

Technology Mission Connect
17th – 20th October 2010
Participants

Participants:

1. ASCAMM
2. AUSA
3. CIRCUTOR
4. CITCEA
5. CTM
6. FICOSA
7. IDIADA
8. IREC
9. RIEJU
10. VELMUS

Fundacio Privada ASCAMM	
Contact person: Jordi Romero Mora	Phone: +34-935944700, +34648731293 e-mail: jromero@ascamm.com
Description of the product/technology/project:	We propose the integration of Phase Change Materials in the plastic casing of the battery pack through plastic injection moulding in order to improve the thermal management of the system. The PCM-containing matrix surrounding the different cells allows for a better heat removal and also keeps a uniform temperature profile in the different cells.
Applications:	The aim of the project is the reduction of the power consumption and the downsizing of the cooling system needed for the refrigeration of the battery pack in a HEV/EV vehicle (but also other thermal mgmt applications in HEV/FEV).
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	Different profiles needed: <ul style="list-style-type: none"> - Provider of tailored PCM- Industrial Partner - Battery Pack Manufacturer- Industrial Partner - Life cycle & recycling of PCM casing- RTD or Industry - Thermal BP Testing- RTD
International R+D collaborative programmes interested in:	<input checked="" type="checkbox"/> 7PM European Calls (Transport, Energy, ICT, NMP) <input checked="" type="checkbox"/> Green Car PPP <input checked="" type="checkbox"/> International Collaboration in technology applications (e+ , eurostars) <input type="checkbox"/> Other: <hr/>
Previous Experiences:	<p>Previous Contacts with the country: Long-time activity and relations with Germany and German Enterprises & RTDs</p> <p>Previous R+D collaborations: Specific collaboration with different RTD organisations inside Fraunhofer Net and other institutions in 5-6 & 7 FPM (RWTH-WZL, FhG-IKV, FhG-IPT, FhG-ISI, FhG-ILT, BIBA, LWP, IFW)</p>

AUSA CENTER SLU	
Contact person: Enric Pons	Phone: 606976515 e-mail: epons@ausa.com
Description of the product/technology/project:	Electric Multifunction Platform for Municipal Services Applications.
Applications:	Sweepers, Spray Water Cleaners, Snow ploughs and salt sprayers, etc.
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	Battery packaging, Electric drivelines Electronic control systems.
International R+D collaborative programmes interested in:	<input type="checkbox"/> 7PM European Calls (Transport, Energy, ICT, NMP) <input checked="" type="checkbox"/> Green Car PPP <input type="checkbox"/> International Collaboration in technology applications (e+ , eurostars) <input type="checkbox"/> Other: <hr/>
Previous Experiences:	Previous Contacts with the country: Bosch Rexroth as a technological supplier for a hydrostatic/electronic system for similar diesel platform.

CIRCUTOR S.A.	
Contact person: <ul style="list-style-type: none"> • Alfonso Collado • Joan Ros 	Phone: 937071170 / 937452900 e-mail: acollado@gemgroup.es jros@circutor.es
Description of the product/technology/project:	Fast recharge systems for Electric vehicle
Applications:	Electric vehicles Recharge
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	Manufacturers of vehicles
International R+D collaborative programmes interested in:	<input type="checkbox"/> 7PM European Calls (Transport, Energy, ICT, NMP) <input type="checkbox"/> Green Car PPP <input checked="" type="checkbox"/> International Collaboration in technology applications (e+ , eurostars) <input type="checkbox"/> Other: _____
Previous Experiences:	Previous Contacts with the country: SIEMENS, BENDER, EATON , DOEPKE, DOLD, ORMAZABAL Previous R+D collaborations: SIEMENS, ORMAZABAL GMBH

CITCEA	
Contact person: Nayib Joussef Belandria	Phone: 934016503 e-mail: nayib.joussef@citcea.upc.edu
Description of the product/technology/project:	<p>The CITCEA-UPC has already developed innovation projects for industry/administration regarding electrical vehicles (EV):</p> <ul style="list-style-type: none"> ⊕ Fast rate battery chargers: 700 V, 40 kW Battery charger for a hybrid garbage truck. ⊕ The impact of EV recharging on the electrical network. ⊕ Monitoring and analysis of data from recharging of a little urban services E.V convoy. ⊕ Technical specifications of outdoor recharging points for public use in Barcelona City. ⊕ Technical specifications of indoor recharging points for private and public parking. <p>CITCEA-UPC also can develop:</p> <ul style="list-style-type: none"> ⊕ Bidirectional dc/dc converter for EV applications. ⊕ Bidirectional fast rate battery chargers for vehicle-to-grid (V2G) applications. ⊕ Bidirectional big capacity battery chargers for battery-to-grid (B2G) applications in electric charge service stations. ⊕ EV and renewable energies integration into a micro grid: vehicle-to- microgrid (V2M) application. ⊕ Boost converters for ultra-capacitor integration in EV. ⊕ Battery Management System (BMS) and Ultra-capacitor-Management System (UMS). ⊕ Design of electrical drives for EV power train. ⊕ Design of power inverters for EV power train. ⊕ EV • Industrial ICT systems for EV.
Applications:	<ul style="list-style-type: none"> • Technical specifications and standards for points charging infrastructure development in cities: public areas and private parking. • Slow and fast EV recharging points. • Technology components for EV.
Partner Profile (partner profile, specific activity, technology and tasks to be performed by the intended partner)	<ul style="list-style-type: none"> • Industry, Institution and Research Centres interested in developing projects regarding power electronics for EV applications and studies about impact of EV developing over infrastructures. • Manufacturing high technologies components and equipments.

Fundació CTM Centre Tecnològic	
Contact person: Juanjo Martin	Juanjo.martin@ctm.com.es Phone: (34-9) 38777373
TITLE	Control and Diagnostic Technologies to Drive Electric Vehicles
ABSTRACT Brief description of the benefits of the technology offered/sought including key technical or competitive advantages or details of the applications in which it will be used	<p>CTM is offering its expertise, capabilities and developments in drive chain for electric vehicles. Our knowledge and capabilities compresses motion control, diagnostic, digital electronics, instrumentation and sensing to perform digital electronic devices to drive electric vehicles.</p> <p>Three Spanish Patent applications and one international (EU, USA, CAN & MEX) Patent application of Instrumentation system and signal processing techniques to detect faults in electric motors.</p> <p>Five Ph.D. Thesis and developments in motion control by means of Vector Control and DTC technologies to control electric motors for electric vehicles.</p> <p>Software integration capabilities to develop digital supported (DSP) prototype.</p> <p>Main advantage is the integration of different motion control solution, testing and fault tolerant control in DSP control board.</p> <p>We are looking for open research collaboration projects, development projects and industrial partners interested in our patent applications and technologies for new R&D.</p>
DESCRIPTION OF THE TECHNOLOGY OFFERED/SOUGHT	
<ol style="list-style-type: none"> 1. Background 2. Description of product / process 3. What does the product or process do? 4. How does the product or process work? (without disclosing any confidential information) 5. Under what conditions does the product or process work? 6. What are the applications of the product or process? 	<ul style="list-style-type: none"> • Background: The background of the invention and technology are Motion Control by means of closed loop or open loop (sensorless) control technologies and fault monitoring systems, by means of MCSA (Motor Current Signature Analysis). These technologies have been developed under Spanish government funding projects. The main industrial results have been protected by patent and main scientific advances have been published in International Journals • Description of the product: Device and Method to perform fault detection and control on Electric Motor. System introduces the analog electronic design and advanced signal processing techniques. • What does the product do? The product is capable to diagnose and control mechatronic chains. • Under what conditions does the product work? The product has been tested in our laboratory facilities. The product has also been introduced partially on DSP prototype and tested in pilot plant. • Applications: Electric Vehicles, More Electric Aircraft, Railway, and Mechatronic Systems

<p>INNOVATIVE ASPECTS (TECHNOLOGY OFFER)</p> <p>What are the innovative aspects in relation to existing products or processes? [Use details from patent application for example, if applicable.]</p>	<p>The system is capable to detect faults due to bearing currents establishing a relation between current discharges in common-mode and bearing health condition.</p> <p>The system is capable to detect faults under transient conditions. Transient could be torque transients or speed transient.</p> <p>CTM seeks to implement the system in different areas (Electric Vehicles, More Electric Aircraft, Railway, and Mechatronic Systems) taking into account the peculiarities of each case.</p>
<p>MAIN ADVANTAGES / BENEFITS</p> <p>(TECHNOLOGY OFFER)</p>	<p>The method and technology can be implemented on DSP board and can perform real time fault condition analysis.</p> <p>The technology allows improving motion control and implementing fault control routines.</p>

FICOSA	
Contact person: Xavier Motger	Phone: +34 600 509 458 e-mail: xmotger@ficsa.com
Description of the product/technology/project:	Battery Packs (BMS+ cell assembly)
Applications:	EV/PHEV vehicles
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	Cell producers
International R+D collaborative programmes interested in:	X 7PM European Calls (Transport, Energy, ICT, NMP)
Previous Experiences:	Previous Contacts with the country: Gaia Company Previous R+D collaborations: MARTA – BATTMAN – CENIT VERDE -

IDIADA Automotive Technology S.A.	
Contact person: José Manuel Barrios	Phone: 00 34 977 16 60 21 e-mail: jmbarrios@idiada.com
Description of the product/technology/project:	We are interested in the participation in projects related with electro mobility, reduction of emissions, Power train efficiency, safety, GALILEO, vehicle dynamics. We could offer our capabilities in engineering, testing and simulation.
Applications:	<p>Topics of SST and ICT that we are interested:</p> <p>7.2.4.1 Integrated safety and security for surface transport systems SST.2011.4.1-1. Design of vehicle safety systems for a better protection of vulnerable road users and other under-protected and less safe user groups</p> <p>7.2.5.2 Competitive surface transport products and services SST.2011.5.2-2. Advanced and cost effective road infrastructure construction, management and maintenance</p> <p>7.2.7. THE 'EUROPEAN GREEN CARS INITIATIVE</p> <p>GC.SST.2011.7-1. Specific safety issues of electric vehicles GC.SST.2011.7-2. Integrated thermal management GC.SST.2011.7-3. Efficient long distance transport – future power train concepts (includes: advanced combustion and after-treatment) GC.SST.2011.7-4. Efficient long distance transport – waste heat recovery GC.SST.2011.7-5. Urban–interurban shipments GC.SST.2011.7-6. Integrated intermodal traveller services GC.SST.2011.7-7 Capability of improving and exploiting capacity GC.SST.2011.7-10. Architectures of Light Duty Vehicles for urban freight transport GC.SST.2011.7-11. Green corridors and supply chain management GC-ICT-2011.6.8 ICT for fully electric vehicles Galileo.2011.1.2-1. Use of EGNOS and early GALILEO services for professional applications Galileo.2011.1.3-1. Use of Galileo and EGNOS for scientific applications and innovative applications in new domains Galileo.2011.1.4-1. Use of EGNOS and GALILEO for safety-of-life applications for all transport modes</p>

<p>Partner Profile</p> <p>(Partner profile, specific activity, technology and tasks to be performed by the intended partner)</p>	<p>Applus IDIADA is an engineering partner to the automotive industry providing complete solutions for product development projects worldwide. Our assets:</p> <ul style="list-style-type: none"> ⊕ Human resources An international team of more than 900 skilled and experienced engineers and technical experts specializing in automotive product development ⊕ First class state-of-the-art testing facilities including a modern comprehensive proving ground and leading-edge laboratories ⊕ International presence in 17 countries. To be close to our clients, to perform projects locally and better understand each market requirements <p>Our main services are: Engineering, Homologation, Proving ground testing and Testing facility design.</p> <p>We are offering comprehensive engineering capabilities for turnkey vehicle development projects at an international level: Concept, CAD, CAE and testing of all major vehicle functionalities with unique in house state-of-the-art facilities.</p> <p>Our automotive product development is focus:</p> <ul style="list-style-type: none"> ⊕ To assure fulfilment of the legal and consumer requirements ⊕ To assure satisfaction of the final users <p>Main fields:</p> <p>Passive Safety (Structural analysis / Restraint system integration / Occupant protection / Pedestrian protection)</p> <p>Active Safety (Advanced chassis evaluation techniques / Chassis tuning & system development / Brake system development)</p> <p>Power train (Integration / Engine calibration / CNG conversion / Alternative fuels / Anti-pollution systems)</p> <p>NVH (Interior noise tuning / Noise and vibration releases / Exterior noise / Vibration fatigue)</p> <p>Comfort (HVAC system development and validation / Thermal comfort)</p> <p>Reliability (General vehicle durability / Power train / Body & closures / Components fatigue tests)</p> <p>Electronics (On-board electronics systems development support & validation / EMC engineering & technical solutions / Validation of ADAS)</p> <p>Industrial Processes (Plastic moulding / Stamping / Welding fixtures / Material testing)</p> <p>Official homologation capabilities recognised in all markets world-wide</p> <ul style="list-style-type: none"> ⊕ Duly accredited European whole-vehicle type-approval agency ⊕ Accredited homologation services for Japan, Brazil, Australia and many other countries in South America and the Middle East ⊕ Project Management of homologation programs for others non European countries such as India, China, Korea, Russia, South Africa and for self-certification countries, such as the USA ⊕ Participation in the development of new regulations (Geneva working groups under WP29)
<p>International R+D collaborative programmes interested in:</p>	<p>YES 7PM European Calls (Transport, Energy, ICT, NMP)</p> <p>YES Green Car PPP</p> <p>YES International Collaboration in technology applications (e+ , eurostars)</p>
<p>Previous Experiences:</p>	<p>Previous Contacts with the country: DAIMLER, CONTINENTAL, IKA, BAST, etc...</p> <p>Previous R+D collaborations: 6th FP: APROSYS, TRACE, etc... (finished), 7th FP: ASSESS, eVALUE, ID4EV, etc... (on-going)</p>

IREC (Catalonian Institute of Research in Energy)	
Contact person: Xavier Crusat Contact person: Mar Martínez	Phone: 662633892 e-mail: xcrusat@irec.cat Phone: 673813811 e-mail: mmartinez@irec.cat
Description of the product/technology/project:	<ul style="list-style-type: none"> - Integration of electrical vehicles to the grid (power electronics of the charge infrastructure, grid stability, communications V2G, billing, etc) - Green Economy (regulatory barriers, public incentives, modal transport planning, life cycle, etc)
Applications:	<ul style="list-style-type: none"> - Developing new products: vehicle charger, V2G communication ... - Developing new services: billing system, chargers communication, - Developing new framework to maximise electrical vehicle penetration: standards, new regulation...
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	<ul style="list-style-type: none"> - Electrical companies - Automotive companies - Other research institutes: Fraunhofer + Robert Bosch
International R+D collaborative programmes interested in:	<ul style="list-style-type: none"> X 7PM European Calls (Transport, Energy, ICT, NMP) X Green Car PPP X International Collaboration in technology applications (e+ , eurostars)
Previous Experiences:	<p>Previous Contacts with the country: NO</p> <p>Previous R+D collaborations: NO</p>

RIEJU SA	
Contact person: Inocencio Gonzalez Diez	Phone:677 495 117 e-mail: gerencia@catmoto.org
Description of the product/technology/project:	Development of zero emission vehicles (motorcycles, scooters) for applications such as: -urban mobility -off-road riding -fleets
Applications:	Urban commuting scooter for environmental friendly mobility Urban transport Recreational off-road riding without damaging the environment Fleet transport and commuting Fast deliveries on urban environments Last mille deliveries
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	Electric motor supplier: Taylor made motor construction for specific motorbike use. High efficiency (above 90%), low weight, high performance – torque, power. F.E: CPM Li-Ion battery provider, BMS integrated. Scalable systems on-board battery charger / off-road battery chargers. Electronic dash boards with CAN-communications F.E: SB limotive.
International R+D collaborative programmes interested in:	X 7PM European Calls (Transport, Energy, ICT, NMP) X Green Car PPP
Previous Experiences:	Previous Contacts with the country: Electric motors: PERM motor, CPM (compact power motors) Battery: DPS Europa (Wolfsburg) Previous R+D collaborations: CPM DPS Europa

VELMUS IDI, S.L.	
Contact person: Florencio Cuerno	Phone:0034 628 286 182 e-mail: velmus@velmus.net
Description of the product/technology/project:	Light Electric vehicles (L2-L7) Sustainable Urban Mobility Services ITS, V2G, 3phasic motor, Front wheeler
Applications:	Mobility in urban areas Vehicle for Light Delivery & personal Transport
Partner Profile (Partner profile, specific activity, technology and tasks to be performed by the intended partner)	Vehicle Systems <ul style="list-style-type: none"> - suspension simulation - electronics ITS = electronics integration (battery management) Power Management
International R+D collaborative programmes interested in:	<input checked="" type="checkbox"/> 7PM European Calls (Transport, Energy, ICT, NMP) <input checked="" type="checkbox"/> Green Car PPP <input checked="" type="checkbox"/> International Collaboration in technology applications (e+ , eurostars) <input type="checkbox"/> Other: <hr/>
Previous Experiences:	Previous Contacts with the country: WET Previous R+D collaborations: