



2015 EU-CHINA

SMARTMOB 2.0

VALORE AGGIUNTO LAZIO

SMARTMOB 2.0 PILOT PROJECT ON SMART MOBILITY

Encouraging and developing joint R&D activities between Italy and China

SMARTMOB 2.0 项目

鼓励并发展中意联合研发活动

China-Italy Projects
Matchmaking Session



中意项目媒介培训课程



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10th High Level Seminar on Regional Policy Cooperation
A Side Event of the EU-China Summit

EU Headquarters, Berlaymont Building (Rue de la Loi/Wetstraat 200), Brussels
Monday 29 June 2015



SAPIENZA
UNIVERSITÀ DI ROMA



拉齐奥地区



2015 EU-CHINA

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POMOS
Pole for Sustainable Mobility
of Lazio Region



POMOS
拉齐奥地区可持续交通标杆

The Pole for Sustainable Mobility (POMOS) is a multidisciplinary research and education center in Italy within the University of Rome "Sapienza" and financed by the Italian Ministry of the Environment and by the Region of Lazio.



可持续交通标杆(POMOS)是意大利罗马大学“Sapienza”的一个学科研究与教育中心，由意大利环境部和拉齐奥地区联合资助。





POMOS
Pole for Sustainable Mobility
of Lazio Region

The main aim of POMOS is to transfer knowledge from academia to industry through R&D activities, mainly focused on New Energy Vehicles and Energy Storage and Charging Systems, Intelligent transportation and vehicular communication systems, Smart Grids.

POMOS的主要目的是借助研发活动将学术应用于行业, 学以致用, 侧重于新能源机动车、能源储存、充电系统、智能运输、车辆通讯系统以及智能电网。



POMOS
拉齐奥地区可持续交通标杆





POMOS
Pole for Sustainable Mobility
of Lazio Region



POMOS
拉齐奥地区可持续交通标杆

At present POMOS has a network of more than 160 contacts among institutions, associations, industries, foundations etc. and has already stipulated an agreement with many of them.

Among them there are 100 small or medium enterprises and 10 large companies operating in key sectors as electronics, electro mechanics and ICT, which are supported by POMOS in their R&D activities through the development of prototypes and the commercialization of the final product.

如今, POMOS已形成拥有160余个联络点的庞大网络, 覆盖教育机构、协会、行业、基金会等多个领域, 并与多家机构签订了协议。

其中约有100家中小型企业从事电子、机电、ICT等关键领域, POMOS在研发活动中通过制定技术原型和成品商业化向他们提供支持。





POMOS
Pole for Sustainable Mobility
of Lazio Region

POMOS developed many prototypes characterized both by a very high technological level and a typical “Made in Italy” design emphasizing the Italian quality and taste.

POMOS开发的诸多技术原型多具有很高的技术水平，强调意大利品质与品位的典型“意大利制造”设计等特点。



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POMOS
拉齐奥地区可持续交通标杆



D.I.E.T.
DIPARTIMENTO DI INGEGNERIA
DELL'INFORMAZIONE, ELETTRONICA
E TELECOMUNICAZIONI
SAPIENZA
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POLOMOBILITÀSOSTENIBILE
RegioneLazio

POLOMOBILITÀSOSTENIBILE
Sistemi Territoriali

AEROPOMOS

POLOMOBILITÀSOSTENIBILE
Sistemi Intelligenti

POLOMOBILITÀSOSTENIBILE
Reparto Corse

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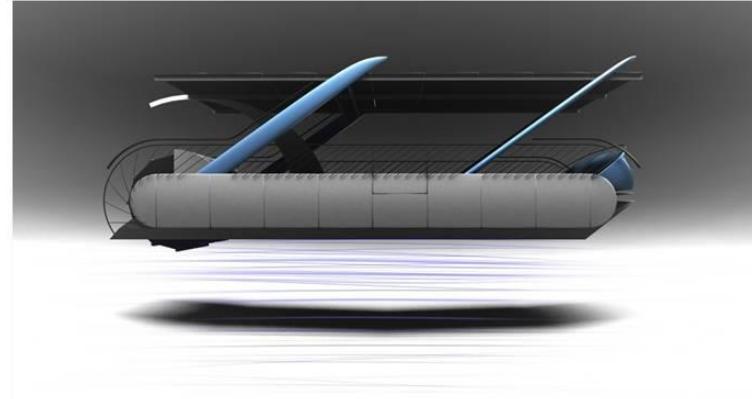
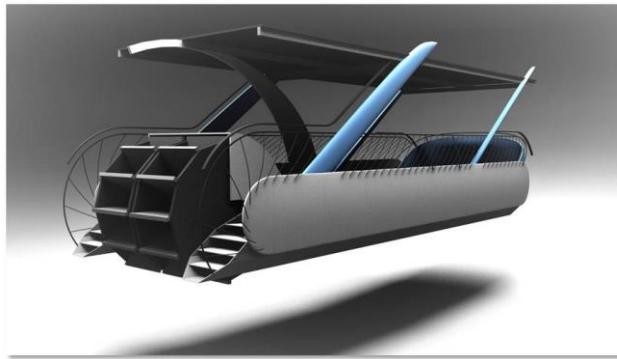
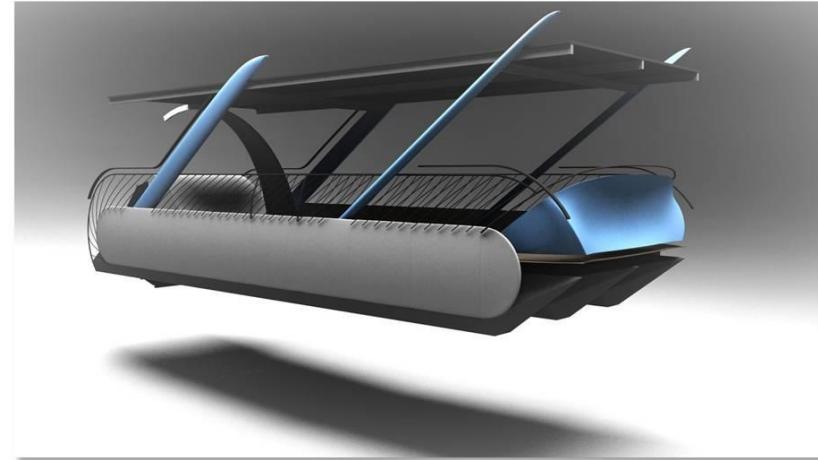
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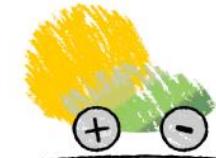
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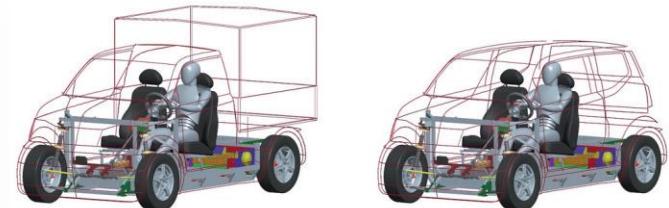
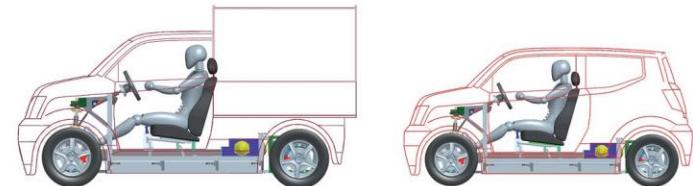


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DINESTO
Drive the Innovation in
Energy Storage

 DINESTO
DRIVE THE INNOVATION IN ENERGY STORAGE

DINESTO
推动能源储备创新

DINESTO (Drive the Innovation in Energy Storage) is an academic innovative Spin-Off company born by the idea of merging the competences of different research groups of the main Universities in Rome.

DINESTO（推动能源储备创新）是一家学术创新衍生公司。最初创立该公司旨在融合罗马主要高校多家研发机构的专长。

The main objective of Dinesto is to improve technologies developed and patented within research programs in the fields of automotive and energy production and storage allowing their technological transfer.

DINESTO的主要目标是改进汽车、能源生产与储备领域研发项目中开发和获得专利的技术，实现技术转让。



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DINESTO
Drive the Innovation in
Energy Storage

DINESTO works in the following areas:

1. Energy storage systems
2. Energy and power devices for electric or hybrid vehicles and charging system
3. Stand-alone systems for energy production and storage
4. Smart grids



DINESTO
推动能源储备创新

DINESTO应用于如下领域：

1. 能源储备系统
2. 电车或混合动力车的能源与动力设备以及充电系统
3. 能源生产与储备的独立系统
4. 智能电网



Management and Coordination of R&D complex projects: DINESTO is leading complex R&D projects coordinating partnerships of big and medium enterprises and research centers.

管理, 协调复杂的研发项目: DINESTO负责管理复杂的研究项目, 协调大中型企业与研发中心的合作关系。





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Technology Transfer: DINESTO owns two patents regarding a method that allows to develop an environmentally friendly material able to be used as cathode in lithium-ion batteries: the lithium-iron-phosphate. The patented methods allows to produce the material with an **higher specific energy** and **higher efficiency at a lower cost** compared to other conventional methods.

技术转让:DINESTO拥有2项专利，能够制造环境友好型材料，用作锂离子电池的阴极:锂-铁-磷酸盐。较之于传统方法，该专利方法能够生产成本更低，能量、效率更高的材料。



Value Proposition

We are looking for Chinese investors and partners to produce our nanostructured powder at an industrial scale. We can actually produce small amount of the powder at a laboratory scale and we offer free samples of the powder to battery manufacturers.

我们希望寻找中国投资人或合作伙伴，以实现该电池技术的量产。

我们实验室已经可以生产少量的电池粉末，并乐意为电池生产商提供样品。





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COOPERATION AND COLLABORATIONS PROPOSALS

合作与协作提议

Create business opportunities for Chinese and Italian companies and cooperation R&D project proposals for SMEs, universities, research centres and municipalities.

为中意双方企业创造更多业务机会，为中小型企业、高校、研发机构和政府机构提供更多研发项目提议。



Best practices : Replication of successful projects in China

最佳实践：在中国复制意大利的成功项目





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PROPOSAL

提议

Development of bilateral joint research projects on advanced energy and sustainable mobility technologies between SAPIENZA POMOS University of Rome and Chinese Universities or other Subjects.

罗马 SAPIENZA POMOS 大学与中国高校就先进能源与可持续交通技术方面开展联合研发项目或其他课题。

Proposal for an **agreement between** SAPIENZA-POMOS and the Chinese partners to promote outreach programs, lecturers, students exchange, summer schools, projects and technologic transfer initiatives.

建议SAPIENZA-POMOS与中方达成协议, 推动外展计划、讲师、学生交换、夏令营、项目以及技术转让方案。



Agreements 协议

Summer School

夏令营

Seminars and Invited Professors

研讨会与特邀教授





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A memorandum of understanding (MoU) describing a bilateral agreement between POMOS/SAPIENZA and Chinese Partners.

理解备忘录(MoU)是指POMOS/SAPIENZA 与中方签订的双边协议。

It will express a convergence of will between the parties, indicating intended common lines of action to be discussed.

汇集了各方对有待讨论的共同行动方案的意愿。



Jiao Tong University
上海交通大学



Who's next ?
下一个是谁？

E-POW亿能电子

ENEA

?

TIANJIN

LIUZHOU



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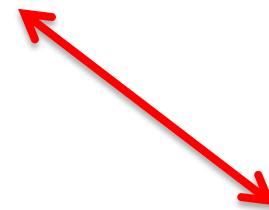


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Italian and Chinese Partnerships

中意合作伙伴



Shared actions and Initiatives

共同的行动与方案

Integrated Innovation Project

一体化创新项目





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A real possibility: the SMARTMOB 2.0 Project

切实可行的项目：SMARTMOB 2.0 项目

SMARTMOB 2.0

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The SMARTMOB 2.0 Project

SMARTMOB 2.0

SMARTMOB 2.0 项目

DINESTO and POMOS are coordinating the SMARTMOB 2.0 project.

DINESTO和POMOS正在协调SMARTOB 2.0 项目。



This project, funded with EU funds and private investments, aims at the touristic exploitation of a large naturalistic area in the region of Lazio in Italy, configuring mixed routes (waterways, channels and bicycle-vehicles/pedestrian paths) expanding the concept of land sustainable mobility to waterways and small lakes.

此项目由欧盟和民间出资运行，旨在对意大利拉齐奥地区的一处天然生态区进行旅游开发，设计了多条旅游路线（水路、渠道以及自行车-机动车/人行道），将土地可持续交通的概念应用于水路和小型湖泊。



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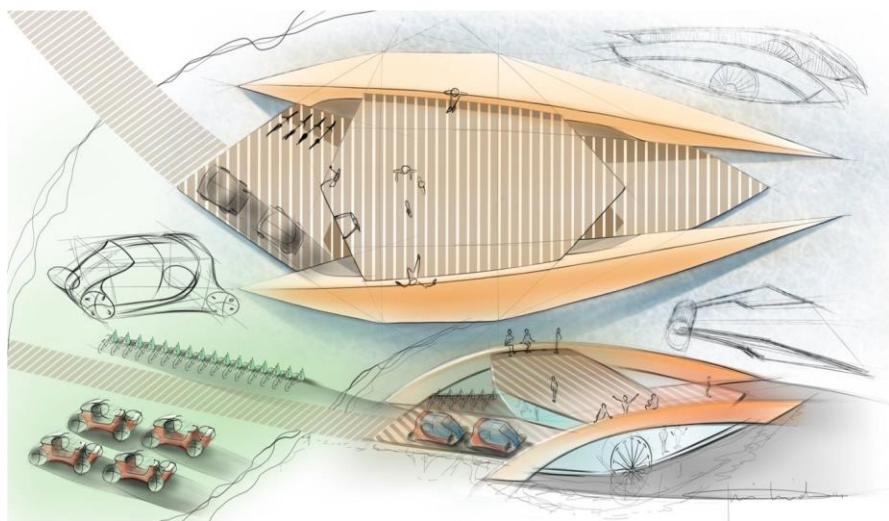
The SMARTMOB 2.0 Project

SMARTMOB 2.0

SMARTMOB 2.0 项目

The goal is the restoration of historical, archaeological and natural zones in an innovative way and with the use of new technologies and environmentally sustainable means of transportation and energy production. The project is carried out by a partnership of 14 companies and five universities including a Chinese university.

该目标旨在以创新方式，运用新技术和有利于环保的运输与能源生产方式恢复历史、考古遗迹和自然带。该项目由14家企业和包括一所中国高校在内的5所高校联合开展。



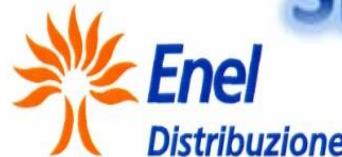
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Regione Lazio



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The project is carried out by a partnership of 14 companies and five universities including a Chinese university

该项目由14家企业和包括一所中国高校在内的5所高校联合开展。



SMARTMOB 2.0



SAPIENZA
UNIVERSITÀ DI ROMA



NEWAVE Italia



CONSORZIO
ROMA RICERCHE



UNIVERSITÀ DEGLI STUDI DI ROMA
TorVergata



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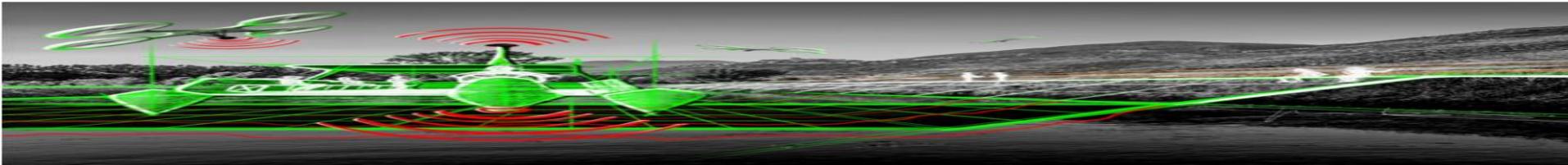


The project foresees the following main phases:

- 1) Study of the navigability of the channels and their integration with pedestrian, vehicles and cycle paths.
- 2) Implementation of full electric boats and electric assisted bicycles and New Energy Vehicles.
- 3) Implementation of Charging Infrastructures Integrated with Renewable Sources.
- 4) Integration of Telecommunication Infrastructures and related Fleet Management Services.
- 5) Development of Monitoring systems, on Board sensors and use of air/land and water Drones.

该项目预计将包括以下主要阶段：

- 1) 研究渠道的适航性及其与人行道、机动车和环形路线的整合状况。
- 2) 配置全电动船只、电动自行车和新能源机动车。
- 3) 配置使用再生能源的充电基础设施。
- 4) 整合通讯基础设施和相关车队管理服务。
- 5) 开发监控系统，车载遥感器，使用空中/陆上和水上无人机。



推动创新能源储存





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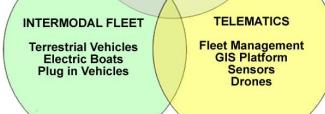
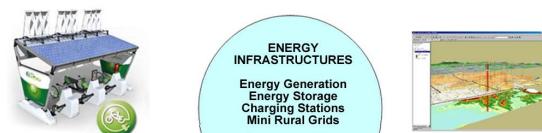
The SMARTMOB 2.0 Project

SMARTMOB 2.0

SMARTMOB 2.0 项目

The projects foresees the use of small electric boats for the navigation of inland waters and terrestrial zero emission vehicles like conventional and electric assisted bicycles and other types of light electric vehicles developed specifically for the project. The whole mobility system will be supported by charging infrastructures also integrated with renewable energy systems and ICTinfrastructures for fleet tracking and other functions

该项目计划在内河水域使用小型电动船只和陆地零排放机动车，如常规电动自行车和专为项目研发的其他轻型电动车。整个交通系统将由配有再生能源系统的充电基础设施和用于车队追踪等功能的ICT基础设施提供支持



实施车载自组织网络技术

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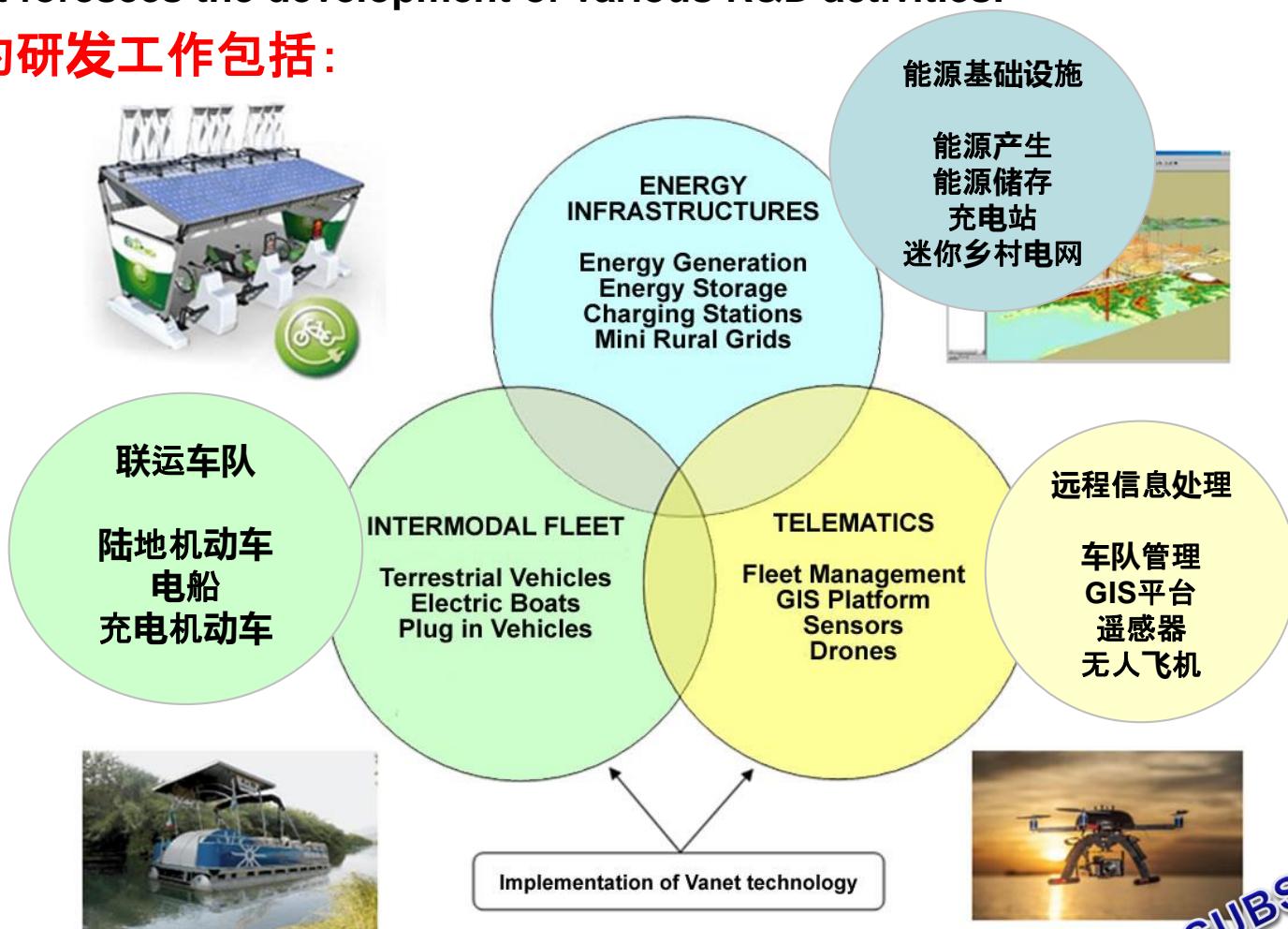




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The project foresees the development of various R&D activities:

该项目的研发工作包括：



3 SUBSYSTEMS





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The SMARTMOB 2.0 Project

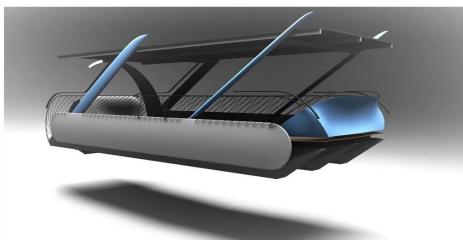
SMARTMOB 2.0

SMARTMOB 2.0 项目

Development of an intermodal sustainable mobility system. The system includes electric vehicles (electric bicycles, rickshaws/quads; electric vehicles and hybrid 4x4; small, medium and large electric boats). Analysis of physical-morphological and environmental performance of different paths will enable the identification of the technical requirements for the vehicles to be used.

开发联运可持续交通系统。

该交通系统包括电动机动车(电动自行车、黄包车/汽车;电动机动车和复合型4x4;大中小型电动船)。分析不同路段的物理-形态和环境状况,从而确认待用机动车的技术要求。



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The SMARTMOB 2.0 Project

SMARTMOB 2.0

SMARTMOB 2.0 项目

Development of a micro grid for the production and distribution of renewable energy. The system consists of ground stations, docks and charging stations powered by renewable sources. All the elements of the system will be integrated and monitored by a control centers

形成再生能源生产与分配的微型电网。该系统包括地面卫星接收站、码头和以再生能源为动力的充电站。该系统的所有环节将被整合到一处，并由监控中心监管。



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The SMARTMOB 2.0 Project

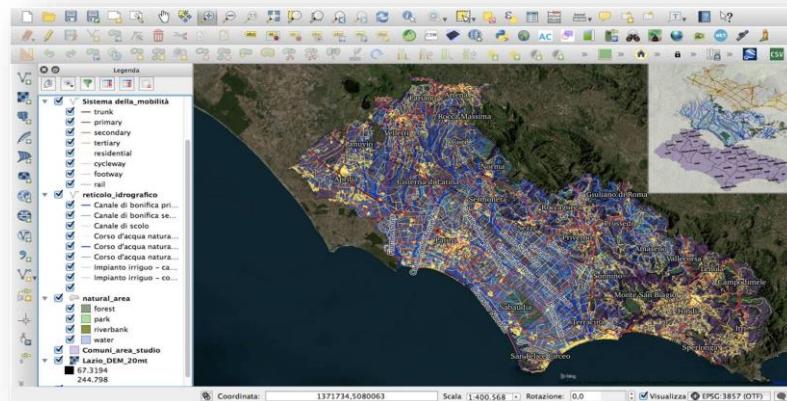
SMARTMOB 2.0

SMARTMOB 2.0 项目

Development of a database for a Geographic Information System (GIS) platform. A computerized information system will allow the acquisition, storage, analysis, visualization of information coming from geographical data (geo-referenced). The database will also use a networks of sensors for continuous updating of significant environmental parameters. The sensors will be both fixed and mobile, thanks to the use of drones.

为地理信息系统(GIS)平台开发数据库。

计算机信息系统可获取、存储、分析、显示来自地理数据的资料(与地学有关)。该数据库将使用遥感网络不断更新主要环节参数。由于使用无人机，遥感器将包括固定和移动型遥感器。





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The SMARTMOB 2.0 Project

SMARTMOB 2.0

SMARTMOB 2.0 项目

Development of a monitoring system. Various sensors will be used to collect environmental data and to monitor the status of water, air and vegetation as well as to monitor the vehicles and the arid.

开发监控系统。将使用各类遥感器收集环境数据，监控水、大气和植被的状态并用于监控机动车和电网。



Moreover the system represents a **best practice** of an Integrated Territorial System of Sustainable Mobility under development in Europe and will be used as a reference case to be proposed and reproduced to other similar areas in the world.

此外，该系统还是欧洲正在开展的可持续交通集成地面系统的最佳实践，将用作参考案例，建议在世界其他相似地区运用和复制。





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Road Map and Vision

路线图与愿景

Conclusions

结论





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商业提议

Business Proposal

DINESTO and POMOS are proposing a network of Italian companies and Universities to perform and propose R&D projects in China in the field of Sustainable Mobility and Smart Grids.

DINESTO和POMOS提议将意大利企业和高校联合起来执行在中国的研发项目-可持续交通和智能电网研究。

The proposal is about the implementation of the SMARTMOB 2.0 integrated innovation project to be developed in a Chinese region with geographical features similar to the Lazio territory (eg the Tianjin province), so that technologic results achieved in Italy can be replicated and transferred.

该提议涉及在类似于意大利拉齐奥地理环境的中国某地区(如天津直辖市)开发SMARTMOB 2.0集成创新项目,因此可以复制和借用意大利在这方面取



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The project will feature the construction and installation of demonstration facilities in the area identified for the testing and the development of the prototypes.

该项目将以进行原型测试和开发的地区建设和安装示范设施为特色。



The project as a whole, aims at identifying a suitable area of a Chinese region by configuring "zero environmental impact" mixed routes (canals, cycle and pedestrian paths) involving innovative electrically powered transport systems.

该项目的总体目标是通过配置“零环境影响”的综合路线(运河、环形路线和人行道),运用创新电动运输系统,在中国确认一个恰当的区域。





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The use of energy infrastructures for the electric charge, powered also by renewable energy plants, and the use of telematics infrastructure for fleet tracking, management and others functionality, as well as the use of monitoring systems to collect environmental data (through fixed and mobile sensor networks and also using drones) have been planned for to build an effective Smart Grid.



计划使用电力、再生能源支持的能源基础设施，涉及车队追踪、管理等远程信息技术基础设施以及用于收集环节数据的监控系统（借助固定和移动遥感器网络和无人飞机），打造高效的智能电网。





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ROAD MAP AND VISION

路线图和愿景

- 1) 2015-2016: CONCLUSION OF THE PROJECT IN ITALY

2015年-2016年:意大利项目结束

- 2) 2015-2016: SEARCH FOR PARTNERS IN CHINA

2015年-2016年:寻求中国合作方

- 3) 2015-2016: SEARCH FOR PUBLIC AND PRIVATE FUNDINGS IN ITALY, CHINA AND EUROPE

2015年-2016年:寻求意大利、中国和欧盟的公立和民间资金

- 4) 2015-2016: IDENTIFICATION OF A PROPER TERRITORY IN CHINA

2015年-2016年:在中国找到合适的区域

- 5) 2016-2017: IMPLEMENTATION OF A TEST PLANT IN CHINA

2016年-2017年:在中国运行试验车间



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03-2015 China Summit
Shanghai Jiao Tong University
SJTU Advanced Industrial Technology Research Institute



IEEE International Conference on Computer Science and Information Technology IEEE ICCSIT Chengdu



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05-04-2015 China-Italy Projects
Beijing Jiao Tong University



18-05-2015 "Innovation and Smart Cities",
Tianjin Meijiang Convention and Exhibition Center
Tianjin Investment and Trade Fair PECC
Jinghai County, Binhai new Area, Nsp, University



04-04-2015 China-Italy Projects Match Making Session
Beijing International Convention Center



10-06-2015 China_EU Industrial Cooperation and
Investment Fair Liu Zhou





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Liuzhou
柳州

**Yujiapu Financial
District** 于家堡



Jinghai County
靜海縣



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SMARTMOB 2.0

VALORE AGGIUNTO LAZIO

SMARTMOB 2.0 PILOT PROJECT ON SMART MOBILITY

Encouraging and developing joint R&D activities between Italy and China

SMARTMOB 2.0 项目

鼓励并发展中意联合研发活动

China-Italy Projects
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Thank you for your attention !

感谢您的参与 !

Eng. Gianluca Fabbri, PhD², 博士²

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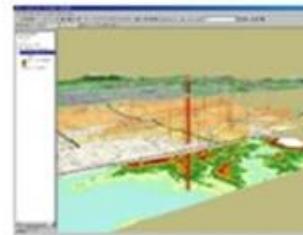
The project foresees the development of various R&D activities:

该项目的研发工作包括：



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