WP1. TASK 1.3

Assessment of the research state at the local level related to the European trends and demand analysis

DOROTHY PROJECT

February 2014

UNIVERSITAT POLITÈCNICA DE VALÈNCIA

1. INTRODUCTION.

This report analyses the state of the arts about European research concerning the items related to DOROTHY project, in order to analyse the innovation potential of each region and define its R &TI position in relation to Europe and the perceived demand for innovation in our current market.

In our case we have analysed two key aspects about innovation in urban logistics:

- Non-conventional vehicles; application of electric vehicles to freight distribution.
- Storage systems for transport goods.

This activity leads to identify the most important and advanced technologies and the general situation of these sectors in Europe. For this reason we have executed an exhaustive search of European projects about both subjects, so it has developed a catalogue of projects consisting of sheets, on the one hand about European projects related to unconventional vehicles, and on the other hand European projects related to storage system in transport vehicles. The sheets briefly describe each project, indicating their status of development, main objectives and achieved or expected results, in addition of other data.

In the report there is also a summary matrix of all the projects found that shows the status of local research, and it will use as basis for next comparative analysis considering current European trends and the demand for innovation.

Finally note that during the start of work for the WP1 a range of information was obtained about certain European projects related to urban logistics in general. It was also considered important to prepare summary sheets of each one. Therefore, the report in Spanish also contains a catalogue of such projects in the last section of this document because it is considered information of interest for the development of DOROTHY project.

2. CATALOGUE OF EUROPEAN PROJECTS RELATED TO NON-CONVENTIONAL VEHICLES.

As detailed below, all European projects completed or underway related to the use and promotion of electric vehicles in urban freight distribution are collected, summarized in a tabular format, also indicating those cases in which there any member of the Valencian Region.

PROJECT ACRONYM:	CAPIRE	
PROJECT TITLE:	Coordination Action on Ppp Implementation for Road-transport Electrification	
WEB	http://www.capire.eu/public/	

NUMBER OF PARTNERS:	14

	NAME	**DESCRIPTION**
PARTNERS CV:		
OTHER PARTNERS:	1. Renault 2. AVL List GmbH 3. Continental Teves 4. Hidria 5. IBERDOLA Distribucion Electrica 6. Procter & Gamble Eurocor 7. Robert Bosch 8. SOLARIS Bus & Coach 9. TFL - Transport for London 10. TÜV Rheinland Consulting 11. Valeo S.A. 12. VDI/VDE-IT 13. Volvo Technology AB 14. CRF - Centro Ricerche Fiat	1. PROJECT COORDINATOR. Car Manufacturer (France) 2. Technology company (Austria) 3. Automotive supplier (Germany) 4. Climate technologies and Automotive technologies company (Slovenia) 5. Wind power company (Spain) 6. Manufacturing company (Belgium) 7. Multinational engineering and electronics company (Germany) 8. Vehicle manufacturer (Poland) 9. Public transport agency (UK) 10. Provider of technical, safety, and certification services (Germany) 11. Industrial company (France) 12. Consulting company (Germany) 13. Car manufacturer (Sweden) 14. Car manufacturer – Research centre (Italy)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 December 2010
DURATION:	48 months
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the EU FP7 – Sustainable Surface Transport (SST)
FIELD:	European

SHORT DESCRIPTION:	CAPIRE is a Coordination Action within the framework of the European Green Cars Initiative (EGCI) and is intended to support the implementation of this PPP. The project focuses on the definition of the potential Flagships projects which could foster the competitiveness of the European Automotive Industry in the domain of Transport Electrification as well as in the development of technologies and services to reduce the European CO2 footprint.
OBJECTIVES:	Objectives: - Propose the implementation paths of the PPP EGCI, - Identify the technology roadblocks and framework needs, - Describe the related Research priorities within the framework of FP7, FP8 and afterwards, - Facilitate the dissemination of results of the projects funded under the EGCI. The goal is to increase by a joint approach of the involved economic sectors and the public authorities the competitiveness of European Automotive Industry in the domain of energy efficient, safe, non-polluting and CO2-free vehicles at the global scale. To be broad enough, this strategy has to be based on the three technology pillars of the EGCI: - Passenger cars and LCV: to reduce local pollution, emission of green house gases, and noise by accelerating electrification of vehicles and provision of a dedicated infrastructure for the connection to CO2-free energy sources - Trucks and Buses: to improve overall efficiency of transport of people and goods by the development of more effective vehicles, standardized load carriers and supporting ITS/ICT systems - Logistics: to increase the efficiency of goods transport by optimizing loading rate of trucks and mixing different energy saving transport vectors as rail transport and road transport.
RESULTS:	Major outcomes of CAPIRE will be a dedicated roadmap based on an elaborated and deep analysis of R&D needs, respective milestones and supporting measures.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles

PROJECT ACRONYM:	DELIVER	
PROJECT TITLE:	Design of Electric LIght Vans for Environment-impact Reduction	
WEB	http://www.deliver-project.org/	

NUMBER OF PARTNERS:	11

	NAME	**DESCRIPTION**
PARTNERS CV:		
OTHER PARTNERS:	1. Institut für Kraftfahrzeuge - RWTH Aachen University 2. Centro Ricerche Fiat scpa 3. SP Sveriges Tekniska Forskningsinstitut ab 4. Volkswagen ag 5. Liberty Electric Cars 2 limited 6. Cadem cad/cam destek merkezi ve bilgisayar sanayi ticaret anonim sirketi 7. HPL prototypes ltd 8. Mobit bilisim elektronik ve kontrol sistemleri dis ticareti ve as 9. CEGASA - Celaya, Emparanza y Galdos Internacional, s.a. 10. Michelin Recherche et Technique sa 11. POLIS - Promotion of Operational Links with Integrated Services	1. PROJECT COORDINATOR. Research Institute University of Aachen (Germany) 2. Research centre (Italy) 3. Institute for Research and Innovation (Sweden) 4. Car manufacturers (Germany) 5. Clean technology company (UK) 6. Consulting Company (Turkey) 7. Prototyping Company (UK) 8. Enterprise of mobile solutions and hardware (Turkey) 9. Business Group (Spain) 10. Tire Manufacturer (Switzerland) 11. European Association (Belgium)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 November 2011
DURATION:	36 months
STATUS:	Ongoing
SOURCE OF	Co-funded by the EU FP7-Transport

FUNDING:	
FIELD:	European
SHORT DESCRIPTION:	The DELIVER project, as part of the European Green Cars Initiative, aims to explore urban light commercial vehicle (LCV) concepts intended for larger scale production by executing a broad scope conceptual design study which will start by establishing initial design specifications and continue to a detailed prototype-based and virtual performance assessment as well as a running concept demonstrator vehicle.
OBJECTIVES:	- The DELIVER project aims to develop optimised electric light commercial vehicle (LCV) concept architecture, integrating and optimising all subsystems relevant to energy efficiency and to other key end-user requirements including affordability. - The goal is to connect closely with the final users and prescribers of urban LCV in order to ensure that the resulting optimised concept is not just the best compromise regarding the energy efficiency perspective, but also from the perspective of major stakeholders like cities, the vehicle owner or the driver/operator that needs to work with these vehicles on every day.
RESULTS:	The program's goal is to design an innovative new urban electric vehicle commercial showing at least 40% improvement in efficiency over comparable vehicles available today. To enable an ongoing dialogue with the community of research and design, the results will be published as they become available.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles

PROJECT ACRONYM:	eCo-FEV	
PROJECT TITLE:	Combining infrastructures for efficient electric mobility	
WEB	https://www.eco-fev.eu/	
NUMBER OF PARTNERS:	13	

	NAME	DESCRIPTION
PARTNERS CV:		
OTHER PARTNERS:	1. Hitachi Europe 2. BlueThink SPA 3. CEA - Commissariat à l'énergie atomique et aux Énergies Alternatives 4. Centro Ricerche FIAT S.C.p.A. 5. Conseil Général de l'Isère 6. EICT 7. Energrid SPA 8. Facit Research GmbH & Co. KG 9. Schulz - Institute for Economic Research and Consulting GmbH 10. Politecnico di Torino 11. Renault s.a.s. represented by GIE REGIENOV 12. TECNOSITAF – Società Italiana per il Traforo Autostradale del Frejus 13. TU Berlin – Technische Universität Berlin	1. PROJECT COORDINATOR. System and service provider (UK) 2. Open innovation agent (Italy) 3. Research Institute (France) 4. Car manufacturer – Research centre (Italy) 5. Public authoritiy / Road operator (France) 6. Project management (Germany) 7. Energy trader (Italy) 8. SME (Germany) 9. SME (Germany) 10. Research institute / Technology provider (Italy) 11. Car Manufacturer (France) 12. Road operator (Italy) 13. Research Institute (Germany)

PROJECT SPECIFICATIONS	
STARTING DATE:	September 2012
DURATION:	33 months
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the UE Energy, Environment and Sustainable Development Programme

FIELD:	European
SHORT DESCRIPTION:	The electric mobility does not only cover the electrification of vehicles (Fully Electric Vehicles - FEV), but also other fields such as the road transport sector and the energy sector. An efficient cooperation between FEV, road users and infrastructure is a key factor to implement the electric mobility into road traffic at large by overcoming the challenge of the limited range of FEV. The eCo-FEV project aims at achieving a breakthrough in FEV introduction by proposing a general architecture for integration of FEV into the different infrastructure systems cooperating with each other – thus allowing precise EV telematics services and charging management service based on the real time information.
OBJECTIVES:	The objectives of the eCo-FEV project are to simplify the usage of the full electrical vehicles and to appease range anxiety related to the full electrical powertrain concept. To achieve these objectives the eCo-FEV project proposes to play the role of facilitator between travellers and all operators participating in planning and realization of trips involving FEVs. The project proposes services for two classes of users: individual travellers and light urban delivery fleet drivers. eCo-FEV aims to develop a cooperative architecture in order to combine the information of several infrastructures for FEVs and users. It is the objective of the eCo-FEV project to propose this open architecture in order to enable the extensibility and flexibility of the eCo-FEV concept in the follow up deployment in different implementation situations, e.g. implementation site local requirements, specific use case requirements, client requirements etc. With the help of eCo-FEV´s advanced telematics services FEV users will be able to react on the current traffic situation and to actively manage the charging process. The principal novel characteristic of eCo-FEV is its employment of data-mining (i.e. cloud based “data collect” and “learning machine”) to optimize the trip planning and of what we term “trip monitoring” to reassure the trip realization. This new approach allows roadmap generations based on knowledge coming from historical data (driver and car behaviors, traffic and weather forecasts) and complete information about availability of charging spots. The real time functionality introduced by the “trip monitoring” permanently verifies the trip progress and the accessibility of the charging points. Due to the trip monitoring the driver will always be proposed the best solution to achieve his trip objectives.
RESULTS:	eCo-FEV will promote: - the FEV introduction in mass market, - the integration of FEV into the existing infrastructures, - a smart cooperative infrastructure for telematics services, - an efficient multi-mode innovative FEV charging, - the urban co-modality mobility and the environmental protection. Over a period of 33 month, eCo-FEV partners are working towards significant innovations in the field of FEV such as: - the combination of existing FEV-related infrastructures, - a practical concept for combining energy management and multimodal urban mobility planning, - The improvement of energy provision via reliable wireless communications.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles - Special software for freight distribution systems

PROJECT ACRONYM:	ELCIDIS	
PROJECT TITLE:	Electric Vehicle City Distribution	
WEB	http://www.elcidis.org/	
NUMBER OF PARTNERS:	7	

	NOMBRE	**DESCRIPCIÓN**
PARTNERS CV:		
OTHER PARTNERS:	1. City of Rotterdam 2. Stockholms Stad 3. Communauté d'Agglomération de la Rochelle 4. Stadt Erlangen 5. Regione Lombardia 6. Stavanger, Lyse Energi AS 7. CITELEC	1. PROJECT COORDINATOR. Public Body (Netherlands) 2. Public Body (Sweden) 3. Public Body (France) 4. Public Body (Germany) 5. Public Body (Italy) 6. Power company (Norway) 7. The European Association of cities interested in the use of electric vehicles (Belgium)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 March 1998
DURATION:	52 months
STATUS:	Ended
SOURCE OF FUNDING:	Co-funded by the UE Energy, Environment and Sustainable Development Programme
FIELD:	European
SHORT DESCRIPTION:	The ELCIDIS project is a form of co-operation between 7 European cities and CITELEC, the European Association of cities interested in the use of electric vehicles, set up to demonstrate the possibilities for a more efficient city distribution system operating with clean (hybrid) electric vehicles. The deployment of (hybrid) electric vehicles is common to all

	cities involved in the project. The organisation of the logistic system will vary according to the local situation in the cities.
OBJECTIVES:	The main objective of ELCIDIS is to assess the efficiency and environmental impact of an electric vehicle based goods distribution system, based on practical demonstrations in 6 European cities. More concretely the following targets can be distinguished: - To demonstrate the economic, technical and social viability of urban distribution using electric vehicles. - To analyse the environmental benefits of the deployment of electric vehicles for goods distribution. - To gain insight into the technical specification of (hybrid) electric vans which are in operation for urban distribution activities. - To analyse the logistic efficiency of newly created urban distribution centres. - To demonstrate the value of incentives to promote environmentally-friendly vehicles. - To gain clear insight into the benefits of urban distribution using (hybrid) electric vehicles for all concerned parties, i.e. transport companies, shopkeepers, businesses, residents and shoppers.
RESULTS:	As a result of the project, guidelines and recommendations are given on the key factors for the successful deployment of (hybrid) electric vehicles for efficient urban distribution activities. The project succeeded in verifying the principal merits of using (hybrid) electric vehicles in urban delivery concepts, although in some sites it took a great deal of time to get the desired application “on the road”. The project has provided indisputable proof that there are no predominantly objections to the use of hybrid and electric vehicles in urban distribution, neither from company managers nor from drivers, and certainly not from local authorities. Despite the in some sites proven considerable savings in fuel costs, the vehicles investment costs will remain a very important obstacle if a substantial reduction is not foreseen. The results of the project can help other cities in starting projects for clean and efficient urban distribution systems. In the long term, ELCIDIS also aims at making a contribution towards opening up the market for (hybrid) electric vans and trucks.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles

PROJECT ACRONYM:	FREVUE
PROJECT TITLE:	Freight Electric Vehicles in Urban Europe
WEB	http://frevue.eu/

NUMBER OF PARTNERS:	30

	NOMBRE	**DESCRIPCIÓN**
PARTNERS CV:	1. ITENE_Instituto Tecnológico del Embalaje, Transporte y Logística	1. Technological Institute
OTHER PARTNERS:	2. Westminster City Council 3. OVE ARUP & PARTNERS INTERNATIONAL LIMITED 4. ATOS SPAIN SA 5. Bring Express Norge AS 6. CAMARA MUNICIPAL DE LISBOA 7. OSLO KOMMUNE 8. STOCKHOLMS STAD 9. CTT Correios de Portugal SA 10. Empresa Pública Municipal de Estacionamiento de Lisboa 11. Fortum Power and Heat AB 12. HEINEKEN SUPPLY CHAIN B.V 13. EUROPEAN REGIONS AND MUNICIPALITIES PARTNERSHIP ON HYDROGEN AND FUEL CELLS 14. IMPERIAL COLLEGE OF SCIENCE, TECHNOLOGY AND MEDICINE 15. GEMEENTE AMSTERDAM 16. AYUNTAMIENTO DE MADRID 17. COMUNE DI MILANO 18. Nissan International SA 19. Grupo Leche Pascual 20. POLIS – PROMOTION OF OPERATIONAL LINKS WITH INTEGRATED SERVICES 21. GEMEENTE ROTTERDAM	2. PROJECT COORDINATOR. Public Agency (UK) 3. Consulting company (UK) 4. Multinational ICT (Spain) 5. Delivery company / courier (Norway) 6. Public Agency (Portugal) 7. Public body (Norway) 8. Public Agency (Sweden) 9. Distribution Company (Portugal) 10. Public Company (Portugal) 11. Delivery company / courier (Sweden) 12. Delivery company / courier (Netherlands) 13. (Belgium) 14. Public Agency (UK) 15. (Netherlands) 16. Public Agency (Spain) 17. Public body (Italy) 18. Company (Netherlands) 19. Company (Portugal) 20. International Association (Belgium) 21. Public Agency (Netherlands) 22. Delivery company / courier (Spain) 23. Research Centre (Norway)

	22. SEUR,S.A. 23. STIFTELSEN SINTEF 24. Smith Electric Vehicles 25. TRAFIKVERKET – TRV 26. TRANSPORT FOR LONDON*TFL 27. NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK – TNO 28. TNT Express Worldwide N.V. 29. UK POWER NETWORKS (OPERATIONS) LTD 30. UPS Europe SA / NU	24. Company (UK) 25. Adm. transport (Sweden) 26. Adm. Transport (UK) 27. Research Centre (Netherlands) 28. Delivery company / courier (Netherlands) 29. Mains (UK) 30. Delivery company / courier (UK)

PROJECT SPECIFICATIONS	
STARTING DATE:	March 2013
DURATION:	54 month
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the EU FP7
FIELD:	European

SHORT DESCRIPTION :	The growth of cities in Europe is providing greater economic, social and cultural opportunities for its citizens. To support this growing demand for goods, services and movement however, cities are increasing affected by significant air and noise emissions as well as increasing congestion. With the logistics industry being a significant driver of economic growth, as well as a major contributor to these issues, improvements in this sector are required to ensure our cities fulfil their potential. FREVUE (Freight Electric Vehicles in Urban Europe) will demonstrate to industry, consumers and policy makers, how electric freight vehicles can provide a solution to many of these problems.
OBJECTIVES:	127 electric freight vehicles will be exposed to the day to day rigors of the urban logistics environment and prove that the current generation of large electric vans and trucks can offer a viable alternative to diesel vehicles; particularly when combined with state of the art urban logistics applications, innovative logistics management software, and well-designed local policy. The demonstration projects have been designed to ensure the range of conditions that are common across Europe are covered, including: - goods deliveries (including food, waste, pharmaceuticals, packages and construction goods)

	- novel logistics systems and associated ICT (with a focus on consolidation centres which minimize trips in urban centres) - vehicle types (from small car-derived vans to large 18 tonne goods vehicles) - climates (from Northern to Southern Europe) - diverse political and regulatory settings that exist within Europe
RESULTS:	At the conclusion of the project, the final objective will be to encourage the exploitation of the results through a targeted dissemination campaign aimed at decision makers across the logistics industry and associated policy makers and regulators.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles - Special software for freight distribution systems - Support systems for regulation schemes

PROJECT ACRONYM:	FURBOT	
PROJECT TITLE:	Freight Urban RoBOTic vehicle	
WEB	http://www.furbot.eu/	

NUMBER OF PARTNERS:	8

	NOMBRE	**DESCRIPCIÓN**
PARTNERS CV:		
OTHER PARTNERS:	1. DIMEC – University of Genova - PMARlab 2. INRIA – Institut National de Recherche en Informatique et en Automatique 3. Università di Pisa 4. ZTS VVU – Vyskumno-Vyvojovy Ustav Kosice as 5. Bremach Industrie srl 6. Mazel ingenieros, sociedad anónima 7. Persico spa 8. Transportes Colectivos do Barreiro	1. PROJECT COORDINATOR. University Research centre (Italy) 2. Public institution of Digital Sciences research (France) 3. University centre (Italy) 4. Private corporation R & D (Slovenia) 5. Commercial vehicles manufacturer (Italy) 6. Engineering company (Spain) 7. Construction Corporation (Italy) 8. Urban public transport company (Portugal)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 November 2011
DURATION:	36 months
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the EU FP7. Grant agreement for: Architectures of Light Duty Vehicles for urban freight transport
FIELD:	European

SHORT DESCRIPTION:	The project proposes novel concept architectures of light-duty, full-electrical vehicles for efficient sustainable urban freight transport and will develop FURBOT, a vehicle prototype, to factually demonstrate the performances expected. The main paradigms of the new vehicle design are: energy efficiency, sustainability, mobility dexterity, modularity, intelligent automated driving and freight handling robotization. The vehicle architecture is conceived

	modularly. The payload is considered packaged in freights boxes or ISO pallets. Attention will be paid to the modularity and standardization of components as well as to safety issues about crashworthiness and EMI/EMC, radiation health impact issues. The FURBOT represents a transport agent that can be used by alone but that better exploits its power if used in a fleet offering a new sustainable and very adaptable (evolvable) urban freight transport system. The system will be modelled and a simulator developed.
OBJECTIVES:	Goal and Motivation: - Full electrical vehicle prototype - Energy efficient - Dexterous mobility - Equipped with robotic load/unload device - Light weight high strength material - Endowed with perceptual system and intelligent control - Standardized freight units - A discrete time simulator for FURBOT fleet networking analysis and management
RESULTS:	Potential impact: - Increased energy efficiency and improved transport safety. A great effort is spent in improving energy efficiency both at the level of vehicle and at the level of service system. It is expected for FURBOT concept to reduce the energy consumption at least 45 % less in terms of primary energy consumption with respect to best-of-class vehicles in the same category, while achieving a range adequate to the typical daily urban mission. This quantitative improvement will be shown during the laboratory and on the road demonstrations. - Enhance transport safety: Transport safety is one of the main issues of these vehicles developed to share urban areas with cars, bicycles and pedestrians. The perceptual and communication systems of the vehicle, the intrinsic stable structure and low velocity are a good basis for safety. - Commercial activity expansion in urban zones: FURBOT gives the opportunity to expand commercial activities in urban zones that are not accessible to traditional freight duty vehicles, including historical centres and green areas without introducing noise and pollution due to emissions, by integrating them well via urban freight transport networks served by FURBOT fleets. - Reduction of carbon dioxide (CO2), pollutant emissions and noise at least in compliance with EU legislation: The FURBOT project proposes a small intelligent electric vehicle that guarantees CO2 and pollutant emissions and noise reduction well beyond the levels allowed within the EU legislation. Furthermore, FURBOT will contribute towards these economic impacts: - The FURBOT new LD low-cost eco-sustainable vehicle will allow the European industries, included small- and medium-sized enterprises (SMEs), to gain competitiveness in the market of electric and intelligent vehicles. - Thanks to the modular approach adopted, the new modules such as the adaptive loading device, intelligent driving interface, new power module, can be commercialised stand-alone and can be integrated into future generations of vehicles, maybe scaled in size, or other applications such as warehouses and stores indoor services for reinforcing the competitiveness of the European automotive and transport industry. - A step forward towards on board intelligence will give the future generation of FURBOT the ability to detect and manipulate loaded pallets, both on the ground and on a truck bed, as well as pallet drop-off on trucks and ground with safe navigation within dynamic environments.

	- The FURBOT concept will also benefit the industrial transportation logistics area. This promising market is requesting ever more units for the transport of smaller freight amounts. - The technology developed will have larger applications, e.g.: autonomous delivery of parcels based on destination address or garbage collection inside urban areas as well as inside hospitals and campuses areas. These applications are in line with the city of the future very actual and sensible issues. The multidisciplinary approach to design knowledge intensive products and services such as FURBOT will give advantage to European manufacturers in the markets of the future.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles - Storage systems for transport - Freight distribution management systems

PROJECT ACRONYM:	HOST	
PROJECT TITLE:	Human Oriented Sustainable Transport mean	
WEB	http://ec.europa.eu/research/transport/projects/items/host_en.htm	
NUMBER OF PARTNERS:	9	

	NOMBRE	**DESCRIPCIÓN**
PARTNERS CV:		
OTHER PARTNERS:	1. CIRPS – Centro Interuniversitario di Ricerca Per lo Sviluppo sostenibile Università di Roma "La Sapienza" 2. Royal Institute of Technology 3. Instituto Superior Técnico 4. CargoTechnologies GmbH 5. STILE BERTONE S.P.A. 6. Jelley Limited UK 7. KVD 8. Volvo Technology Corporation 9. Robosoft FR	1. PROJECT COORDINATOR. Interuniversity research centre (Italy) 2. University centre (Sweden) 3. University centre (Portugal) 4. Company (Austria) 5. Automotive company (Italy) 6. Private corporation R & D (Slovenia) 7. Consultancy company of design and innovation (Netherlands) 8. Vehicles manufacturer (Sweden) 9. Robotics company (France)

CARACTERÍSTICAS DEL PROYECTO	
STARTING DATE:	1 January 2005
DURATION:	36 months
STATUS:	Ended
SOURCE OF FUNDING:	Co-funded by the EU 6PM. Call: FP6-2003-Transport 3
FIELD:	European

SHORT DESCRIPTION:	To lower the impact of mobility on the cities, cleaner vehicles are not enough: an integrated passenger and freight strategy must be adopted. Cleaner vehicles must be specifically designed for the purpose and prove to be better than conventional ones under any aspect, including costs HOST proposes to use one modular vehicle platform with four different cabins

	to accomplish four different transport tasks: - night-time collective taxi - daytime car sharing services - daytime freight collection and distribution - night-time garbage collection.
OBJECTIVES:	The HOST objectives are: - to subvert the vehicle design process and instead of designing the vehicle on the basis of the available technology, let it start from the real user needs - to design a multipurpose vehicle which can be used for several tasks over a period of 24 hours, thus reducing the investment costs for an environmentally friendly vehicle - to develop a modular powertrain with interchangeable power generation units so as to minimise the impacts of the vehicle circulation according to the task it is supplying - to integrate a drive-by-wire steering system - to design a modular chassis capable of changing length according to the capacity (in terms of volume of freight or number of passengers) it has to have for the task it is supplying - to design different vehicle cabins which can be easily and automatically switched for passenger and freight transport - to integrate in the vehicle chassis an advanced horizontal transhipment device capable of transferring pallets of freight as well as facilitating the cabin interchange - to manufacture the HOST prototype and to test it, so to prove the concept. Fulfilling all these objectives will lead to the design and construction of a vehicle which could supply freight and passenger services economically in cities and allow, if adopted in combination with some accompanying measures, city mobility to become more sustainable.
RESULTS:	The progress made so far is mainly related to the definition of the vehicle's technical specifications, representing the guiding input for the whole design phase (enclosing both chassis and powertrain), which is now completed. The main achievements of the initial study were the definition of the HOST prototype as a whole, in terms of dimension and bulk of the platform (chassis and suspension) as well as the various boxes constituting the powertrain and the human machine interface. The results obtained confirm that a common powertrain can accomplish the four tasks selected by adding modules for extra energy storage or an auxiliary power unit. A particular reference has been reserved for the transhipment system where the HOST concept has to carry a device that enables the prototype to tranship the cabin and/or body vehicle as an intermodal transport unit in a practical way and therefore let the vehicle enter into logistic process flows. Fulfilling all these objectives will lead to the design and construction of a vehicle which could economically supply freight and passenger services in cities and allow, if adopted in combination with some accompanying measures, city mobility to become more sustainable.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles

PROJECT ACRONYM:	IMPROVE	
PROJECT TITLE:	Integration and Management of Performance and Road Efficiency of Electric Vehicle Electronics	
WEB	http://cordis.europa.eu/projects/rcn/109295_en.html	

NUMBER OF PARTNERS:	10

	NAME	**DESCRIPTION**
PARTNERS CV:		
OTHER PARTNERS:	1. Virtual Vehicle Competence Center (ViF) Kompetenzzentrum – Das virtuelle Fahrzeug Forschungsgesellschaft 2. Continental Temic Microelectronic 3. Fraunhofer -Gesellschaft 4. IDIADA Automotive Technology 5. Università degli Studi di Firenze 6. Brusa Elektronic AG 7. Czech Technical University in Prague 8. LMS Imagine 9. SIC! Software 10. TOFAS	1. PROJECT COORDINATOR. R&D centre (Austria) 2. Automotive group (Germany) 3. Research organization(Germany) 4. Automotive company (Spain) 5. University centre (Italy) 6. Company of power electronics and electric mobility (Switzerland) 7. University centre (Czech Republic) 8. Leading Partner in Test and Mechatronic Simulation (France) 9. Technology company (Germany) 10. Automotive company (Turkey)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 July 2013
DURATION:	36 months
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the EU FP7 - ICT
FIELD:	European

SHORT DESCRIPTION:	Electric Vehicles (EV) are subject of many R&D projects aimed at improving their components and overall physical (structural) architecture. In addition, several research projects exist that seek to innovate the overall control system that 'orchestrates' the way all these components perform together in passenger EV. IMPROVE focuses on in-vehicle ICT innovations for commercial (fleet operated) vehicles, which are in some aspects different from private passenger vehicles: different use cases, different trade-offs between comfort, driving dynamics and cost efficiency, and more embedded in a fleet of several vehicles. Within this focus, IMPROVE leverages a set of hardware and software innovations that in combination add a targeted 20% of range for the same battery capacity; increase the life of the battery, reduce the cost of key components and uses deeply integrated interconnections between subsystems inside the vehicle and between the vehicle (sub-)system and the outside world (cloud, grid, work, office). All these performance increases are achieved while maintaining safety and increasing comfort and wellbeing for the driver(s) of the vehicle.
OBJECTIVES:	IMPROVE integrates an induction e-motor (without permanent magnet) with an inverter to decrease cost; it integrates model embedded predictive controlling into advanced algorithms to optimise energy efficiency and -recovery. It leverages data extracted from cloud, grid, infrastructure and (back-) office applications of the driver for in-vehicle control optimisation. All these elements are prototyped and assembled to a drivable test vehicle which will be submitted to extensive tests.
RESULTS:	The IMPROVE consortium combines the strengths of very large, large, mid-sized and small companies with the academic / technological excellence of established academia and research centres, enabling it to optimally apply the project results in future vehicles and services with substantial impact on Europe's Green Car objectives.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles

PROJECT ACRONYM:	LNG-BC	
PROJECT TITLE:	Liquefied Natural Gas Blue Corridors	
WEB	http://lngbluecorridors.eu	

NUMBER OF PARTNERS:	22

	NAME	**DESCRIPTION**
PARTNERS CV:		
OTHER PARTNERS:	1. Applus IDIADA 2. CRF - Centro Ricerche Fiat 3. Volvo Technology AB 4. ENI 5. Ballast Nedam 6. Cloud Energy Lda 7. Drive Systems N.V. 8. Energy Institute Hrvoje Pozar 9. ENOS LNG d.o.o. 10. Erdgas Mobil 11. Fluxys SA 12. Galp Power 13. Gas Natural Fenosa 14. GNVERT-GDF Suez 15. GoldEnergy 16. Grupo HAM 17. Hardstaff Group 18. Linde Industrial Gases 19. Mendyra S.L. 20. Swedish Gas Association 21. VITO 22. Westport Innovations Inc.	1. PROJECT COORDINATOR. Automotive company (Spain) 2. Car manufacturer – Research centre (Italy) 3. Car manufacturer (Sweden) 4. Energy company (Italy) 5. CNG and LNG supplier (The Netherlands) 6. Energy company (Portugal) 7. Energy company (Belgium) 8. Energy Institute (Croatia) 9. Energy company (Slovenia) 10. Energy group (Germany) 11. Energy company (Belgium) 12. Energy company (Portugal) 13. Multinational energy company (Spain) 14. Energy company (France) 15. Energy trader company (Portugal) 16. Service and transport company (Spain) 17. Transport technology company (UK) 18. Industrial Gases and Engineering company (Germany) 19. Energy company (Spain) 20. Organization for energy gases (Sweden) 21. Research and consulting centre (Belgium) 22. Technology provider (Canada)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 May 2013
DURATION:	48 months
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the EU FP7
FIELD:	European
SHORT DESCRIPTION:	LNG Blue Corridors unites/mobilizes the critical mass (expertise of (industrial) partners and research institutes) in LNG transport and infrastructure technology. It also represents the first phase in the staged roll out of LNG refuelling stations and a broad market development for heavy duty vehicles running with liquefied natural gas. The core of the project is the roll out and demonstration of four LNG Blue Corridors.
OBJECTIVES:	The LNG Blue Corridors project's aim is to establish LNG as a real alternative for medium & long distance transport - first as a complementary fuel and later as an adequate substitute for diesel. To accomplish its objective it has defined a roadmap of LNG refuelling points along four corridors covering the Atlantic area, the Mediterranean region and connecting Europe's South with the North and its West and East accordingly. In order to implement a sustainable transport network for Europe, the project has set the goal to build approximately 14 new LNG or L-CNG stations, both permanent and mobile, on critical locations along the Blue Corridors whilst building up a fleet of approximately 100 Heavy Duty Vehicles powered by LNG.
RESULTS:	The project will run for 4 years and will connect over 12 Member States and align itself with existing demonstrations running at national level. This LNG Blue Corridors project will help the European Commission to reach its target of at least one LNG station every 400 km Europe-wide by 2020. This project should foster further expansion of European corridors and enable LNG to become a mainstream transportation fuel in Europe.
DOROTHY RELATED ITEMS:	- Non-conventional vehicles

3. MATRIX OF EUROPEAN PROJECTS RELATED TO NON-CONVENTIONAL VEHICLES.

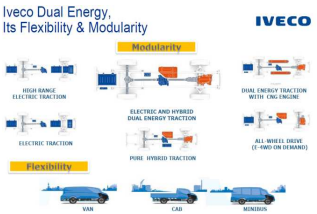
Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
Delivery hybrid vehicle	Delivery vehicle prototype 100% electric power based on a industrial vehicle like the Taylor-Dunn carrier	CITY MODEL	CLEM CLASE 10 ITENE	Ended (2013)	Suitable for the distribution of goods in urban areas difficult to access, as the old town and pedestrian areas.	Pilot in Parque Tecnológico de Paterna (Valencia)	Estimated savings of EUR 3,500 vehicle / year in fuel and a substantial reduction in emissions.			
Eletric Light Vans	prototype of an innovative new urban commercial electric vehicle	DELIVER		Ongoing (2014)	It representes a cost-efficient “last mile” vehicle: -> “Green deliveries” are preferred by many customers. -> Delivery vans (postal and parcel services) are promising and attractive for electrification due to their depot-based operation with fixed payload and route duty cycle. -> The DELIVER cabin concept ensures easy ingress / egress and maximised load capacity.	vehicle prototype	innovative new urban commercial electric vehicle showing at least 40% improvement in efficiency over comparable vehicles available today	The DELIVER project aims to develop an optimised electric light commercial vehicle (LCV) concept architecture, integrating and optimising all subsystems relevant to energy efficiency and to other key end-user requirements including affordability.	http://www.deliver-project.org/	
Refrigerated and monitored hybrid vehicle	Prototype that integrates the use of a box with passive cooling with a hybrid vehicle and measuring instruments on board that can monitor and control the quality of products shipped	EFRUD	ITENE	Ended (October 2013)	Use for distributing refrigerated goods (vegetables, fruit, milk, dairy, meat, medicine ...) in urban areas.	The vehicle has traveled more than 8,000 kilometers of routes in real distribution of perishable goods in the city center of Rome, using a passive cooling system (not using compressor onboard vehicle).	Savings of over 11% in fuel consumption (significant reduction of pollutant emissions). The passive cooling system has proven its efficiency during these tests to maintain the temperature between 2 º C and 8 º C.		http://www.efrud.info	

Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
Electric and hybrid vehicles	The cities involved in ELCIDIS mostly used small and average sized battery-powered electric vans, with a payload of 400 - 1500 kg which are already available on the market, although not in large numbers. One of the main aims of the project is to demonstrate the capability of these vehicles for urban distribution activities.	ELCIDIS		Ended (2002)	->The (hybrid) electric vehicles operated from the existing distribution centres in Rotterdam and Stockholm. ->In the city of La Rochelle was developped a new, clean and efficient distribution system with new urban distribution centres and the use of electric vehicles with a payload of approximately 500 kg. -> In Stavanger, Milan and Erlangen were deployed (hybrid) electric vehicles for in-house goods and mail distribution for the company.	Vehicles used in ELCIDIS project: - large electric vans (payload 1000-1500 kg, Rotterdam) and hybrid electric trucks (11 ton max payload, Stockholm) in the fleets ofexisting transport companies. - Electric and hybrid vehicles (capacity approx. 500 kg, La Rochelle, Stavanger, Milan and Erlangen)	The different focuses of the local projects enable an assessment of the implications regarding the use of (hybrid) electric vehicles in different environments and logistic systems in cities of various sizes		http://www.elcidis.org/project.htm	
Electric vehicles	Renault Kangoo Zero Emission / UPS P80E vehículo diesel convertido a eléctrico	FREVUE	ITENE	Ongoing (2017)	The demonstration projects have been designed to ensure the range of conditions that are common across Europe are covered, including: - goods deliveries (including food, waste, pharmaceuticals, packages and construction goods) - novel logistics systems and associated ICT (with a focus on consolidation centres which minimize trips in urban centres) - vehicle types (from small car-derived vans to large 18 tonne goods vehicles) - climates (from Northern to Southern Europe) - diverse political and regulatory settings that exist within Europe	127 electric freight vehicles will be exposed to the day to day rigors of the urban logistics environment	the project's aim is to prove that the current generation of large electric vans and trucks can offer a viable alternative to diesel vehicles		http://frevue.eu/	 

Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
FURBOT	-> Full electrical vehicle prototype -> Energy efficient -> Dexterous mobility -> Equipped with robotic load/unload device -> Light weight high strength material -> Endowed with perceptual system and intelligent control -> Standardized freight units -> A discrete time simulator for FURBOT fleet networking analysis and management	FURBOT		Ongoing (2014)	The FURBOT represents a transport agent that can be used by alone but that better exploits its power if used in a fleet offering a new sustainable and very adaptable (evolvable) urban freight transport system.	vehicle prototype, laboratory and on the road demonstrations.	-> Increased energy efficiency and improved transport safety (at least 45 % less expected in terms of primary energy consumption with respect to best-of-class vehicles in the same category). -> Enhance transport safety -> Reduction of carbon dioxide (CO2), pollutant emissions and noise at least in compliance with EU legislation.	-> Modular approach:the adaptive loading device, intelligent driving interface, new power module, can be commercialised stand-alone and can be integrated into future generations of vehicles -> step forward towards on board intelligence -> technology that cab have larger applications in line with the city of the future.	http://www.furbot.eu/	
HOST	Innovative modular vehicle suitable for ecological urban transport of passengers and freight. Hybrid vehicle with thermal generator of 15 kW of maximum power, 4 motors each of 20 kW, 4 steering wheels and 4 interchangeable cabins depending on the service to be performed.	HOST		Ended (2008)	-> night-time collective taxi -> daytime car sharing services -> daytime freight collection and distribution -> night-time garbage collection.	vehicle prototype	Design and construction of a vehicle which could supply freight and passenger services economically in cities and allow, if adopted in combination with some accompanying measures, city mobility to become more sustainable.	Definition of the vehicle's technical specifications, representing the guiding input for the whole design phase (enclosing both chassis and powertrain), which is now completed. The main achievements of the initial study were the definition of the HOST prototype as a whole. The results obtained confirm that a common powertrain can accomplish the four tasks selected by adding modules for extra energy storage or an auxiliary power unit.	http://ec.europa.eu/research/transport/projects/items/host_en.htm	 

Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
IMPROVE	A set of ICT innovations for commercial (fleet operated) vehicles in terms of hardware and software innovations that in combination add a targeted 20% of range for the same battery capacity; increase the life of the battery, reduce the cost of key components and uses deeply integrated interconnections between subsystems inside the vehicle and between the vehicle (sub-)system and the outside world (cloud, grid, work, office)	IMPROVE		Ongoing (2016)	ICT innovations for commercial (fleet operated) vehicles		The IMPROVE consortium combines the strengths of very large, large, mid-sized and small companies with the academic / technological excellence of established academia and research centres, enabling it to optimally apply the project results in future vehicles and services with substantial impact on Europe's Green Car objectives.	IMPROVE integrates an induction e-motor (without permanent magnet) with an inverter to decrease cost; it integrates model embedded predictive controlling into advanced algorithms to optimise energy efficiency and -recovery. It leverages data extracted from cloud, grid, infrastructure and (back-) office applications of the driver for in-vehicle control optimisation.	http://cordis.europa.eu/projects/rcn/109295_en.html	
E-bikes	Electric bicycles and motorbikes	PRO-E-BIKE	ITENE	Ongoing	Use for the delivery of goods and passenger transport for public and private institutions (delivery companies, government ...).	In process the development of action plans for 7 pilot cities, Valencia (Spain), Genoa (Italy), Heerhugowaard (Netherlands), Lisbon (Portugal), Moravske Toplice (Slovenia), Motala (Sweden), Torres Vedras (Portugal) and Zadar (Croatia).	The expected results are an increase in investment and in the use of bicycles and motorbikes for goods transport, with the aim of reducing the emissions of greenhouse gases at 283 tCO2/yr.		http://www.pro-e-bike.org/	

Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
Electric vehicles	Electric delivery vehicle existing in the current market	SMILE	1.Fundación ValenciaPort 2.Fundación InnDEA (Ayuntamiento de Valencia)	Ongoing	Suitable for the distribution of goods in urban areas.	Testing is planned in some cities participating in the project.				
TEC - Triciclo eléctrico de carga	TEC: ->Vehicle with pedal assistance with 250W power ->Designed and developed in Spain by leading companies in the logistics sector and fully adapted to customer needs ->Unique tricycle approved in Spain as bicycle. ->It has a UNE EN 15194 2009/A1 (2012) electromagnetic compatibility test ->The national Vienenbici DNA allows both the vehicle adaptation to customer needs and the realization of specific engineering developments ->After sales and national technical service also relying on a network of shared workshops with Yamimoto				Specifications: -> Maximum load: 120 kg / 150 kg (max.) -> Maximum Speed: configurable. Max .. 25Km / h. -> CEGASA Battery Capacity: 18 Ah, more autonomy Full-charge time: 6h conventional charging network. -> Extra Facilities: PS / GSM locator, transmission routes, management reports, E-call (call for help in case of accident or assault).	on sale	The TEC provides annual savings of between 2,000 and 3,500 € in front of a fuel delivery vehicle, plus the savings in CO2 emissions. The annual cumulative savings over a fuel vehicle can buy a TEC in 2-3.5 years.		http://vienenbici.com/soluciones/tec/	

Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
vanapedal	load tricycle with electric power assistance capable of transporting up to 180 kg weight				Applicable to DUM for: -> Eco-logistics -> Last mile -> Distribution microplatform (logistics areas located near the perimeter of the old town. In these logistics areas, vans and trucks can easily access and download the goods) -> Active Mobility -> Slow transport	Urban distribution of goods in Barcelona through transport operators such as TNT and SEUR	The main advantages are: -> active and sustainable transport - free of CO2 emissions, noise and traffic congestion - without time restrictions -> accessibility to pedestrian areas or inaccessible corners of the city.		http://vanapedal.eu/	
hybrid vehicles IVECO dual energy	Dual energy: electric and natural gas. Extremely flexible technology, for a light commercial vehicle, able to make available, in turn, the power source best suited to the mission of the vehicle.				The system provides the possibility of using two types of traction: the first, purely electrically, indicated for transit in urban, traffic-calmed areas with a maximum speed of 50 km/h; the second one is hybrid (thermal generation) and especially suited for long-range trips and for suburban missions.	prototype	Compared to a diesel engine, the hybrid type of drive allows a reduction in fuel consumption and CO2 emissions by up to 25%. The alternation of these two types of traction makes a single vehicle suitable for the delivery of "last mile" in areas with zero emissions, while providing the best performance for the non-urban activities.		http://www.iveco.com	
POLICAR (AUCAR-TRAILER)	POLICAR is a trailer truck which converts into a closed box truck by means of a simple operation using a remote control.				The two boxes which make up the semi-trailer are movable and can be coupled to the tractor unit, so that they can carry goods for two different distribution areas in separate boxes and even at different temperatures on a single trip.	on sale	-> Smalle initial investment -> up to 30% reduction in fuel consumption and CO2 -> Half the number of drivers -> Sealable anti-sabotage boxes -> savings on repairs, maintenance, taxes and insurance -> loading of both boxes from a single bay -> possibility of two temperatures -> keeping up the cold chain -> automatic locking (no twist-lock)		http://www.aucartrailer.com/en/Policar/	

Name	Description	Project	Partners Valencian Region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
Renault Twizy Cargo	Twizy Cargo is a new version of the Renault Twizy designed for hauling goods. It has a large boot (180 l / 75 kg) and door make at the rear. The lockable door opens to 90°.				This car is designed for the transport of goods and designed for professional clients as companies dedicated to urban distribution, technical service, surveillance or Express delivery	on sale	Twizy Cargo is a 100% electric commercial auto with zero emissions	Twizy Cargo will be available in two trims – Cargo (80 kph/50 mph) and Cargo 45 (which have only 4 kW of power and a speed that's limited to 45 km/h/28 mph, but you can drive it without normal license).	http://www.elcomercio.com/deportes/Carburando-autos-automoviles-Renault_0_963503653.html http://i	

4. CATALOGUE OF EUROPEAN PROJECTS RELATED TO STORAGE SYSTEMS FOR TRANSPORT.

As detailed below, all European projects completed or underway related to storage systems for freight transport are collected, summarized in a tabular format, also indicating those cases in which there any member of the Valencian Region.

PROJECT ACRONYM:	CITYLOG	
PROJECT TITLE:	Sustainability and efficiency of city logistics	
WEB	http://www.city-log.eu/	

NUMBER OF PARTNERS:	19

	NAME	**DESCRIPTION**
PARTNERS CV:		
OTHER PARTNERS:	1. Centro Ricerche FIAT S.C.p.A. (CRF) 2. IVECO S.p.A. (IVECO) 3. Volvo Technology Corporation AB (VOLVO) 4. TNT Global Express (TNT) 5. NAVTEQ 6. Netherland's Organization for Applied Scientific Research (TNO) 7. PTV Planung Transport Verkehr AG (PTV) 8. SWARCO (MIZAR) 9. Fraunhofer Institut für Produktionsanlagen und Konstruktionstechnik (FRAUNHOFER) 10. Europlatforms Geie 11. Senatsverwaltung für Stadtentwicklung Berlin 12. Communauté Urbaine de Lyon 13. Regione Piemonte 14. European Road Transport Telematics Implementation Coordination Organisation SCRL 15. Interuniversity Consortium for Optimization and Operation research 16. Interface Transport 17. RE:LAB S.r.l. 18. LogisticNetwork Consultants GmbH 19. Città di Torino	1. PROJECT COORDINATOR. Car manufacturer – Research centre (Italy) 2. Commercial vehicles manufacturer (Italy) 3. Vehicles manufacturer (Sweden) 4. Logistics operators company 5. GIS Company (Chicago, IL, USA) 6. Research Centre (Netherlands) 7. Multinational provider of software and consulting (Germany) 8. ITS Company (Italy) 9. Institute for Production Systems and Design Technology (Germany) 10. International Organisation (Belgium) 11. Senate Department for Urban Development and Environment (Germany) 12. Urban Community of Lyon (France) 13. Public body (Italy) 14. European Organization of ITS partners (Belgium) 15. Consortium of Italian Universities (Italy) 16. Consulting Company (France) 17. Consulting Company (Italy) 18. Consulting Company (Germany) 19. Public authority (Italy)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 January 2010
DURATION:	36 months
STATUS:	Ended
SOURCE OF FUNDING:	Co-funded by the EU FP7 – Sustainable Surface Transport (SST)
FIELD:	European
SHORT DESCRIPTION:	Using EU funding, the 'Sustainability and efficiency of city logistics' (Citylog) project was set up to boost the quality of urban delivery of goods. Partners aimed to realise this goal by offering adaptive and integrated mission management coupled with innovative vehicle solutions. They identified three areas in which action has the potential to improve current city logistics systems: logistic-oriented telematic services, vehicle technologies and innovative load units.
OBJECTIVES:	The purpose of the CITYLOG project is to develop an adaptive and integrated mission management tool to be incorporated into innovative vehicle and transport solutions that will improve and increase the sustainability and the efficiency of urban delivery of goods.
RESULTS:	Initial work entailed identifying functional requirements and designing the various tools — subsequently advanced to implementation phase — needed to achieve project goals. Researchers also analysed main trends in city logistics and collected stakeholder needs by means of web questionnaires and the organisation of a public workshop in Brussels. Proposed solutions detail a pre-trip planner, ad hoc maps, dynamic assisted navigation and last-mile parcel tracking, all of which have since been integrated into a common architecture. Regarding vehicle and load unit solutions, Citylog focused on technical solutions enabling full interoperability between the freight bus and distribution van, as well as implementation of an effective and reliable BentoBox concept. For load unit operations, project members proposed a vehicle-centred solution and containers with extensible legs. Field trials for test-case experiments were planned for the European cities of Berlin, Lyon and Turin, while future work is geared toward introducing a freight bus and two distribution vans in field trials for validation of the logistics model. Citylog's innovative approach promises not only better quality of services, but a decreased number of delivery vehicles and optimal use of delivery trucks in urban areas. These benefits also translate to increased energy efficiency, with the added benefit of no need for additional infrastructures in the cities.
DOROTHY RELATED ITEMS:	- Freight distribution management systems - Storage systems for transport

PROJECT ACRONYM:	TRANSFOMERS	TRANSFORMERS
PROJECT TITLE:	Configurable and Adaptable Trucks and Trailers for Optimal Transport Efficiency	
WEB	http://www.transformers-project.eu/	

NUMBER OF PARTNERS:	14

	NOMBRE	**DESCRIPCIÓN**
PARTNERS CV:		
OTHER PARTNERS:	1. Volvo Technology AB 2. Bosch 3. DAF Trucks N.V. 4. Daimler 5. Fehrl 6. Fraunhofer -Gesellschaft 7. Virtual Vehicle Competence Center (ViF) 8. Procter & Gamble Eurocor 9. TNO 10. IFSTTAR 11. IRU Projects ASBL 12. Schmitz Cargobull AG 13. Van Eck Group 14. Uniresearch B.V. – UNR	1. PROJECT COORDINATOR. Business Unit of the Volvo Group (Sweden) 2. Supplier of technology and services (Germany) 3. Commercial vehicle manufacturer (The Netherlands) 4. Vehicle manufacturer (Germany) 5. Road research centre (Belgium) 6. Research organization (Germany) 7. R&D centre (Austria) 8. Manufacturing company (Belgium) 9. Knowledge organisation (The Netherlands) 10. Public scientific and technological institution (France) 11. Transport non-for profit association (Belgium) 12. Commercial vehicles company (Germany) 13. Vehicles manufacturer (The Netherlands) 14. Research centre (The Netherlands)

PROJECT SPECIFICATIONS	
STARTING DATE:	1 September 2013
DURATION:	42 months
STATUS:	Ongoing
SOURCE OF FUNDING:	Co-funded by the EU FP7
FIELD:	European

SHORT DESCRIPTION:	Today trucks and load carriers are designed and optimised towards a limited variance set of usage and for maximum payload. In the future there will be an increasing need for optimised load efficiency for each mission of a truck, and for optimising the freight carried on a finite length of road. Ideally, future trucks and load carriers are easily adaptable for each freight, load and mission. And, in the operation phase, the vehicle combination automatically adjusts itself to the actual driving environment (i.e. traffic situation, topology, and payload). This option has large potential to contribute to the achievement of the European Commission's targets for reducing the consumption of fossil energy resources, increasing transport- and fuel efficiency and reduction of greenhouse gas emissions. The objective of the project is to develop and demonstrate innovative and energy efficient trucks and load carriers for long distance transport assignments with an improved load efficiency leading to an overall 25% less energy consumption on a t/km basis and a lower impact on the road infrastructure.
OBJECTIVES:	- Develop and demonstrate an innovative tractor-semitrailer with a configurable distributed electric Hybrid-on-Demand driveline in the (semi)trailer - Develop a pre-standard framework for the electric Hybrid-on-Demand driveline concept - Develop and first-time demonstration of a tractor semitrailer vehicle featuring a distributed hybrid driveline including an electrically driven semitrailers - Develop toolbox with aerodynamic devices/technologies including guideline for selecting options, and demonstrate devices as part of the total vehicle demonstrations - Develop toolbox with load – and loading efficiency devices/technologies including guideline for selecting options, and demonstrate devices as part of the total vehicle demonstrations
RESULTS:	The main results of the project will be: - Key performance indicators and use cases - Holistic simulation study results for the design of the Hybrid on demand (HoD) driveline concepts and use for optimal component selection - HoD driveline concept defined, implemented and demonstrated in truck (semi) trailers - Tool box with a set of aerodynamic solutions and trailer concepts for optimised transport efficiency (loading)
DOROTHY RELATED ITEMS:	- Non-conventional vehicles - Storage systems for transport

5. MATRIX STORAGE SYSTEMS FOR TRANSPORT

Name of the technology	Description	Project	Partners Valencian region	Status	Main applications in UL	Use and results of applications done	Perceived potential	RTD activities in progress	Web	Images
Compact containers with extensible legs	New load units that ensure the interoperability between the freight bus and the distribution vans. The design is based on compact containers with extensible legs for easy transhipment operations, that means no cranes or complex actuators on the vehicles, no special equipment in the depots and in the public areas;	CITYLOG		Ended (2013)	The new load units facilitate the interoperability between a high-capacity vehicle and the distribution vans	Test cases implementation in Lyon, Berlin and Turin	New transhipment-based model where a high-capacity vehicle operates as a "freight bus" to carry several load units close to the city centre. Then, the final delivery is a task for the distribution vans		http://www.city-log.eu/	
Configurable and Adaptable Trucks and Trailers for Optimal Transport Efficiency	Innovative and energy efficient trucks and load carriers	TRANSFORMERS		Ongoing (2017)			The overall expected impact is: ->Within the project runtime: to demonstrate 25% actual fuel gains of a distributed Hybrid-on-demand (HoD) driveline in combination with load and aerodynamics optimizations on selected scenarios. ->And: to agree on a common truck-trailer pre-standard energy management interface, enabling a 70% Hybrid-on-demand (HoD) market penetration by 2040.	Previous R&D on load - and loading efficiency has yielded various designs, technologies and devices for improved load – and loading efficiency. In TRANSFORMERS, the focus is to assess the various options and to select the optimal combination in terms of load - and loading efficiency, fuel saving potential, and cost.	http://www.transformers-project.eu/	
POLICAR (AUCAR-TRAILER)	POLICAR is a trailer truck which converts into a closed box truck by means of a simple operation using a remote control.				The two boxes which make up the semi-trailer are movable and can be coupled to the tractor unit, so that they can carry goods for two different distribution areas in separate boxes and even at different temperatures on a single trip.	On sale	-> Small initial investment -> up to 30% reduction in fuel consumption and CO2 -> Half the number of drivers -> Sealable anti-sabotage boxes -> savings on repairs, maintenance, taxes and insurance -> loading of both boxes from a single bay -> possibility of two temperatures -> keeping up the cold chain -> automatic locking (no twist-lock)		http://www.aucartrailer.com/en/Policar/	

isothermal mobile boxes	Isothermal mobile boxes				Made with non-toxic materials thus suitable for transporting foodstuffs. An optimal thermal coefficient (K) is ensured, which allows food to be stored in optimal conditions. Positioned on the ground but also transportable on a trailer or pickup. Also ideal for small retailers and / or restaurateurs. Washable with normal detergents. Do not require constant and special maintenance.	On sale			http://www.assoplastsrl.it/allestimenti/celleATP.html	 
thermal divisors	Thermal divisors or separators for trucks					On sale			http://ventascarpashys.blogspot.com.es/2010/04/separadores-termicos.html	 

SISTEMA C.R.S.	System designed for securing pallets with drinks. The load is secured for 4 shoring bars that go from floor to ceiling.					On sale			http://cargotrack.es/index.php/sliders/sistema-de-carga/sistema-c-r-s