The 7th Forum of Sino-French Sustainable Urban Transport Systems（THNS 2014）
Shanghai November 1-2

50 周年
中国 FRANCE 1964 - 2014 CHINE 法国

Saving energy and new uses: A Sustainability Challenge?

能源节约与新使用方式关于可持续发展的挑战?

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Chairman's delegate Interministerial committee "First Sustainable development agreement China-France"
中法可持续发展合作协议法方部际领导小组主席代表 2008 / 2013

KNOWLEDGE

- 陆地和海洋都在变暖
- **Earth and oceans are getting warm**

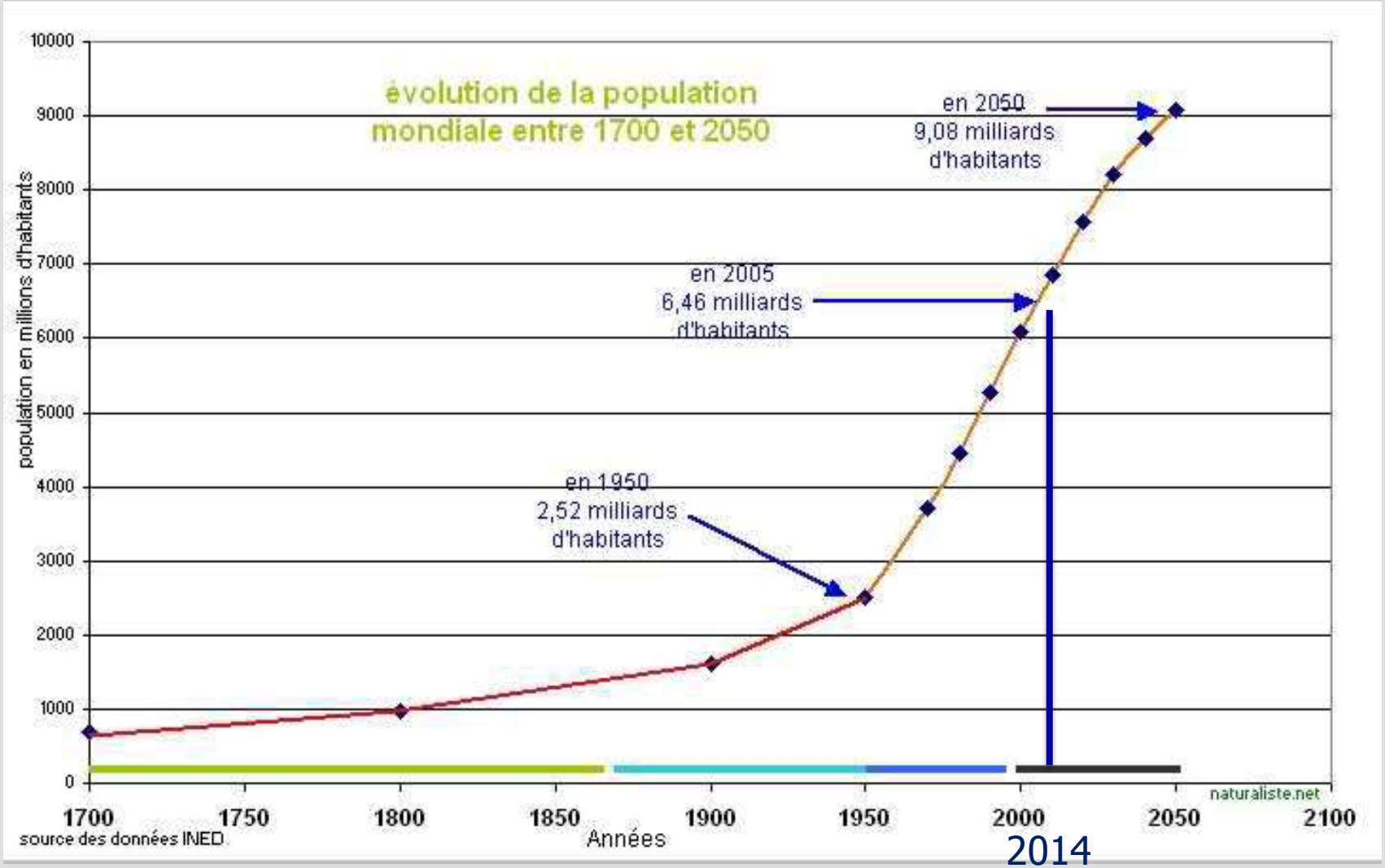
2014年9月是人类测量历史中最热的一次

- **September 2014 is the warmest in history**

Only one way ：reducing emissions

- 能源的产生：各种产碳较低的能源
- Production of energy: various low carbon sources
- 减少能耗：卢浮宫案例
- Reduce the energy consumption : case of Louvre Museum cooling
- 减少交通排放的同时鼓励出行
- Reduce emission in transport while encourage mobility

World Population Growth
全球人口增长
From 1 billion to 9 billon since 1700

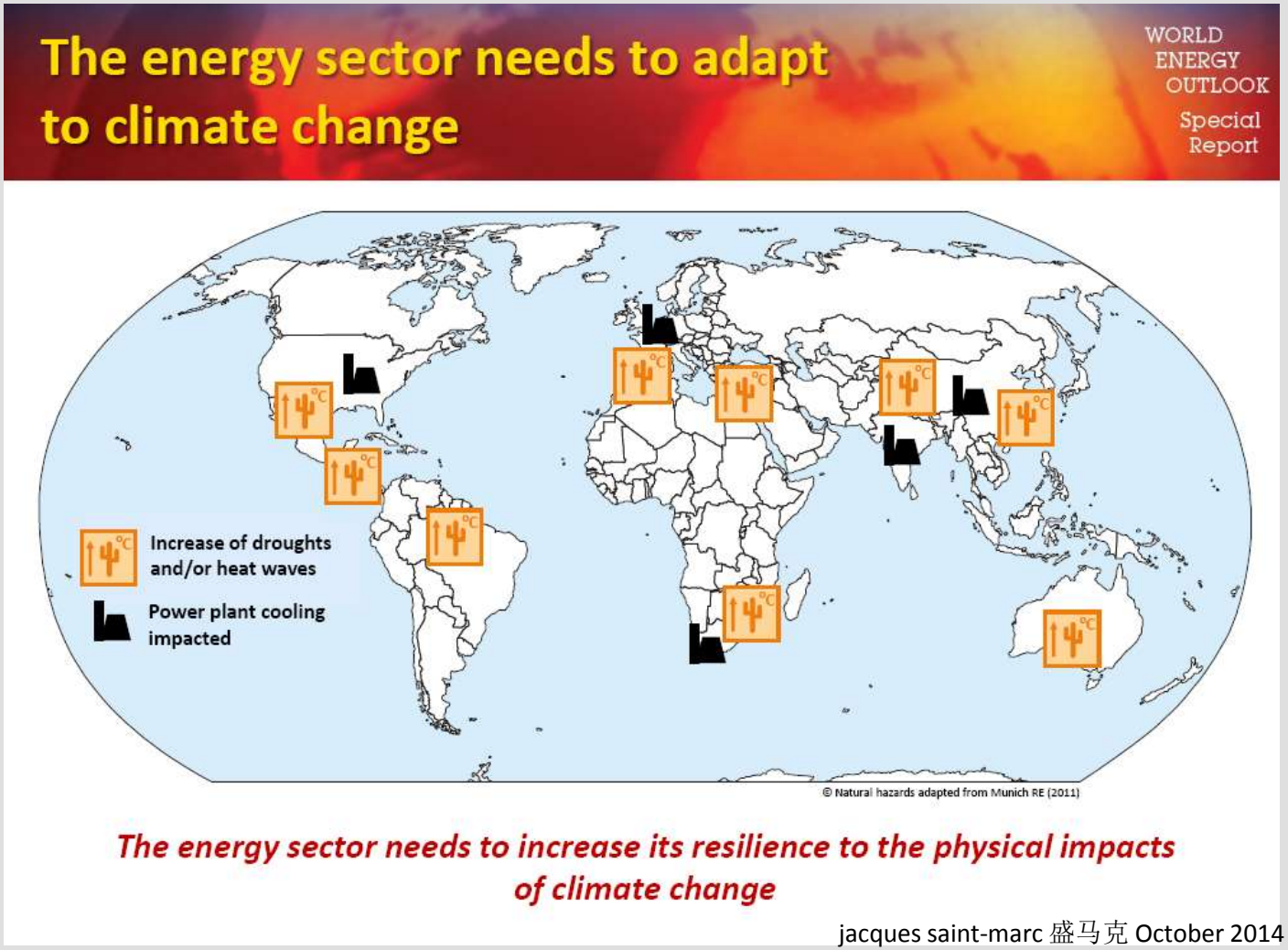


Septembre 2014 a été le mois le plus chaud sur terre et à la surface des océans depuis le début des relevés de température en 1880

自人类从1880年开始测量温度以来，2014年9月是地表和海洋温度最高的一个9月

One of the most important climate trends, directly related to human-caused emissions of carbon dioxide, is ocean acidification

由人类活动释放二氧化碳引起的最严重的后果之一是海洋的酸化。



Beijing 2014
October 26

有风

有阳光

Beijing 2014
October 23

无风

无阳光

巴黎污染现状

A day with Sun and Wind

有风

有阳光

A day with sun and No wind

无风

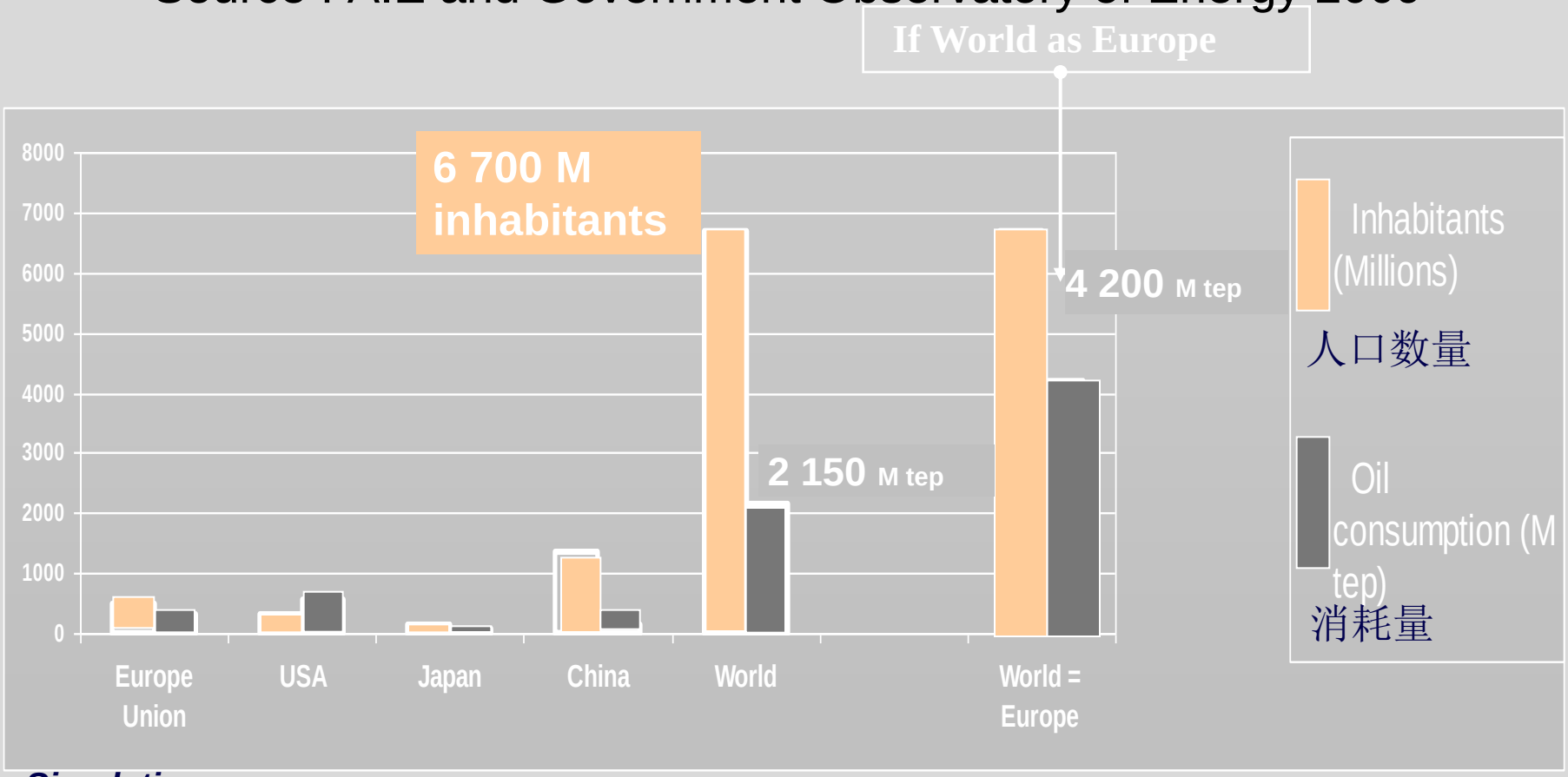
无阳光

PARIS - Montmartre from the building of Airparif (5 km)

The nowadays consumption in transport sector (M Tep)

目前交通运输领域耗能

Source : AIE and Government Observatory of Energy 2009



Simulation **:** ***if all inhabitants in the world would have an internal combustion engine-driven vehicle as inhabitants of Europe have, the oil consumption would be about 4,200 Millions of tep.***
Thus the oil requirement in the world would be 2 times what it is today.

假设：如果全球人口都以欧洲居民的比率占有内置燃油机车，全球每年将消耗的燃油当量为42亿吨，即现在的2倍

This is not sustainable!

这不是可持续的！

Yet we need energy for human development

人类的发展需要能源

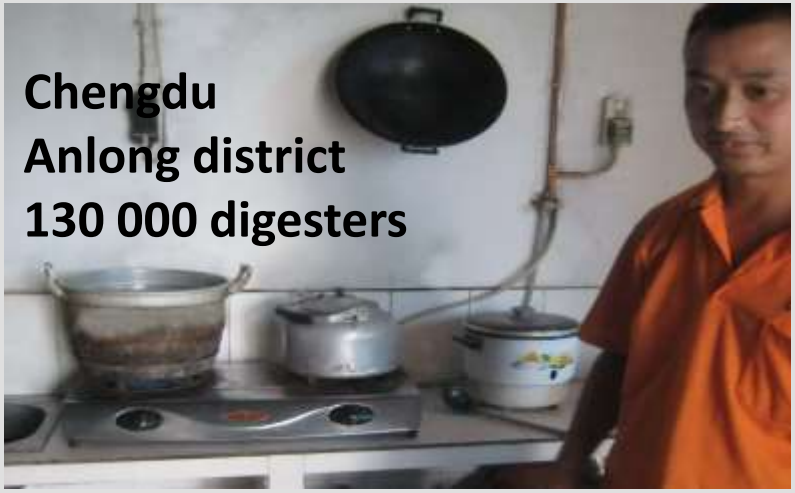
However : Is the future totally predetermined?

然而，人类的未来就这样被决定了吗?

Is it possible still to fight together against the climate change?

我们是否还有可能共同与全球气候变化做斗争？

A lot of those renewables energy resources are known
许多新的能源资源是被人们所熟知的



Another way to produce biofuel : Animal waste

另一种生产生物燃料的方法=动物可食用部分剥离后的剩余物

- With animal fats unfit for a food use :
  不用于食用的动物油脂
- No competition with the human and animal food.
  不和人类或动物的食物需求产生冲突
- Reduction of greenhouse gases (83%)
- 减少温室气体的排放量

2nd Generation Biofuel (EMHA) By Estener 75000T/an Le Havre France

Reduce traffic emissions

减少城市交通排放

To save Energy

以节省能源

Needing new technology ways and urban transportation services

需要新的技术和新的城市运输服务

How to do it?

如何实现？

Sustainable Urban Mobility Policy

challenges to drive an action of sustainable mobility in town

目标和挑战-开展城市可持续交通行动

- 减少当地污染和噪音排放

  Reducing local emissions : pollutants and noise

- 减少事故，安静驾驶

  Reducing traffic accidents : quiet and “eco-driving”

- 完善城市公共场所管理

  Best urban public space management

- 减少温室气体的排放

  Reducing Greenhouse Gas (GHG)

- 实现能源自给及能耗效率

  Energy self sufficiency and best energy efficiency

- 为生产汽车及其重要配件的厂家寻找新途径

  A new way for car makers and key-component makers

50 周年
中国 FRANCE CHINE 法国

Sustainable Urban Mobility Policy

Which services and vehicles in cities to reduce emissions?

城市里何种服务或车辆可实现减排？

A local and global policy

to build a convenient electric transportation system

地区性的及全球的策略：建构便利的电动交通系统

Step by step, testing electric vehicles system 1995 to 2009
and new transportation services with "End Users" in Cities
Now, we have launched the second step

从1995到2009 年，我们通过城市“最终用户”逐步测试了电动机车系统以及新的交通服务, 如今已进入第二步

For example : in La Rochelle, Paris … Self-Service car

如：在拉罗谢尔，巴黎。。。

jacques saint-marc 盛马克 October 2014

Electric vehicles ar
Tramway, E-bus, E-va
E-car, E-bike … refus

电动机车包括

巴士，电动小

电动小货车

Need safety battery

需要安全电池

In La Rochelle : all the cars move to EV : step by step

-Garbage trucks

-垃圾车

-E-bus

-电动公交车

-**Shuttle boats**

-渡江船

-Delivery

-送货车辆

Self-service EV-cars

自助电动汽车

Launched in 1998 La Rochelle

SELF-SERVICE CAR

ROUND THE CLOCK - 24 h / 24 h –

24小时自助汽车

Your card to unlock the doors

专用的车辆卡可开门

Your pin

to start the car

自设密码启动车辆

La Rochelle in 1998

1998 年即已开始了这个项目

7 DAYS A WEEK 50 P.S.A. Peugeot Citroën car

50辆全周可用的标致雪铁龙轿车，7个可识别的站点

7 STATIONS Identified by

Charging terminals

充电柱

Clean ground

50 E cars from Peugeot Citroën and 7 charging stations with 7 places, and 500 subscribers. It was a large and popular success

50辆标致雪铁龙轿车及7个站点以及500多位客户，是巨大的成功

Jacques Saint-Marc septembre 2014

Self-service e-cars in La Rochelle

Adopted by users, new step in 2011:

50 Citroën C zero

21 Mia electric

13 Stations

Now in 2014, there are

110 e-cars from PSA Peugeot Citroen and from MIA Electric,

13 charging stations along streets

如今的街道上已有来自雪铁龙和mia电动的110辆电动汽车及13个充电站

A world-famous driver!

This self-service e-car is a part of public transportation system “Yelow” with bike, bus and train on La Rochelle’s area.

We got a lot of knowledge.

First this system is very convenient for users.
Some of them have sell their car, they prefer to rent a car when they need.

自助电动汽车是“黄色”公交系统的组成部分，与它并行的还有自行车、公交车和火车。

我们得知，首先这套体系对使用者而言很方便，有些居民甚至卖掉了他们的私家车，他们更倾向于按需租车。

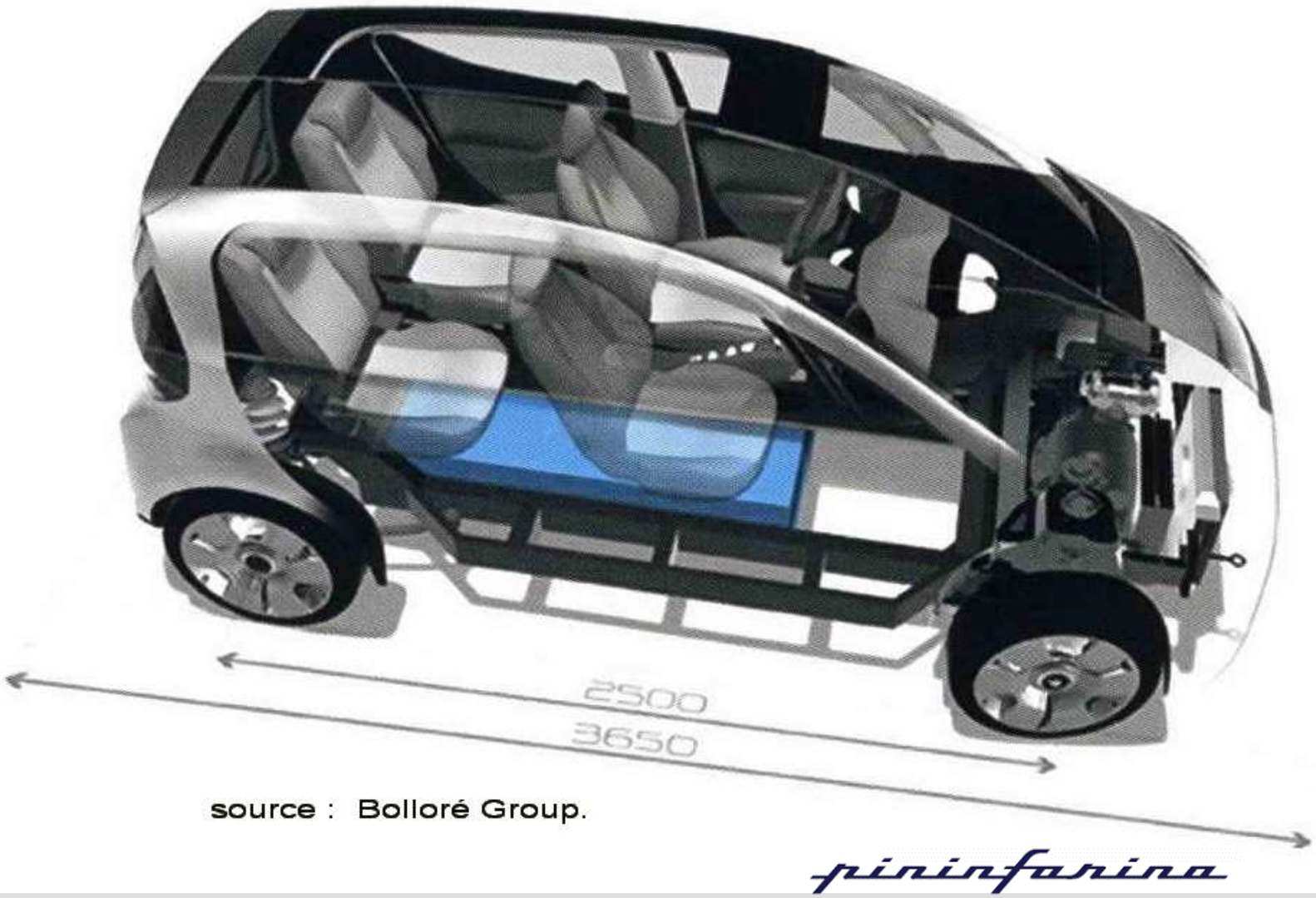
Bus, Self-service Bikes and Self-service e-cars station in the same area

Paris : Self-service car

Since 2011, Autolib is a self-service car, that will allow users to pick up and drop off vehicles at different locations, thus providing a flexible service designed to complement Paris' public transportation network.

从**2011**年起，**Autolib** 作为自助汽车，为游客在不同地点取车、停车提供了便捷弹性化的服务，补充了巴黎的公共交通网络。

The bluecar from Bolloré Group



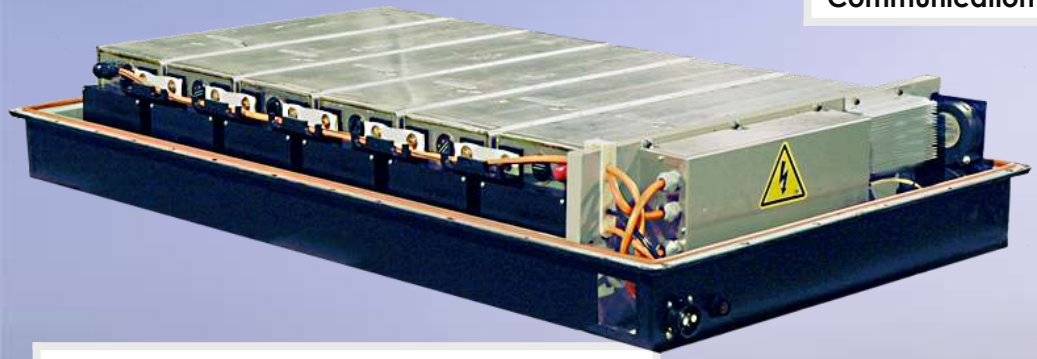
autolib'

Dimensions & Weight		
Length 长度		3.65 m
Width 宽度		1.70 m
Height 高度		1.61 m
Boot 汽缸容量		350 dm^3
Weight 重量		1120 kg
Motor and battery		
Power max 最大功率		50 kW
Power nominal 正常功率		35 kW
Speed max 最高速度		130 km/h
Range 最长行程		250 km
Battery 电池参数		BatScap Lithium Métal Polymère 30 kWh
Manufacturing :		
Chassis 底盘	acier et aluminium	
Body 车身	aluminum & composite (ABS) - 2 doors, 4 seats	

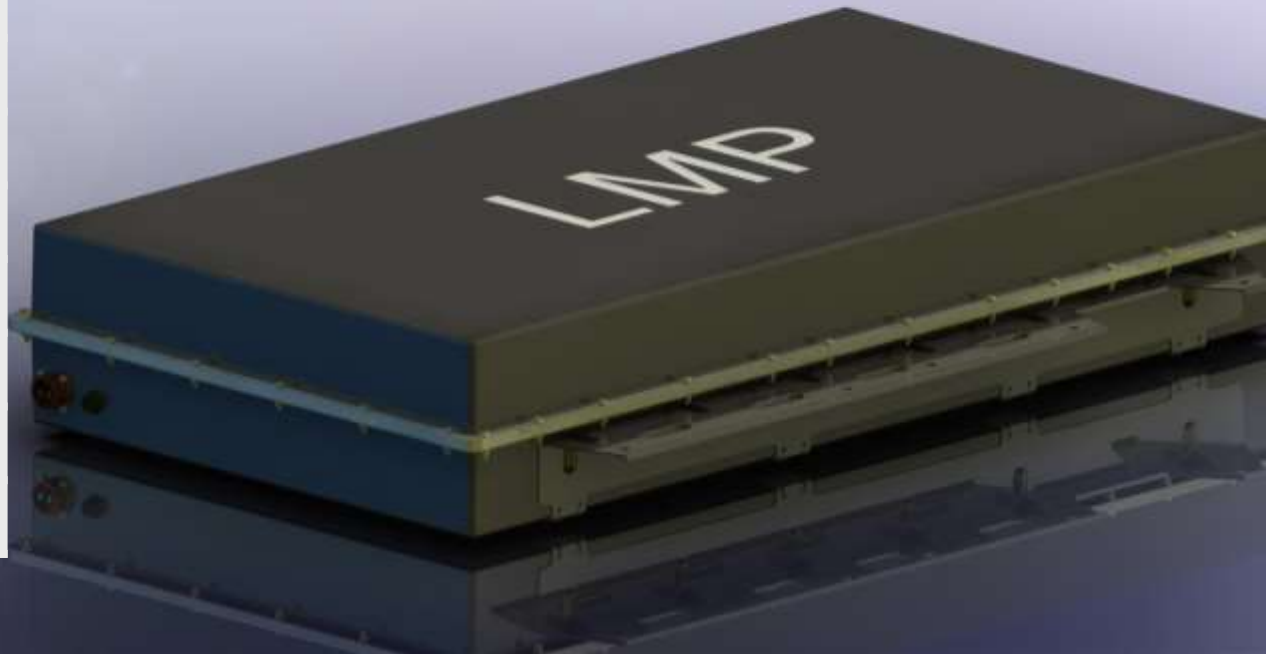
Automotive battery pack

General features
Volume (l) 300
Mass (Kg) 300
Communication Bus CAN

Thermal features
Internal temperature 60°C - 80°C
Functioning temperature 20°C à + 60°C



Electrical features
Energy content 30 kWh
Nominal voltage 410 V
Maximum power 45 kW(30s)
Voltage range 300/435 V
Capacity at C/4 75 Ah
Mass energy densisty 100 Wh/kg
Volume energy density 100 Wh/l



2 650 E-cars

巴黎现有2650辆自助汽车

(State ‘s subsidy : 6 300€ by car

每量汽车国家补贴6300欧元)

1000 charging stations

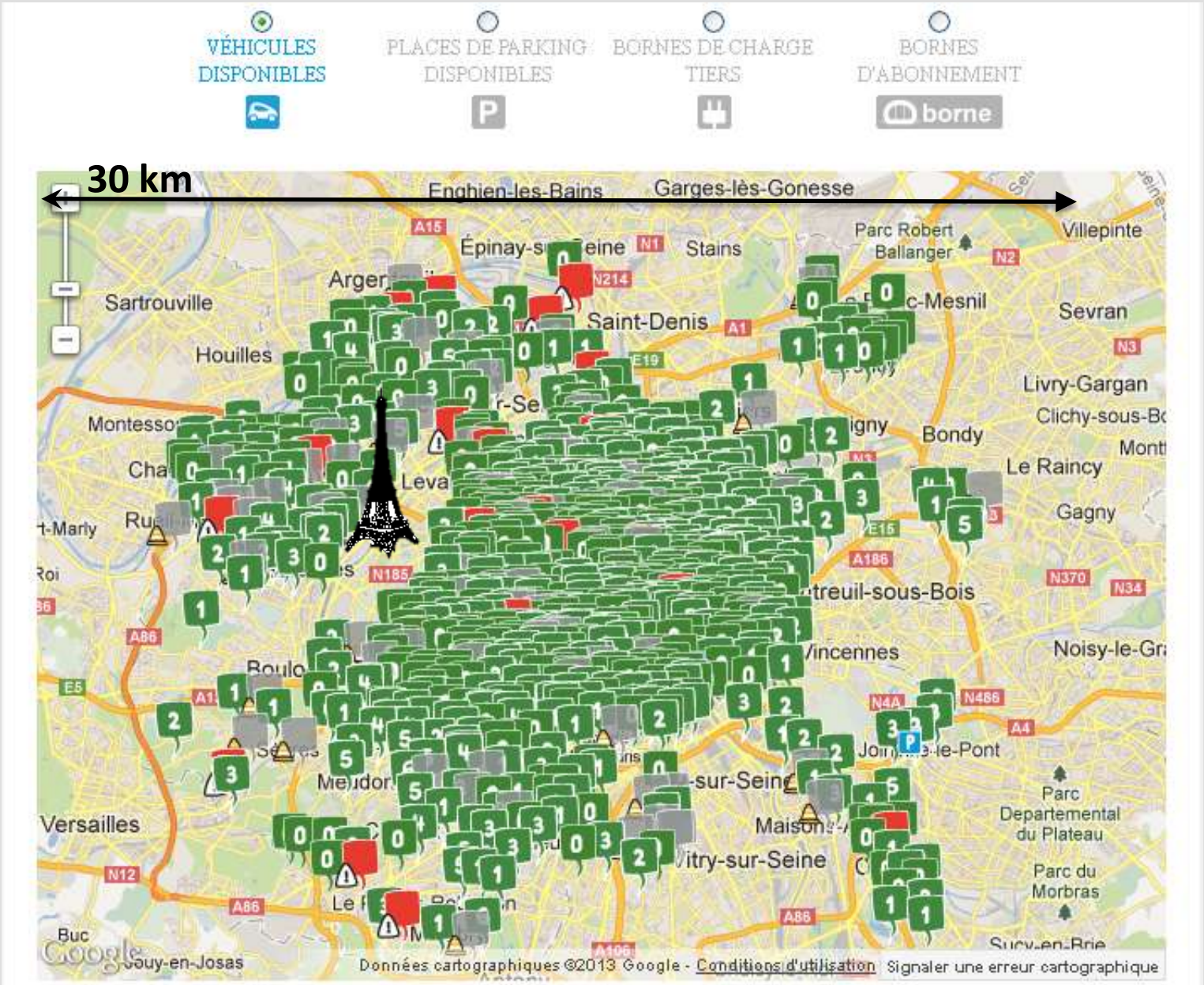
共有1000个充电站:

- 700 in Paris巴黎市有700个
- 300 in other cities around Paris

周边城市有300个

.感谢您选择自助汽车服务，您租赁的汽车编号为130，租赁时间供给28分钟，收费5.31欧元

2014 Paris' area : 2650 e-cars, 1000 stations and 3050 places with a plug
2014年巴黎地区拥有2500辆电动汽车，1000个充电站，3050个充电接口



On your smart phone or computer you can check where :

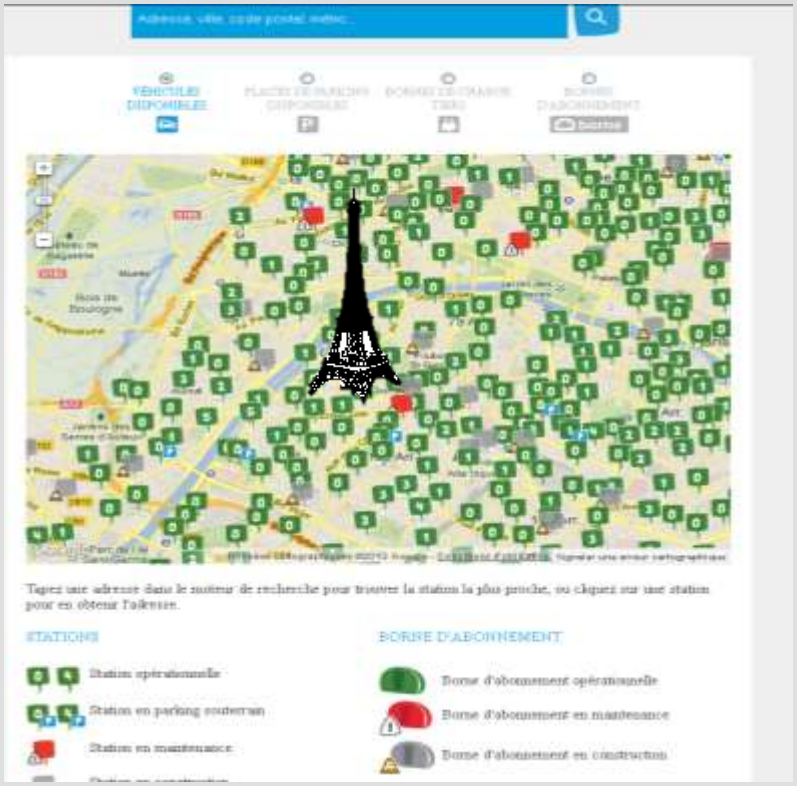
在电脑或者职能手机上,你可以搜索：

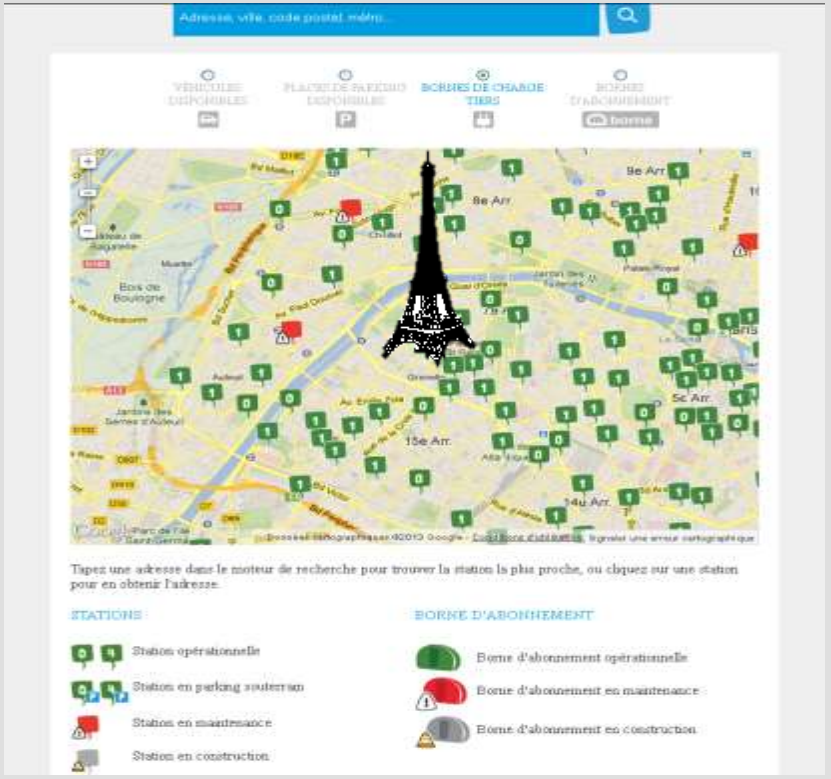
Autolib’ s car is available
You can reserve it if you want

Autolib 现在可用
如果你需要您可以预订

Plug available for Autolib’s car
or for your own e-car

可以为**Autolib** 或者您自己的电动汽车充电



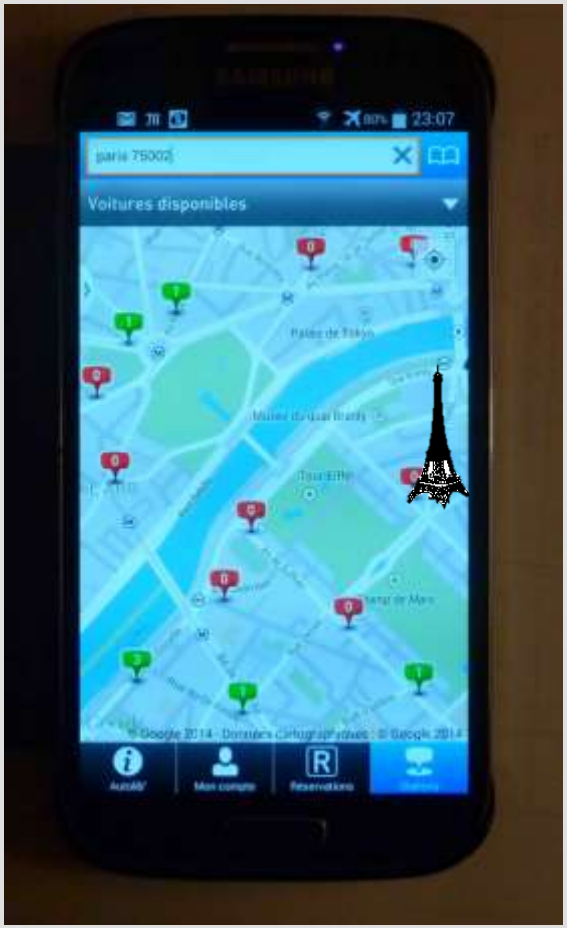


On your smart phone or computer you can check where

在电脑或者职能手机上,你可以搜索：

Autolib’ s car is available
You can reserve it if you want
Autolib 现在可用
如果你需要您可以预订

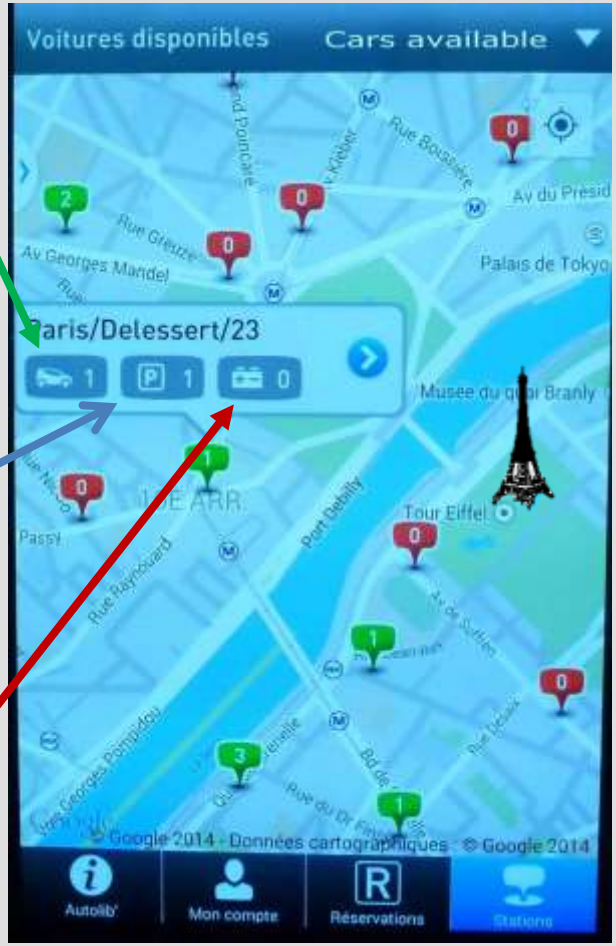
Plug available for Autolib’s car
or for your own e-car and to park
可以为**Autolib** 或者您自己的电动汽车充电



One car available

One parking space

No place To charge your E-car



VÉHICULES DISPONIBLES | PLACES DE PARKING DISPONIBLES | BORNES DE CHARGE TIERS | BORNES D'ABONNEMENT

You can subscribe in this stand

您可以在此注册使用

Tapez une adresse dans le moteur de recherche pour trouver la station la plus proche, ou cliquez sur une station pour en obtenir l'adresse.

STATIONS

- Station opérationnelle
- Station en parking souterrain
- Station en maintenance

BORNE D'ABONNEMENT

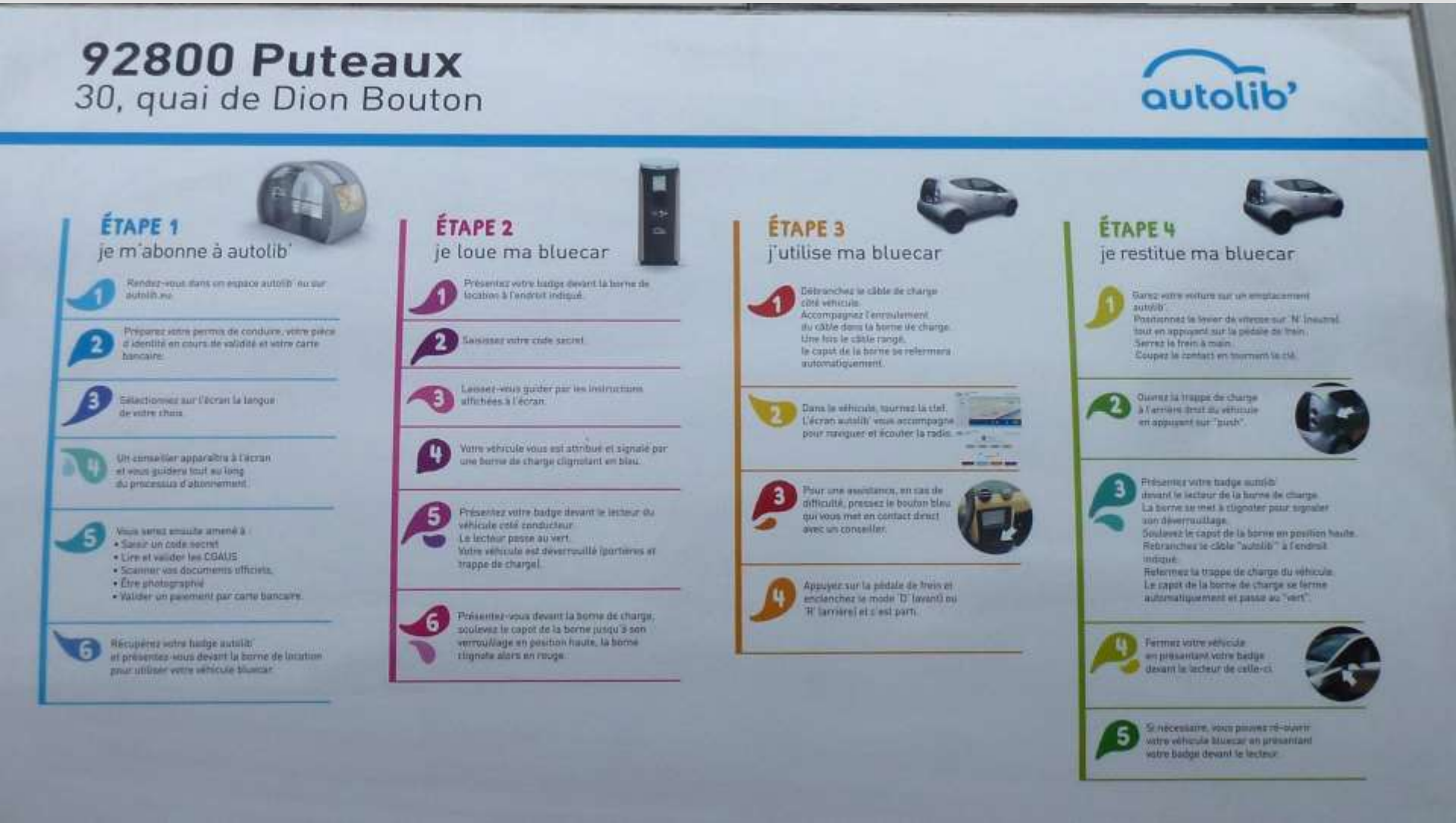
- Borne d'abonnement opérationnelle
- Borne d'abonnement en maintenance
- Borne d'abonnement en construction

An interactive stand to subscribe
On-line subscription

网络注册互动平台

Instruction leaflet

Step 1	Step 2	Step 3	Step 4
You subscribe 注册	You rent 租赁	You use 使用	You park in a station 停泊



Minister WAN Gang and
Jacques Saint-Marc
try Autolib, a Bolloré self-service car

Minster WAN Gang drives a bluecar in Paris
2 650 Bluecars are a self-service electric car
万 钢部长在巴黎开自助小汽车
巴黎共有2650辆此类自助汽车

First results (End October 2014)
初步结果

- Subscribers : 167 712 of whom 60 000 for a year (October 2014)
- 2650 E-cars, 960 Stations, 5 500 charging points
  On average :
  - Each car is used 3 to 7 times per day 每辆车每天平均使用**3_7**次
  - A trip is around 12 km during 3/4h and coast 10€

    平均行驶里程为**12**千米, 平均行驶时间**45**分钟, 平均花费**10**欧元
  - Each day : 10 000 trip 每天平均使用共计 **10000**次
  - Saturday and Sunday : 15 000 trips 周末平均使用达 **15000**次
  - Since beginning , more 61 500 000 km covered
- Around 20 cars are in a garage each week, essentially for sheet metal rumpled
- Subscribers walk more and use more public transportation

Main objectives 主要目标

- At the end of this year 到今年年底 (2014)
  - 3 000 cars 3 000 辆汽车
  - 1100 stations of whom 200 in underground parking
    1100个停车点, 其中200个位于地下停车库
  - More 60 000 subscribers « premium » (one year), **> 60 000** 名年签约用户
- The balance will arrive around 2015, Bolloré Group said (before first business plan)
  2015 年将开始收益
- Lyon was launched in 2013 and end of 2014 : 250 cars, 500 stations, 40 000 rentals and 100% green electricity provided by CNR
- Bordeaux launched in 2014. 90cars and 200 stations
- Indianapolis (USA) in 2015 (50 cars, 100 stations)
- A similar system for companies :
  MyCar 类似的为公司提供的系统是

- ***An in-depth real-life test,***
- ***A success reflecting public's interest for car sharing***
- ***A success driving interest from other large cities***

RATES 价格表

	subscription	Half hour
1 year	10 €/month	5,5 €
1 month	25 €	6,5 €
7 days	10 € for 7 days	7 €
1 day	0 € for24 h	9 €
Pass 8h/ 2 months for 4 users	100 €/month	0,30€/min beyond the hours included in the package

October 2014

Offences, Accidents, Inspection

- **Who pays in the event of a fine or traffic offence? You**
  Any fine, traffic offence or impounding notice received by Autolib' will be sent with your identification and contact details to the "service de traitement des contraventions" (traffic offence office) so that the fine can be addressed to you directly.
  Administrative fees will also be charged to you.

- **The Bluecar which has been assigned to me is damaged or I am dissatisfied with its condition, what should I do?**
  Contact the Autolib' help center at the rental kiosk or via the help button in the car.
- **I have had an accident or the battery is flat, who should I contact?**
  If you need assistance, you can contact the call centre using the help button in the Bluecar. If the emergency is confirmed, the rental period is suspended during the time when the car is inspected and ended if the user can no longer use the Bluecar. Procedures following accidents, breakdowns or flat tyres are conducted by the call center in liaison with staff in the field.

Autolib's Government

Paris and 60 cities around are in charge of this self-service cars (in an city's assosiation)

巴黎及其周边的60个城市在以城市联合体的组织方式运营自助汽车，其开发商是通过招投标选择的bollore集团

its operator is Bolloré Group chosen after a call of tender

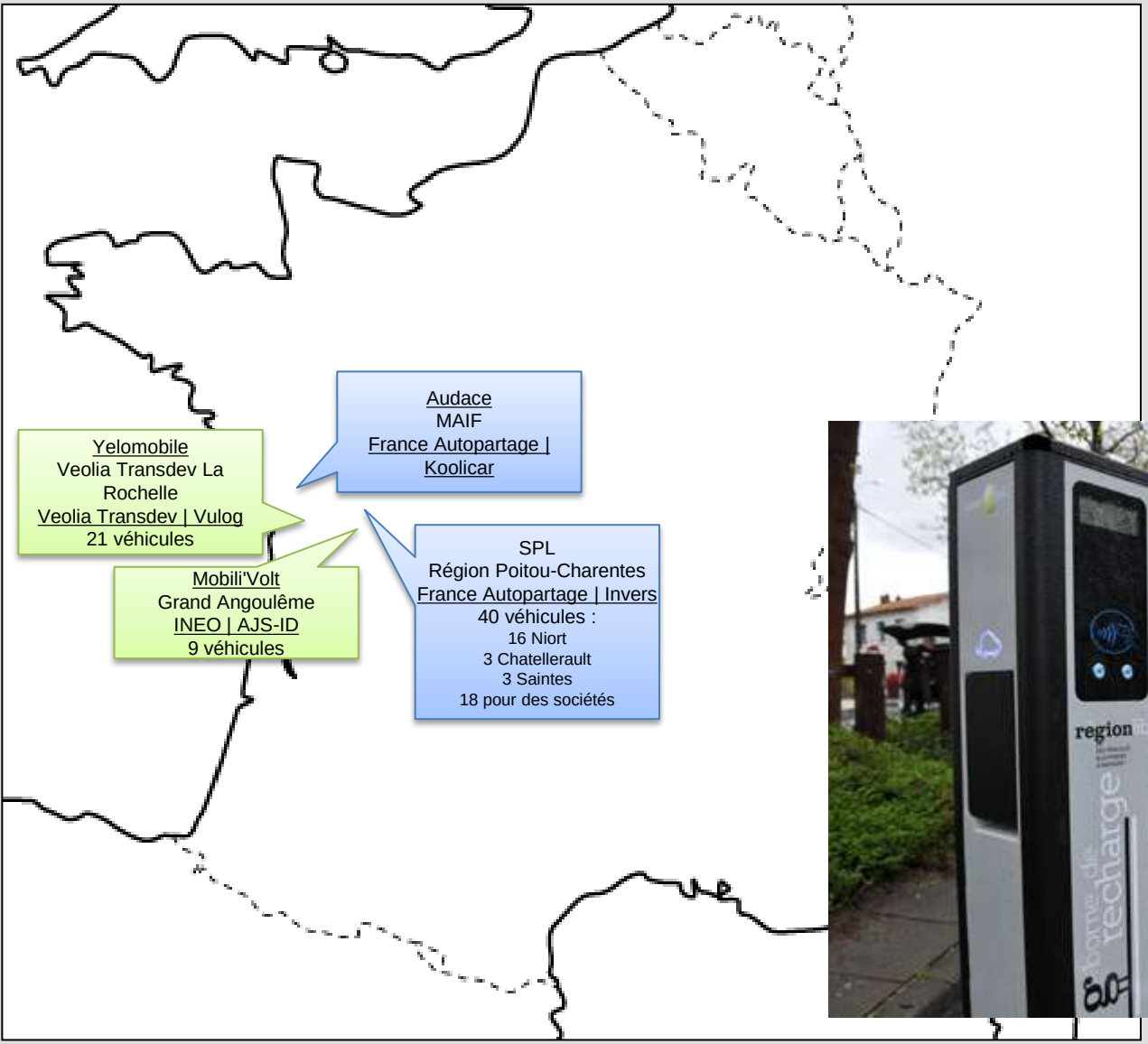
Autolib' a self-service car in Paris area

Self-service cars Development in other cities
自助汽车在其他城市的发展

- Other cities develop this sort of public transportation to reduce emission and noise 其他城市也发展此类公交以减排减少噪音
- **Nice** launches its own self-service car with 尼斯开启了自己的自助汽车
  - 150 e-cars and 50 stations 有150辆电动汽车和50个充电站

Self-service car

4 cities in « Poitou-Charentes » province- 89 E-cars from MIA



First knowledge 法国电动车情况

14 000 electric vehicles were sold in France since 1995 to 2009.

(N**ew step 2010 to 2014 : 18 000)**

1995 到2009年间 法国**卖出14000辆电动车**.

Electric cars, scooters, vans, buses show that the electric engine technology on vehicles is OK

- 电动轿车，电单车，电动小货车，电动客车表明电动引擎用是可以用在各种类型的车上的
- Electric engine offer a clean and high energy-efficient way of urban transportation

电动引擎给城市交通提供了清洁高效的能源

- They offer a pleasant and safe driving 同时提供安全舒适的驾驶
- Use of EV's have enabled public transportation companies to offer new way of mobility.

电动车的使用给公共运输公司提供新的通行方式

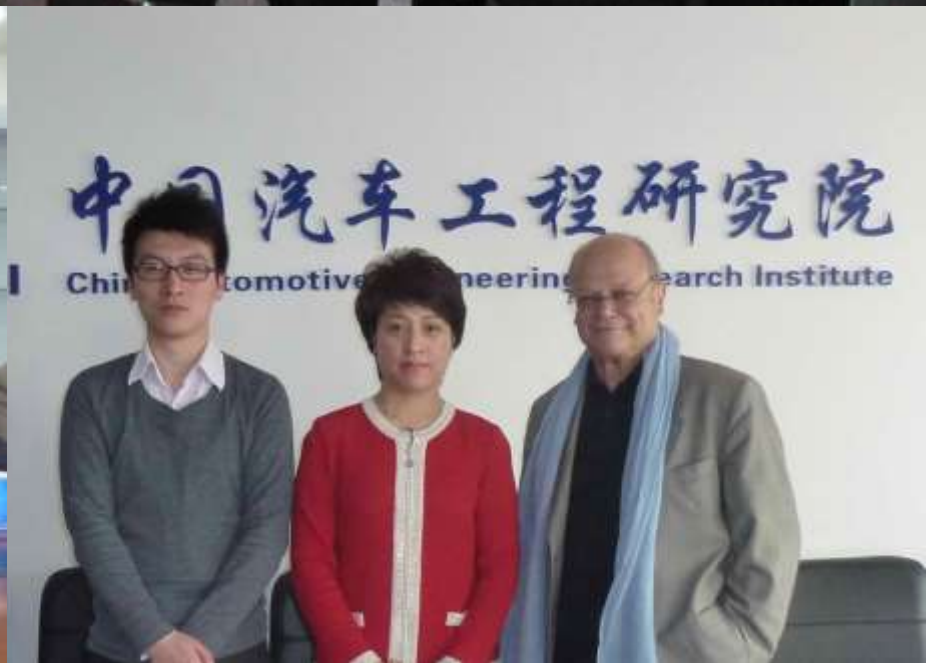
A strong cooperation between companies and institutes
国际间密切合作

Strong cooperation between Institutes

机构间合作

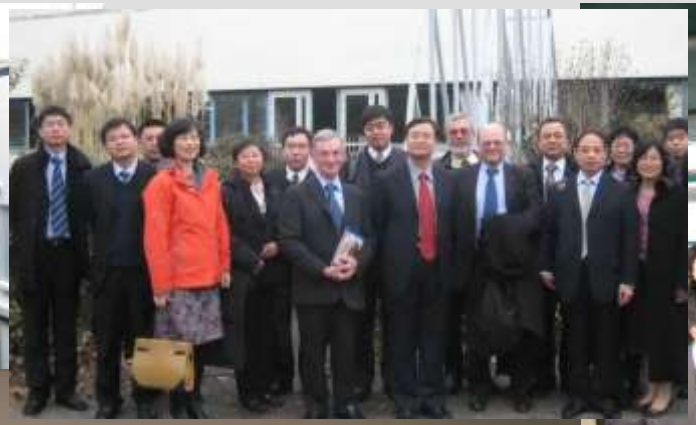
Cooperation between Scientists

科学家交流



A strong cooperation in this field of New Energy Vehicle since 1995
从**1995**年开始在新能源机车领域的紧密合作

国家电网负责人在法国参观访问



A strong cooperation between countries China & France

中法两国的合作

Next Challenge in Chengdu
November 2014
(11th to 14th)

MICHELIN CHALLENGE BIBENDUM

CHENGDU 2014
GLOBAL SUMMIT

2 WEEKS BEFORE THE MICHELIN CHALLENGE BIBENDUM

GLOBAL SUMMIT, 12th edition, November 11-14, 2014

Backbone sessions

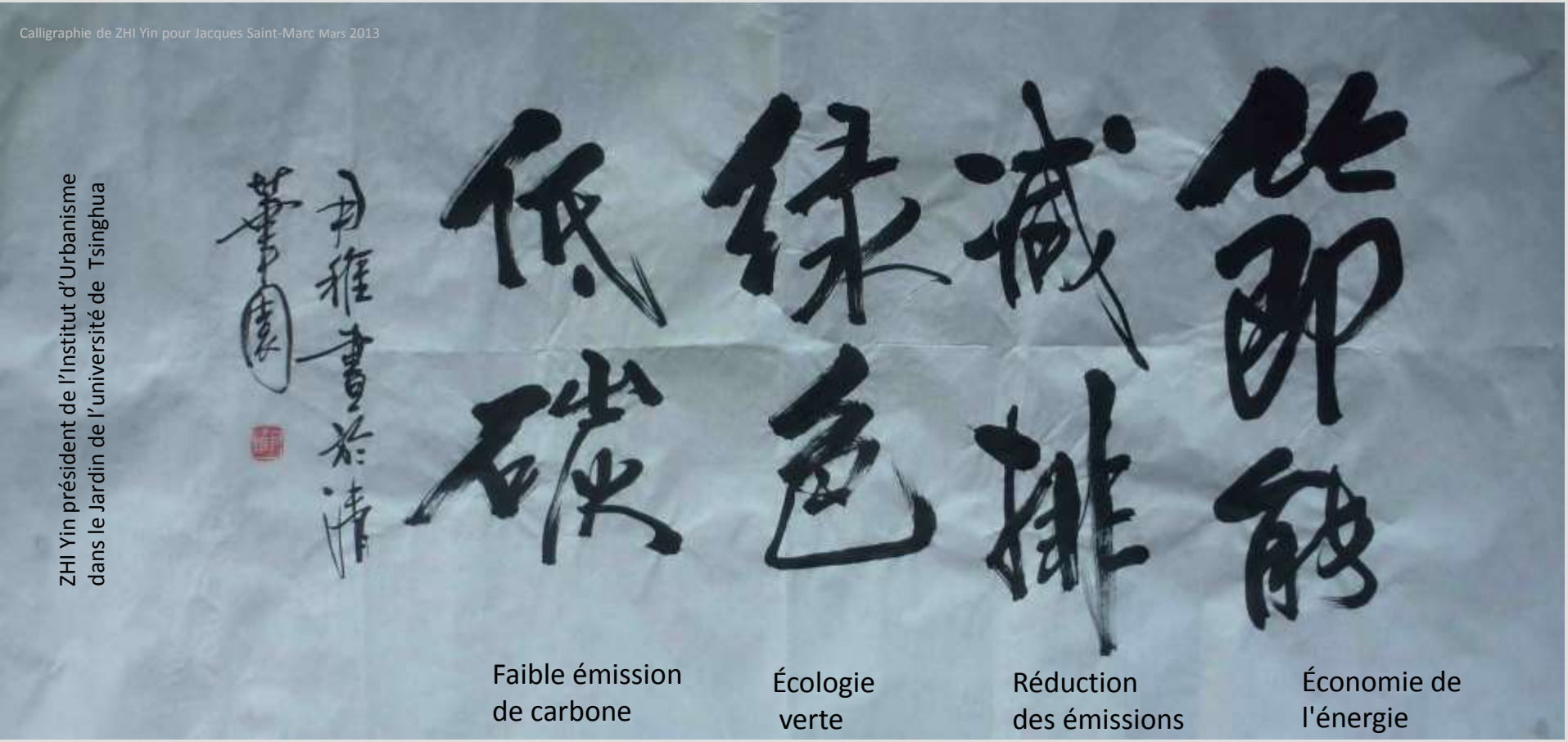
Participate
in the Green Paper
Thematic Debates

This edition is built upon the contents of a Green Paper written by the Michelin Challenge Bibendum ecosystem for the event.

It sheds light on the challenges associated with the pursuit of innovative, sustainable and multimodal mobility and it highlights the most up-to-date solutions.

The 4-day Global Summit will provide insights into the global challenges of tomorrow's mobility, give the floor to innovative thinking and solutions to be implemented.

Low carbon energy	Ecology design	Reduction emission	Energy saving



Offered by ZHI Yin to 盛马克 (Jacques Saint-Marc)
Chairman & President
School of Architecture – Tsinghua University
March 27th 2013

Jacques saint-marc Octobre 2010

Traduction des slides par Madame Cathy FANG Tsinghua University

Jacques saint-marc

New transportation facilities in France
1998 to 2009

« Time is ripe » http://videotheque.cnrs.fr

法国试点城市的变革

Réalisation : DARS Jean-François ; PAPILLAULT Anne
Direction : Jacques SAINT-MARC

Movie from CNRS (Centre National de la Recherche Scientifique)

Ilustrations

. Pilot cities : Bordeaux, La Rochelle, Martigny, Nantes, Rome, St Quentin en Yvelines et de La Poste

. Industrials companies (Heuliez, PSA, Renault, SAFT, Tecnobus/PVI, EDF, DBT, Peugeot Motocycle)

. Scientists :(Jean-Louis Aucouturier, Claude Delmas, Claude Lorius)