneficiary's Stamp	Name of the Person(s) Authorised to sign this Financial Statement	
	Karel Kabele, Jan Gazda	
	Date & signature	
	30/11/2009	

## 8 Certificates

No Certificates are due for this period, in accordance with Article II.4.4 of the Grant Agreement.