



第三次工业革命 机器人迅速崛起（四）

The Third Industrial Revolution With Rapid Rise of Robots (4)

——可穿戴巨型机器人 — Wearable Giant Robots

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日本东京八王子市的风险企业Skeletonics开发出宛如从科幻电影中走出的机器人——“动作扩展型装甲服”而备受关注。

“动作扩展型装甲服”高2.5米，双臂展开达3.5米，体型庞大，张牙舞爪，灵巧地走来走去，向不同的方向移动手臂口口意抓握物品。巨大的机器人没有配备马达等动力，完全依靠人力，但动作干净利落，令人叹为观止，可以忠实地再现人的动作。

组建Skeletonics公司

2013年10月成立的Skeletonics，执行董事兼首席执行官白久Reyes只有24岁。他与董事兼首席技术官阿嘉伦大是同班同学。2005年他们同时进入冲绳工业高等专科学校系统工程专业学习。2008年，白久率队参加日本全国高专机器人大赛（创意对决·全国高等专科学校机器人大赛），阿嘉伦大负责设计，居然赢得了冠军。

白久上小学时就喜欢机器人动画片，痴迷于《新世纪

Venture enterprise Skeletonics in Tokyo, Japan has developed a robot which likes one from the scientific fiction film -- "Action Extension Type Armored Suit". It is 2.5 meters high. Two arms in it can stretch up to 3.5 meters. It is big in size, and walks flexibly. It can move its arms towards the different direction to grasp items at random. This big robot is not equipped with a motor, so depending entirely on the human labor. However, it features crisp actions and a faithful reproduction of actions from human hands and feet. It is an amazing thing.

Skeletonics setup

Skeletonics was established in October 2013. Executive director and chief executive Reyes was only 24 years old then. He and his



福音战士》和《机兽新世纪ZOIDS》。那时就开始利用焊接和工作套件制作电路。中学时还参加了“中学机器人大赛”。阿嘉从小就喜欢手工和制造。他喜欢《哆啦A梦》，能拿出许许多多的神秘道具，充满想象力。他有一本介绍漫画中出现神秘道具的辞典，对各种道具的说明非常有趣，他反反复复翻看了很多遍。童年的教育对他们的成长影响很大。

2010年，二人毕业后就以当时的队员为中心，组成“Team Skeletonics”。2012年白久考入东京大学研究所新领域创成科学研究科海洋技术环境学专业攻读硕士学位。2014年从东京大学研究所毕业。

研发“动作扩展型装甲服”

他们想要乘坐巨型机器人、想要做出自己喜欢的东西、想要制造世界上独一无二的东西。出于这样的想法，他们开始研发“动作扩展型装甲服”。

原定半年完成这个项目。开发的重心放在起动力作用的连杆机构上，把目光对准“无动力”，挖掘这一部分的可能性。无动力，这并不需要在细节上精妙加工，用一般制作工艺就可以完成，核心技术是对“平衡”要仔细考量。

机器人要载人，需要高强度材料，简单地加粗框架会导致重量增大。保持重量与强度的平衡非常重要。如果让机械动起来、像人一般灵活而采用复杂的机构，装甲服会变得更重。为了既能像人一样灵活，又能保持较大的可动范围，很多部位必须还要考虑运动机构相互之间的干扰。

装甲服的材质及组合方式的配置，每一代都从设计开始重新审视，调整组装方式，进行改进。总重量不等于施加到使用者身体上的负荷。虽然重量没变，但施加到使用者身体的负荷的确在逐渐减少。

现在的装甲服已经是第5代，还在继续改进。为了在外

director and chief technology officer were classmates. In 2005, they at the same time studied in the major of System Engineering of Okinawa Industrial College. In 2008, Reyes led a team to take part in Japan's national college robot competition. The design of his team won the championship.

Reyes likes robot cartoons since his primary school. In his childhood, he was obsessed with Evangelion and Machine Beast ZOIDS & New Century. He began to make a circuit using the welding device. In the high school, it took part in the middle school robot contest. His classmate liked to do the artificial work at an early age. He liked Doraemon and could come up with many mysterious props full of imagination. He has a dictionary that is about the mysterious props in the cartoon. He was interested in a variety of props. The childhood education had a great influence on their growth.

After graduation in 2010, both of them set up Team Skeletonics. In 2012, Reyes was admitted to the University of Tokyo and majored in marine environment. In 2014, he obtained a master's degree in the university.

Research and development: Action Extension Type Armored Suit

They want to take a giant robot, make the thing that they like or unique in the world. Out of the idea, they began to develop this armored suit.

This project is scheduled to be completed for half a year. The development focuses on the rod mechanism and no need for the driving power. The core technology is to carefully consider the "balanced" conditions.

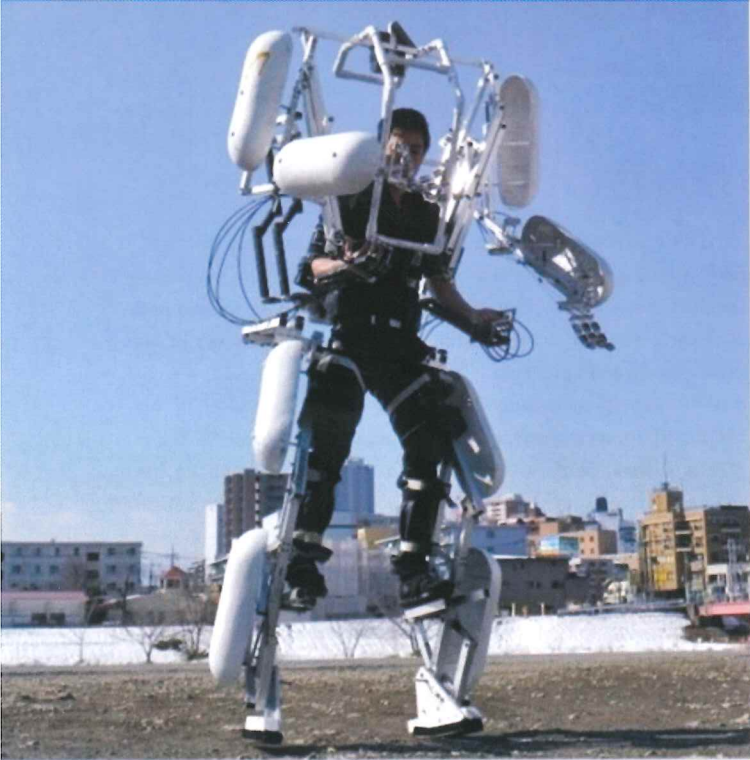
Robot is manned, so needing the high strength material. Simply using a large framework leads to increase in weight. Keeping the balance of weight and strength is very important. If the complex mechanism is used, then this armor would be heavier. To obtain the flexibility and maintain large movable scope, many moving parts should not interfere with each other.

Armored clothing material and configuration: Each generation will be designed and reviewed. The assembly mode is adjusted for an improvement. The total weight is not equal to physical load applied to users. Although weight does not change, the load applied to the body of users is decreased gradually.

Now, the armored suit is 5-G and still continues to improve. In order to reflect the style of the robot in appearance, the weight is controlled in the range of 30 to 40 kg. In this range, adjustments are available.

In the time to wear or take, there is much improvement. At the start, a person could not put on the armored suit, and the helper took 10 minutes; taking needed only 5 minutes. Today, a person can wear it only 1 minute, and taking needs up 60 minutes.





观上体现出机器人的风格，因此重量控制在30~40公斤的范围反复调整。

穿着的时间或搭乘的时间也有很大改善。开初，一个人根本无法自己穿上装甲服，有工作人员帮忙也要10分钟；搭乘的时间却只有5分钟。如今，一个人只需1分钟就能穿好装备，搭乘时间则延长到了60分钟。

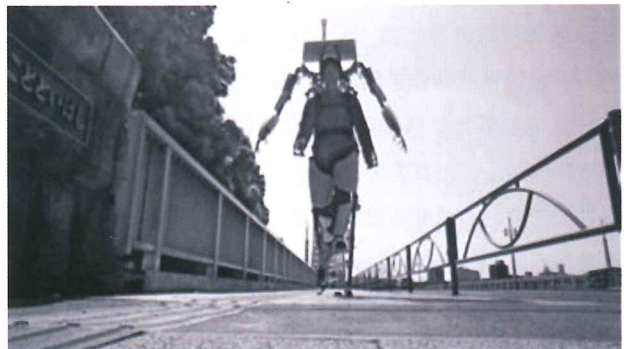
第4代装甲服 Skeletonics Practice Practice

他们制造巨型机器人已经有4~5年，逐渐明白什么行得通，尝试现有技术。机器人下半身原本是严格遵循身体比例的，后来髌关节到足尖的长度扩大到了1.5倍。第4代通过研

4-G armored suit: Skeletonics Practice Practice

They have been manufacturing giant robots for 4 ~ 5 years, gradually understand what works and adopting the existing technology. The lower half part of the robot should strictly follow the body proportion. But, later, the segment from the hip to the toe was expanded 1.5 times. 4-G uses the stilts technology and absorb usable parts. Thus, intuitively it leg is longer.

At present, the robot is at first applied in the field of entertainment.



究高跷技术，吸收其可使用的部分，直观上小腿更长了。

目前，机器人首先在娱乐领域应用。活动、现场表演、舞台等领域存在这方面的需求。观众想看就是一种价值。价格为一套500万~1000万日元左右，日本长崎的主题公园“豪斯登堡”等已经采用。

研发“动作可变型装甲服”

公司正在研发变形后可以直接移动的“动作可变型装甲服” Exonnecs。

如果能够坐上通常只能在动画片里看到的机器人，这是多么美妙的一件事情。但那样的机器人非常沉重，根本无法以人力搬运，好不容易制作出来却不能广泛使用，未免浪费。Exonnecs的目标是从外骨骼形态直接变形为移动形态，可自由移动到任何位置。

Exonnecs示意图

这将是一款人型机器人，重量约为600公斤。可以从动力装甲服模式变形为可直接行走的移动模式，时速达30公里左右。动力源现在已经有不少候选，有可能采用电动汽车用电池，也有可能采用燃料电池，油压也是可行的方式。

该公司希望在2020年东京奥运会开幕之前，在人型机器人的基础上制造出能够变形、直接移动的“动作可变型装甲服” Exonnecs。变形机器人有很多，Exonnecs的外形将受到《攻壳机动队》和《变形金刚》的潜在影响呈现出真实新颖的形态。

目前，Exonnecs的开发费用要几亿日元。技术人员，最理想的状态是资金充足。硬件类风险企业也有获得融资的例子，但大型机械很难筹集到资金。Exonnecs需要外来投资，通过募集筹集资金完成研发工作。

Activities, live performance and art stages so forth have such demand. The audience want to see a kind of value. The price is about 5 million ~ 10 million yen per set. Japan's Nagasaki theme park has used it.

Research and development of action-changeable armored suit

The company is developing Exonnecs as an action-changeable armored suit which can directly move.

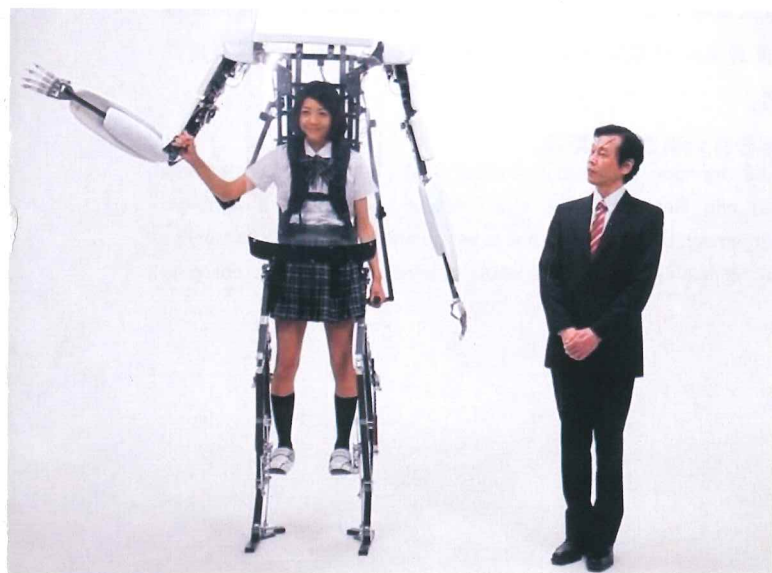
If you can sit on the robot which usually can only be seen in the cartoon, then it's a wonderful thing. But that kind of robot is very heavy, and can't be carried on by our humans. Moreover, it may be not used in the actual life. Exonnecs can directly move to any location in a free manner.

Exonnecs schematic

This will be a humanoid robot and its weight is about 600 kg. It can directly walk, and the speed is about 30 km per hour. As to the power, now there are some candidates which may be the electric car battery, fuel cell or oil pressure.

The company hopes to develop Exonnecs that can directly move and change before the 2020 Tokyo Olympic Games. There are a lot of robots which can be transformable. The appearance of Exonnecs will be affect by scientific fiction films such as Transformer.

At present, the development of Exonnecs costs hundreds of millions of yen and needs technical personnel. The ideal state is that it has sufficient funds. There is an example that the venture enterprise in the field of hardware can raise funds, but one in the field of heavy machinery is difficult to raise money. Exonnecs needs the foreign investment and its R and D work will be completed by raising funds.



东风日产 大连工厂投产欲抢占北方10%市场份额

Dongfeng Nissan Dalian factory invest to production to clinch 10% of the Northern market share



10月18日,东风日产筹建28个月的东风日产大连工厂正式投产,至此,东风日产已拥有广州、襄阳、郑州、大连四大生产基地,南北纵横的战略布局初步形成。目前东风日产在全国发展失衡,在大本营广东的市场占有率排名第一,为14%~15%,但是北方市场仅为5%,哈尔滨、长春等个别地区还低于这一数字。东风日产期望在北方市场的占有率力争达到10%以上。

On October 18, a 28 months of Dongfeng Nissan Dalian factory has formally put into production which has planned by Dongfeng Nissan, by now, Dongfeng Nissan has four production bases of Guangzhou, Xiangyang, Zhengzhou, Dalian, the

vertical and horizontal strategic layout had shaped initially. Dongfeng Nissan had an imbalance development in domestic, in home market share of Guangdong province is ranking the first place, is 14% ~ 15%, but the northern market is only 5%, Harbin, Changchun and other regions are less than this figure. Dongfeng Nissan is expected to achieve more than 10% in the northern market.

知豆 领衔中国新能源汽车产业闯荡eCarTec

Zhidou, leading China's new energy automotive industry to adventure eCarTec



10月21日,2014年第六届德国(慕尼黑)世界新能源车博览会(eCarTec)在慕尼黑新国际博览中心开幕。知豆电动汽车、唐骏电动汽车、中国别克、深圳欣锐特、友诚科技机电、杭州安靠、无锡鑫宏业等十几家中国电动汽车及零部件企业参加,向参展专业观众展示了中国从材料到电动整车的设计生产能力。

ECarTec是电动汽车领域欧洲的核心展示平台。2013年,eCarTec吸引了479家展商参会,11742人观展,其中超过80%都是经销商访客。因

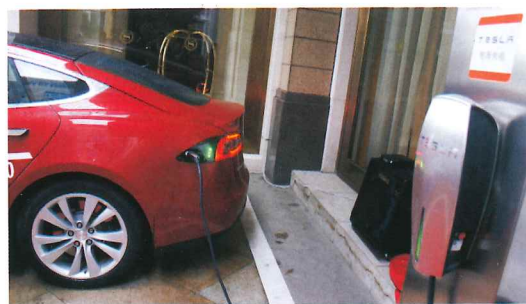
此,eCarTec是中国新能源汽车产业链上企业的寻找欧洲经销商合作伙伴的良好机会。

On October 21, 2014, the sixth Germany (Munich) world new energy vehicles expo (eCarTec) had held on new international expo center in Munich. Zhidou electric vehicle, electric vehicle, China bak, Tangjun electric vehicle, Shenzhen SHINRY, You cheng technology electromechanical Hangzhou anka technology, Wuxi macro industry such as more than a dozen Chinese electric vehicle and parts enterprises to participate in, had showed the electric vehicle production capacity from materials to the whole car design to the exhibition professional audiences

ECarTec is the core electric vehicle show platform in Europe. ECarTec in 2013, has attracted 479 exhibitors to attend the exhibition, 11742 visitors to participate the exhibition, more than 80% of them are dealers. Therefore, ECarTec is a good opportunity for China's new energy automotive industry chain enterprises to seek for European distributor partners

特斯拉 将在36家美宜家酒店安充电桩

Tesla will set up charging piles in 36 Meiyijia hotels



10月29日下午,世界纯电动汽车制造商美国特斯拉旗下的特斯拉(中国)与河南美宜家连锁酒店签署战略合作协议,双方约定将在全省18个省辖市美宜家连锁酒店36家店面安装充电桩,免费为特斯拉用户提供充电服务。

目前郑州已有10辆左右特斯拉。

October 29 in the afternoon, the world pure electric vehicle manufacturer the USA Tesla's (China) and Henan Meiyijia chain hotels had signed a strategic cooperation agreement, both parties agree to set up charging piles in 36 Meiyijia chain hotels of 18 municipalities in the whole province, provide free charging

service for Tesla users.

There are about 10 Tesla vehicles in Zhengzhou recently.

之诺 携手北京外交人员服务局推广新能源车

ZENO To promote new energy vehicle with Beijing diplomatic personnel service brenur

11月5日，华晨宝马之诺品牌向北京外交人员服务局运道汽车服务中心正式交付20辆之诺1E纯电动汽车，联手为外事礼宾用车提供高端用车服务并开展新能源车的推广活动，成为国内首支服务涉外事务的新能源车队。

之诺1E基于BMW X1车型开发，一次充电7.5个小时可行驶150公里，在5.5秒完成0-50公里/小时的加速，最高时速能够达到130公里/小时。

On November 5, brilliance BMW ZENO had officially delivered in 20 ZENO 1E pure electric vehicles to Beijing diplomatic personnel service transport car service center, to provide concierge car and promote new energy vehicles with foreign hostess , has become the first domestic new energy vehicle team for foreign affairs service.

ZENO 1E was developed based on the BMW X1 model, can drive for 150 km for 7.5 hours' charging, finish the acceleration from 0 to 50 km/h in 5.5 seconds, top speed can reach to 130 km/h.



荣威 60辆新能源车用于居民燃气安装等业务

Roewe 60 new energy vehicles are used for resident fuel gas installation

60辆插电式混合动力轿车荣威550PLUG IN交付申能集团旗下上海燃气集团的服务用车，用于居民燃气安装、检测、抢修、巡检等出勤业务。其百公里综合油耗低至2.3升，且不受里程限制，可以很好地满足长距离出勤需求。申能集团为上海提供30%以上的电力和90%以上的燃气。60 plug-in hybrid cars Roewe 550 plug-in have been delivered to Shanghai gas group service vehicles of which was subsidiaried for Shenneng group, used for residents gas installation, test, repair, checking attendance business. Its hundred kilometers overall fuel consumption as low as 2.3 litres, and is not subject to any mileage restrictions, can well meet the demand of long-distance attendance. Shengneng group has provided more than 30% of the electricity and more than 90% of the gas.



万向 推Rocket跑车重返美国电动车市场

Wanxiang promote Rocket sports car to return to the electric vehicle market in the United States

万向集团在收购菲斯科之后决定将该品牌重新推向市场。在即将开幕的洛杉矶车展上正式发布全新Fisker Rocket车型，该全新车型拥有浓厚的驾驶乐趣和出色的操控性能，是典型的美国肌肉车风格，十分动感。

Wanxiang group, after the acquisition of FESIKE, had decided to promote the brand return to the market again. In the coming opening Los Angeles auto show will officially to launch the new Fisker Rocket model, the new model have great fun of driving and excellent controlling performance, it is the typical American muscle car style, very innervate.



高通 入股英国最大充电服务供应商

Qualcomm has invested stake in the UK's largest charging service provider



日前，高通宣布将投资英国最大的电动车充电服务商——Chargemaster，意在与对方共谋1万个无线充电网点业务。

Chargemaster目前已经在英国境内为公共区域、写字楼以及居民住宅区建成超过2.7万个电动车充电服务网点，同时兼职运营英国最大的公共充电服务管理网站POLAR。但Chargemaster“觊觎”无线充电技术已经好久，这家颇有“心计”的电动车充电服务供应商在英国及欧洲等地相继建成超过1万个同时可兼容无线充电的网点，其设备可以非常轻松地适配由高通研发的电动车无线

Qualcomm has announced it will invest the UK's largest electric vehicle charging service provider - Chargemaster, aimed at doing 10000 wireless charging network business together with each other. Chargemaster is setting up more than 27000 electric vehicle charging service outlets in the public areas, office buildings and residential areas of UK, at the same time to part-time

operate the UK's largest public charging service management web site POLAR. But Chargemaster has "wanted" wireless charging technology for a long time, this quite a "calculating" electric vehicle charging service provider has set up more than 10000 compatible wireless charging networks in the UK and other places of Europe, the devise can be very easily to adapt electric vehicle charging (WEVC) system which was researched and developed by Qualcomm, in the future this technology will become the main power of Chargemaster charging service station.

多氟多 获政府支持做整车

Fluorine is supported by the government to do more vehicle



主要从事六氟磷酸锂(锂离子电池电解质)生产的多氟多，在河南省焦作市政府的大力支持下，有望拿到新能源汽车生产资质。

尽管从技术研发能力上已具备做整车的能力，但根据国家产业政策，多氟多尚无法拿到生产

资质，目前现实的选择是同整车厂商合作。

Fluorine, which is mainly engaged in producing six lithium fluoride phosphate (lithium ion battery electrolyte), under the government's strong support of Jiaozuo in Henan province, is expected to get new energy automobile production qualification.

Although has the ability to do the vehicle research and development in technology, but according to the national industrial policy, Fluoride is still unable to get more production qualification, the reality choice is to cooperate with the vehicle manufacturer.

众泰 Z500电动版领衔 推多款新能源车

Zotye Z500 electric version promote many new energy vehicles



12月11日，众泰汽车董事长吴建中在“2014年度消费车型暨营销活动颁奖典礼”上透露，众泰汽车正计划推出多款新能源车型，其中包含众泰Z500电动版，以及代号分别为B12和B15的插电混合动力轿车等车型。

目前，众泰汽车旗下电动车阵容包含了众泰5008EV、M300EV以及众泰云100等多款车型。

On December 11, the chairman of Zotye auto Wu Jianzhong has stated on the "2014 annual consumption models and marketing awards ceremony", Zotye auto is planning to launch several new energy vehicles, which contains Zotye Z500 electric version, as well as the symbol of B12 and B15 plug-in electric hybrid cars and other vehicles respectively.

At present, Zotye electric vehicle lineup includes the 5008 EV, M300EV as well as the Zoyte Yun 100 models.

特斯拉/宝马 召回隐患电动汽车

Tesla/BMW recall hidden danger electric vehicles

挪威是特斯拉在欧洲最重要的市场之一。由于特斯拉Model S的电动马达以及变速器在组装的过程中存在故障。特斯拉决定在挪威召回1100辆Model S车型，将免费为车主提供维修服务。人口仅510万挪威鼓励电动汽车政策非常成功，全国电动汽车保有量达到32000辆，电动车保有率世界第一。

与此同时，宝马公司近日召回了228辆存在缺陷，可能存在起火隐患的i8车型。

Norway is one of the most important Tesla market in Europe. Due to the electric motor and transmission of Tesla Model S existed defects in the assembling process. Tesla auto decided to recall of 1100 Model S vehicles in Norway, will provide free maintenance service for car owners. The electric vehicle encourage policy has been very successful for a population of only 5.1 million Norwegian, the electric vehicle ownership has 32000 cars, electric vehicles retention rate is the first place in the world.

At the same time, BMW has recalled 228 defected vehicles, there may be a hidden danger of fire for i8 models.



吉利/新大洋/金沙江创业 60亿建合资公司造微型电动车

Geely/Xindayang/Jinshajiang entrepreneurship 6 billion capital to build tiny electric vehicle joint venture

吉利汽车集团与新大洋机电集团、金沙江创业投资公司三方共同斥资60亿元组建吉利新大洋合资公司，旨在2018年前投产10万辆城市微型纯电动车。合资公司与宁波南部滨海新区在吉利集团杭州总部签订的合作意向，意味着城市微型纯电动车项目将落户宁海。

微型电动车的销量年年看涨，目前已有接近百万的总保有量，为了进一步扩大电动车产品覆盖面以及继续研发更符合城市交通的产品，吉利也开始寻求与更多企业联手进行电动车的生产。

Geely automobile group and Xindayang electromechanical group, Jinshajiang tripartite joint venture had invested 6 billion yuan to build Geely and Xindayang joint venture, aim to produce 100000 miniature pure electric vehicles before 2018. The joint venture company had signed a cooperation intention with northern Binhai New Zone of Ningbo in Geely group of Hangzhou headquarter, which meant that miniature pure electric vehicle project will be settled in Ninghai city. The sales of Mini electric vehicle is rising every year, there are close to the millions of total ownership, in order to further expand coverage for electric vehicle products, and continue to develop more vehicles that meet the urban traffic, Geely also began to seek teamed up with more enterprises for electric vehicle production.



天能科技 获康迪车业2亿多元锂电池合同

TianNeng Technology has got a 200 million multivariate contract lithium-ion batteries from Condi auto enterprise

天能动力国际旗下全资附属浙江天能能源科技与浙江康迪车业签订2015年锂电池购销合同，康迪车业承诺在2015年向天能能源科技采购总价值不低于2.6亿元人民币的锂离子动力电池。康迪车业是一家专业从事投资、研发、生产、市场推广及销售电动汽车业务的公司。

TianNeng power international energy technology and its wholly owned subsidiary of Zhejiang TianNeng Technology and Zhejiang Condi auto had signed a lithium batteries procurement contract about 2015, Condi auto has committed to buy the procurement value of not less than 260 million RMB yuan of lithium ion power battery in 2015 from TianNeng energy technology. Condi auto industry is a specialized engaged in investment, research and development, production, marketing and sales of electric auto company.



上海 消除壁垒 沪将不再推新能源汽车地方车型目录

Shanghai eliminate barriers Shanghai will no longer to promote new energy vehicle models catalogue



由于公布地方补贴车型目录受到多方质疑，上海将不再推出新的上海市新能源汽车补贴车型目录，未来国家新能源汽车推广目录和新能源汽车免征车辆购置税目录中若加入进口车，上海都会与国家目录保持一致，给予新能源汽车牌照。

目前已有400辆特斯拉电动汽车申请到新能源汽车免费上海车牌。

Due to there are many critics about the published local subsidy catalogue cars, Shanghai will no longer to launch the Shanghai new energy subsidy car catalogue, the future national new energy automobile promotion directory and new energy automobile vehicle purchase tax shall be exempted to join imported cars, Shanghai will be consistent with the national catalogue, giving license plate

to new energy car.

There are 400 Tesla electric vehicles had been applied to install the Shanghai license plate for free

广东 广州纯电动客车接近停运

Guangdong Guangzhou pure electric bus close to shut down



据媒体9月调查，广州目前仅有3辆纯电动公交车在运营，而这3辆纯电动公交车仅配有2名司机。广州市在2010年亚运会期间投入运营了26辆纯电动公交车，其全部由广汽客车生产。到了2013年，这批车已有近20辆因为电池衰退等问题而停止了运营。插电式混动公交则运行较顺畅。

According to media surveys In September, There only have three pure electric buses in operation in Guangzhou, and this 3 pure electric buses equipped with only two drivers. Guangzhou had put 26 pure electric buses into operation in Asian games in 2010, all of them were produced by the GAC Group. In 2013, nearly 20 pure electric buses had stopped operation because the battery

recession problems. Plug-in hybrid bus is operating more smoothly.

四川 电动汽车用电2020年前免基本电费

Sichuan electric vehicle electricity utilization will be basically free before 2020



继免征新能源汽车购置税政策后，促进电动汽车推广应用的又一利好政策出台。10月20日，四川省发改委出台了“关于电动汽车用电价格政策”的通知，对党政机关、公共停车场等设置的充电设施用电：执行“一般工商业及其他”类用电价格；经营性集中式充换电设施用电：执行大工业用电价格，2020年前暂免收基本电费；住宅等设置的充电设施用电：执行居民用电价格中的合表用户电价。

After the exemption of new energy vehicle purchase tax policy, another good policy of which is to promote the popularization and application of the electric

vehicle. October 20, Sichuan provincial development and reform commission had issued "the notice about the electricity utilization price policy of the electric vehicle", performing " general industry and commerce and other kind of electricity price " to the party and government organs, public parking lot set charging infrastructure; performing the industrial electricity price to the Operating centralized charge in electric facilities: electricity will be basically free before 2020; performing residential electricity prices of BHB user of electricity to Residential setting of charging facilities

江西 南昌纯电动私人乘用车最高补4.4万元

Jiangxi the highest subsidy for Nanchang pure electric private passenger car is 44000 yuan

南昌市私人领域购买新能源汽车推广范围为，私人购买或面向个人的租赁使用。2014-2015年推广新能源汽车350辆。南昌市新能源汽车购置补助标准分车辆用途和车辆类型，其中私人、租赁纯电动乘用车($R \geq 250$)，补助标准为4.40万元/辆；纯电动客车 ($L \geq 10$) 补助15万/辆。

Nanchang private sector promotion scope is to purchase new energy vehicle, private purchase or lease use for individuals. Promotion of new energy vehicles in 2014-2015 are 350 cars. Nanchang new energy vehicles purchase subsidies norm has divided into vehicle use and vehicle type, including private, leasing pure electric passenger cars ($R \geq 250$), allowance standard is 44000 yuan/car; Pure electric passenger cars ($L \geq 10$) allowance is 150000 yuan/ car



北京 与福田签订700辆纯电动公交合同

Beijing had signed a 700 pure electric buses contact with Futian automobile group

北京公交集团与福田汽车集团签订了700辆纯电动公交车合同，首批交付的30辆纯电动公交车将投放到怀柔区运营，这也是北京远郊区首次大规模批量应用纯电动公交车。预计未来还将有70辆纯电动公交车投放到怀柔区运营，怀柔区将成为北京市首个纯电动公交规模示范运营区。

Beijing bus group and Futian automobile group had signed a 700 pure electric buses contact, the first batch of 30 pure electric buses will be put into operation on the Huairou district, it is also the first Beijing suburb large-scale application of pure electric bus. It is expected there are 70 pure electric buses will put into operation on the Huairou district in the future, Huairou district will become the first pure electric bus demonstration operation area in Beijing.



广东 惠州规划建590个出租车充电桩

Guangdong Huizhou plan to set up 590 rental charging piles

2014-2015年，惠城区将分6个点位，建设250个出租车充电桩；远期2016-2020年再增加7个点位，建340个充电桩，惠城中心区共建设590个出租车充电桩。

2013年9月，惠州被列为全国第一批新能源汽车推广应用试点城市，制定了《惠州市新能源汽车推广应用实施方案》，要求到2015年底，全市新能源汽车推广总量达到1500辆，其中出租车推广430辆，而惠城区出租车的推广数量为210台。

In 2014-2015, the Huicheng city will be divided into 6 point locations, to set up 250 taxi charging piles;

In the long term of 2016-2020, will set up additional 7 point locations, to set up 340 charging piles, HuiCheng city will set up 590 rental taxi charging piles.

In September 2013, Huizhou is listed as the first national batch of new energy vehicle pilot cities, formulated the < Huizhou new energy vehicle application implementation plan >, require to promote totally 1500 new energy vehicles by the end of 2015, including 430 taxis, and the number of promoting taxi in Huicheng city is 210 vehicles.



天津 首批30余辆快递新能源汽车投运

Tianjin The first batch of 30 express new energy vehicles will put into operation



天津首批30余辆新能源汽车正式投入快递行业运营。首批快递新能源汽车由天津清源电动车辆责任有限公司生产，由申通、邮政EMS、圆通、汇通、韵达五家公司采用，他们在车辆上喷涂上各自的颜色和标识，上路行驶不受道路通行尾号限制。车辆后厢体积仍然为1.1立方米，充完一次电，能保证行驶80至90公里的路程。至2015年年底，天津邮政快递行业将完成3380辆新能源汽车的推广应用计划。

The first batch of Tianjin 30 new energy vehicles will radically put into operation in express industry. The first batch new energy vehicles were manufactured by Tianjin Clean Energy Electric Vehicle co., LTD., were adopt by five companies of

Shentong, Postal service EMS, Yuantong, Huitong, YunDa, they spray their own colors and logos on vehicles, will not be restrict by the late number of the road traffic. The back volume of Vehicle is still 1.1 cubic meters, can make a endurance driving range of 80 to 90 kilometers for charging one time. By the end of 2015, Tianjin Postal service EMS industry will complete 3300 new energy vehicles promotion plan.

上海 嘉定试点电动车分时租赁

Shanghai Jiading district made the



张江国家自主创新示范区嘉定园区将在国内率先试水电动汽车分时租赁模式，进一步降低电动汽车的使用门槛。租车者无需到网点办理租赁手续，只需通过运营方开发的官网或者手机APP完成注册，便可成为会员，并获得会员卡。凭会员卡即可打开预定车辆的车门，使用后停放到共享服务网点充电，并通过APP确认付款，整个租车流程就完成了。

首批试点的车型包括通用雪佛兰、荣威E50等。价格方面，前30分钟15元，超30分钟后1元/分钟，每24小时最高180元。

Zhangjiang national independent to innovate demonstration Jiading zone will make a first test of a separate time rental mode for electric vehicle, further to reduce the use of electric vehicles. Rental Drivers don't need to make the network lease procedures, you can become a member

and get a membership card simply to register the official website or mobile APP. With the membership card can open the reserved vehicle, parking on the public share service charging place after used, and confirm payment through the APP, the rental process is completed.

The first batch of pilot vehicle models are including GM Chevrolet, Roewe E50, etc.

As the Price, 15 yuan for the first 30 minites, 1 yuan/minute after 30 minutes, it is up to 180 yuan every 24 hours.

辽宁 沈阳明年推5000辆新能源汽车

Lening Shenyang will promote 5000 new energy vehicles next year



作为国家第二批新能源汽车推广示范城市，沈阳规划将在2015年发展新能源汽车5000辆，建设大型充电枢纽站10座、充电桩5000个，到2020年，沈阳市新能源汽车保有量将超过5万辆，届时将建设充换电站68座、充电桩8380个。具体落实如何，拭目以待。

As the nation's second batch of new energy vehicles promote demonstration cities, Shenyang will plan to develop 5000 new energy vehicles, to build 10 large charging hub stations, 5000 charging piles in 2015, by 2020, the new energy vehicle ownership in Shenyang will be more than 50000 vehicles, and will build up 68 exchange charging piles, 8380 charging piles by then. How is the details, we

will wait and see.