自动驾驶小兵Mobileye要击败巨人谷歌

Automatic driving batman Mobileye or will beat the giant Google

文/ 曾芙蓉 Article/Zeng Furong

如果你继续将谷歌当做无人驾驶的未来，那么你就大错特错了。整套成本数十万美元，国内高校研究机构采取相似方案也需要60万元的高昂成本，令目前被人津津乐道的无人驾驶技术距离商业化始终遥远。

而Mobileye退而求其次，通过汽车安全辅助系统接近自动驾驶的路线，却创下了美国史上以色列公司上市IPO之最，市值直达80亿美元。一套由Mobileye提供给奥迪A7的自动驾驶方案，成本仅仅几百美元。

Mobileye的成功，直接刺激了同类汽车智能硬件供应商。十年低调研发之后，Mobileye成功跻身宝马、沃尔沃、Tesla前装合作阵营，这也使得汽车智能化方向既定之后，产业链的子集变得扑朔迷离。技术越可靠、成本越低廉的企业，将越接近这个子集的核心，成为新兴汽车技术市场的宠儿。而这个角色，很可能根本不是谷歌，不是百度，不是博世也不是大陆。

If you continue to take Google as unmanned driving in the future, then you are wrong. Cost hundreds of thousands of dollars, of a complete set of domestic research institutions in colleges and universities adopt similar scheme also need high cost of 600000 yuan, the present being relish unmanned technology commercialization is always far away.

And Mobileye settle for second best, through the auto safety assistant system is close to self-driving route, but has made the best listed IPO company in Israeli of U.S. history, market value to $8 billion. One set of Mobileye was provided to Audi A7 autopilot scheme, cost only a few hundred dollars.

The success of Mobileye, has directly stimulated the similar car intelligent hardware vendors. After a decade of research and development of low profile Mobileye has successfully to come into the cooperation of BMW, Volvo, Tesla, it also has made the industry chain in a subset situation after the established of the car intelligent direction. The enterprises which are more reliable, lower cost will be closer to the core of this subset, has become the favorite of the emerging technology markets. And this role, probably not Google,

Mobileye将掀起潮流，还是孤芳自赏？

Mobileye不仅是一家硬件公司，在智能汽车环境感知技术领域，从硬件到识别算法，它都有很强的实力。

智能汽车技术涉及很多方面，除了互联网企业描述的信息服务，还包括行驶环境感知、决策控制等基本技术。而智能汽车的初级阶段——ADAS先进驾驶辅助系统，从十几年前，在汽车行业就开始了其演进过程，从研发、示范、推广到批量实施，ADAS走过的路径，基本上就是一个常规汽车电子技术所应该遵从的路径。

从市场发展趋势来看，ADAS如今已经到了快速市场普及的阶段，Mobileye也是通过十年研发，到今天才累计销售了350万台次产品。所以，这不是偶然，而是大势所趋，相信后续会有更多的企业逐流而上。

谷歌、百度、Mobileye，谁会成为新的宠儿？

智能汽车不是靠某种单一技术就能完整打造，从整车角度出发，单纯的互联网公司和传统的汽车企业都很难一家独大，可能的演进过程将是：

第一阶段：积极的整车企业和激进的互联网公司，都分别从各自的诉求出发，单独研发概念性技术；

第二阶段：互相合作，优势互补。

第三阶段：统一标准，产品大规模复制。

第四阶段：技术再次革新。

在各个阶段，如Mobileye等零部件技术公司，也需要跟随大的行业发展去融入、去自我演进。

这就像过去汽车工业发展过程一样，一开始，因为市

not Baidu, is not the Bosch is not the mainland.

Automotive engineering director Mr Li Keqiang at the Tsinghua University

Mobileye will wave the tide, or narcissistic?

Mobileye is not only a hardware company, but in the field of smart car environment perception technology, from hardware to recognition algorithm, it has the very strong strength.

Intelligent vehicle technology involves many aspects, in addition to Internet companies to describe information services, also includes basic technology such as driving environment perception, decision-making and control. And in the preliminary phase of the smart car – ADAS advanced driving assistance systems, from more than ten years ago, in the automotive industry began its evolution process, from research and development, demonstration and promotion to the batch operation, the process of ADAS, was the path which basically a conventional automobile electronic technology should follow by.

From the developing trend of the market, ADAS is now in the rapid market popularization stage, Mobileye is through ten years of research and development, the total sales is 3.5 million products until today. So, it is no accident, but it is the trend of The Times, believe that it will have more business to be flowed up.

Google, Baidu, Mobileye, who will become the new favorite?

Smart car is not completed only by a single technology, from the Angle of the vehicle, pure Internet companies and traditional automobile enterprises are difficult to dominance, may be the evolution of the process will be:

First stage: positive automobile enterprise and radical Internet companies, all starting from their demands respectively, developing conceptual technology alone;

The second stage: mutual cooperation, complementary advantages.

The third stage: a unified standard, the product mass replication.

The fourth stage: technology re-innovation.

In each stage, such as Mobileye component technology company, also need to follow to go into the development of the industry, to the

场需求导向，美国人造美国车、欧洲人造欧洲车，只要抓住市场的企业，就会独自发展；然后因为市场发展和技术成熟，各个优秀的公司会在某些方面较其他公司突出，市场的规律会促使企业之间互相学习合作，创造更好的商品满足市场的需求；当智能汽车的技术和某些市场已经到达成熟阶段，就会出现优秀的公司，或由政府出面统一标准，进行大规模复制，向全世界普及；然后，随着普及率达到一定程度，消费者的诉求肯定又会发生演进，新的技术又必然会出现。

在市场规律下，不必担心持久的垄断。

谷歌无人驾驶与Mobileye为何成本差距在哪?

国内研发智能汽车(无人驾驶汽车)普遍存在认知误区，即没有分清军用无人驾驶与民用智能汽车的差别。

军用智能车与民用智能车对比表

谷歌智能汽车是采用的军用智能汽车的方案，这就表明其与一般车企采用的民用智能汽车方案有很大不同。

汽车作为商品，量级很大，所以不太允许太高成本的产品。Mobileye开发的，不能算是自动驾驶系统，只是自动驾驶系统的预警部分。智能驾驶系统应该包括：智能传感装置、控制协调装置、执行器部分。Mobileye的产品，属于智能传感装置的一部分。

谷歌无人驾驶原型车之所以成本很高，除了其采用的军用智能车的方案外，还有几方面原因：

1、传感装置非汽车上广泛使用的装置，造价昂贵；

2、控制协调装置，也是谷歌根据自己的系统设计定制开发，开发投入大，存在定制化费用；

3、执行装置，未利用汽车原有的执行器装置改进，而是额外添加，另外样机成本也较高。

evolution of itself.

Like auto industry development in the past, at the beginning, because the market demand guidance, American make American cars, European make European cars, as long as the enterprise seize the market, it will develop alone; Then because of market development and mature technology, various excellent companies will stand out in some ways than other companies, the law of the market would lead the enterprises to learn and cooperate from each other, to create better products to meet the demand of the market; When a smart car technology and some market has reached the mature stage, it would be a good company, or issued the uniform standard by the government, large-scale replication, spread all over the world; Then, as the penetration rate reached a certain degree, the consumer demands and evolution happens, new technology is inevitable to come out.

Don't have to worry about enduring monopoly under the market rules,

What is the cost gap between Google unmanned driving and Mobileye?

Domestic research and development of smart car (driverless cars) are widespread cognition pitfalls, which did not distinguish the difference between military unmanned and civilian smart car.

The contrast table of Military smart car and civil smart car

Google smart car was adopted the scheme of military smart car, this has indicated that it was quite different from the civil smart car of the ordinary car companies.

Car as a commodity, scale is very big, so don't allow too high cost of product. Mobileye developed the one, is not a automatic driving system, and only warning part of autopilot system. Intelligent driving system should include: intelligent sensing device, control, coordination device, actuators. Mobileye products, it is a part of the intelligent sensing device.

Google driverless prototype car is expensive, in addition to the use of military smart car scheme, there are several reasons:

1, the sense device are rarely used devices on the car, expensive cost;

2 Controlling coordinate device, according to its own system design custom development, large cost of investment, has customization cost;

3, actuators device, unused car original actuator device improvement, but adding extra, prototype cost also is relative high.

Audi developed automated driving device, is adopted the civilian smart car's scheme, controlling coordinate device and actuator device is adopted traditional automobile chassis electronic parts,

而奥迪开发的自动驾驶装置，采用的是民用智能汽车的方案，控制协调装置和执行器装置都采用汽车传统底盘电子部件，并未增加额外成本，增加的部分也就是智能传感装置如雷达、摄像头、位置感知设备等。

短期内，无疑是整车厂开发的这种自动驾驶系统更适合商品化，为普通消费者接受。但谷歌的方案，如果从商业模式上进行创新(可以参考Tesla)，在一些特殊市场领域推广应用(军用车辆或特种高级车辆)，一开始成本较高，但随着应用量越来越大，成本下降是必然趋势。

中国企业能不能复制Mobileye的成功？

以Mobileye为技术标杆的企业，中国的确有不少。清华大学汽车工程系，从1998年开始，通过国家项目及国际合作项目的支持，也在研究智能驾驶辅助系统ADAS领域的关键技术，并推动相关技术产业化，支持孵化了一些高科技公司。

尽管中国企业在汽车电子领域与国外的差距很大，但智能驾驶辅助系统ADAS这个新兴领域，给了中国企业一些机会，Mobileye的技术虽然好，但是在中国也还未推广得很多。这是因为ADAS需要大量的本土化开发工作，与本土交通环境、与本土驾驶员特性结合。无论对于国外还是中国企业而言，这个技术门槛都不低。

与此同时，Mobileye在大多数汽车厂，还只是二级配套商，而很多一级配套商如Bosch、Continental等公司，也在研发自己的智能驾驶产品，Mobileye未来是否会持续领先，还需要观望。

尽管只是几百美元，但价格还是相对较高，而国内自主品牌车企恰恰对成本非常敏感，这之间的矛盾暂时还难以调和。自主品牌汽车智能化，一方面可以与国外先进公司合作，学习最先进的技术，另一方面，应该在政府、整车厂、零部件公司、高校研究机构之间，构建更紧密的战略合作，这样才能开发出适合中国市场，也更有特色的产品。

也只有如此，低成本的自动驾驶，才会更快来临。

did not add additional cost, the increase is the intelligent sensing device such as radar, cameras, location-aware devices, etc.

In the short term, it is undoubtedly the closure of the development of the automatic driving system is more suitable for commercialization, and be accepted by ordinary consumers. But Google's solution, if to innovate from the business model (refer to Tesla), popularization and application in the field of some special markets (senior military vehicles or special vehicles), cost is relative high at the beginning, but as more and more applications, the cost will be reduced inevitably.

Whether Chinese companies can replicate Mobileye's success?

China do have many Mobileye benchmarking technology companies.. Department of automotive engineering of Tsinghua University, begun from 1998, supported by the national and international cooperation projects, also in the study of key technology of intelligent driving auxiliary system in the field of ADAS, and push related technology industrialization, supported the hatching some high-tech companies.

Although the gap between Chinese enterprises in the field of automotive electronics and abroad is very big, but intelligent driving assistant system ADAS this emerging field, has given some opportunities to the Chinese enterprises, although Mobileye technology is good, but has not been promoted a lot in China. This is because the ADAS requires a lot of localization development, and local transportation environment, combined with local driver characteristics. The threshold is not low for both foreign and Chinese companies.

Meanwhile, Mobileye is only the secondary assort supplier in most automobile factories, and a lot of first class assort suppliers (such as Bosch, Continental and other companies, also are developing their intelligent driving products, whether Mobileye can continue in the leading place, it is still need to wait and see.

Though only a few hundred dollars, but the price is relatively high, and the domestic independent brand car companies just is sensitive to the cost, the contradiction also difficult to reconcile for the moment. Independent brand automobile intelligence, on the one hand, can cooperate with foreign advanced companies, learning the most advanced technology, on the other hand, should make a closer cooperation with the government, OEMs, parts company between research institutions, universities, so as to develop suitable for the Chinese market, and more distinctive products.

Also only by then, the low cost automatic driving, will come faster.

比续航能力和安全性
Mileage and Safety: FE

汽车运动总是伴随着汽车工业同时发展着。当电动车开始成为热门时，方程式赛车F1也开始逐渐跟上“时代的潮流”，摇身一变“FE”—9月13日，首届国际汽车联合会电动方程式赛车锦标赛（FIA Formula E Championship）在北京拉开帷幕，来自10支车队的20名赛车手驾驶着Spark-Renault SRT-01E赛车进行比赛。

比赛一共进行25圈，0-100公里/小时的加速时间设计在3秒以内！最高时速电子限制在225公里/小时。最终因为塞纳和海菲尔德在最后一圈的最后一个弯角发生严重碰撞退赛。将前

Car-related sports are always accompanied by auto industry development. When electric car becomes popular, Formula F1 also begin to catch up with the trend of The Times. It becomes FE. September 13, FIA Formula E Championship was kicked off in Beijing where 20 racing drivers from 10 teams drove Spark –

FE助推电动汽车发展
Boosting EV Development

文/ 综合 Text/Zong He

三名分别让给了奥迪ABT车队的Di Grassi、Andretti车队的Franck Montagny和Virgin Racing车队的Sam Bird，分获25、18和15个积分。赛会正在对这一碰撞过程展开调查，究竟是二人谁的过错还得等待裁决。也许这就是比赛的真正含义，带一点惊险，带一点忧伤，不到最后一刻，永远也不知道结果。

什么是FE?

这项全新的赛事来自于国际汽联，是F1的同门“师弟”——是一项全新的全球全新顶级赛事。不过，尽管师出同门，但很显然FE跟F1相比变化还是很大的。

变化一：
车手：二线成员居多

此次比赛共有10支队伍，除了欧美等国的战队之外，其中

Renault SRT – 01 E cars for a race.

The game has a total of 25 cycles, 0–100 km/h of acceleration is designed to be within 3 seconds! A top speed of electronic limited to 225 km/h. Because Senna and Highfield eventually were at a corner at the end of the last cycle to produce a serious crash, so being out of the race. The top three are respectively to Di Grassi of Audi ABT team, Franck Montagny of Andretti team and Sam Bird of Virgin Racing team, they respectively got 18, 25 and 15 points. The collision process was investigated to determine who's fault. Perhaps this is the true meaning of the game with some risk or sadness. The result was not known until the last moment.

What is FE?

This new competition is from Federation Internationale du Sport Automobile (FIA). As a brother of F1, it is a new global brand top competition. However, it has large changes when compared with F1.

Change 1:

Driver: peripheral members dominate

A total of 10 teams took part in this match. In addition to countries such as Europe and the United States, China sent her team out – China's national team. The drivers included Little Piquet son of the former formula one world champion Piquet and Chinese racing star Dong Hebin.

Although the frontline F1 drivers were absent, but in order to attract eyeballs, the tournament attracted a lot of masters to attend. Among 20 drivers, 10 drivers were former F1 drivers, including Jiano, Jamie, Sebastian, Lucas Di Grassi and Bruno Senna who was Seine's nephew. In addition, the Hollywood star Leonardo also was together with partners to form their own team. However, he did not to be as a driver.

2:

me model of sports car

use their own cars, but drivers in FE use the same model of sports car, i.e. Spark – Renault SRT_01E whose drive system and subsystem integration design is in charge by Renault. SparkRacing Technology is responsible for the design of the chassis, suspension system and the aerodynamic system. It is equipped with McLaren's transmission gear and electric motor. Williams' battery system and Dallara's cockpit are used.

还有一支来自中国的车队—中国国家赛车队，参赛车手分别是前F1世界冠军皮奎特之子小皮奎特和华裔赛车名将董荷斌。

尽管一线的F1车手并没有参赛，不过为了吸引眼球，此次赛事还是吸引了一众“武林高手”前来比试，20位车手中有10人是前F1车手，包括前一级方程式赛车明星加诺·特鲁里、贾米·阿古尔苏阿里、塞巴斯蒂安·布埃米、卢卡斯·迪·格拉西和布鲁诺·塞纳，也就是伟大的埃尔顿·赛纳的侄子。此外，其中好莱坞影星莱昂纳多也跟合伙人一起组建了自己的车队，不过已经发福的“小李子”并不打算亲自上阵，于是车手就另聘高明啦！

变化二：
赛车：统一采用同款赛车

跟F1各车队使用自己单独的赛车不同的是，FE使用的是部分零件统一的赛车“Spark-Renault SRT_01E”，这辆车由雷诺负责传动系统的设计及各部分系统的整合工作，SparkRacing Technology负责赛车底盘、悬架系统及空气动力学设计，并配备迈凯伦的变速箱和电动马达，威廉姆斯的电池系统及来自意大利的Dallara打造的单体式驾驶舱。

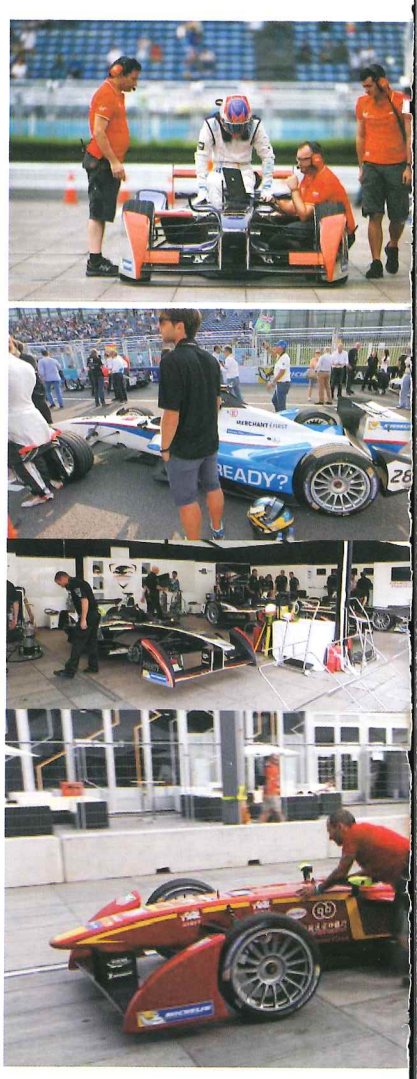
所以，其实这相当于是一个单品牌的汽车赛事，对于车手来说相对公平。Spark-Renault SRT_01E赛车的0-100km/h加速时间为3秒，最

So, in fact, this is a single brand car race. It is relatively fair for drivers. For Spark – Renault SRT_01E, 0-100 km/h of acceleration takes 3 seconds, top speed is between 220-250 km/h. Noise is 80 db most of which is from the straight tooth transmission gear at the high speed. It is a little higher than general vehicles whose noise is only 70 decibels.

Change 3:
Run track: streets

It is well known that F1 has strict requirements for the run track which must be a professional track in accord with standard requirements of F1. Such run track only exists in Singapore. For FE, all the run track is in the downtown. Electric equation tournament will not be held in the permanent track, but in the streets of the downtoum in the major cities in the world. It will be better to promote electric vehicles. The first competition venues in Beijing is chosen around the Olympic Park, Water Cube and Bird Nest. The run track is simple, which is basically convex-shaped.

Then the competition will come to Malaysia, Uruguay, Argentina (Buenos Aires), the United States (Miami and Long Beach), Monaco and Germany (Berlin). In 2015, the final competition will be held in London on June 27. In addition, pre-game practice, qualifying competition, and formal competition are arranged on the same day, so as to reduce the impact on the urban traffic.



首届Formula E的10个参赛车队

DRAYSON RACING	英国
VIRGIN RACING	英国
CHINA RACING	中国
ANDRETTI AUTOSPORT	美国
DRAGON RACING	美国
E. DAMS	法国
SUPER AGURI FORMULA E	日本
AUDI SPORT ABT	德国
MAHINDRA RACING	印度
VENTURI GRAND PRIX FORMNULA TEAM	摩纳哥

高时速在220-250km/h之间。车辆行驶时的噪音值为80分贝，这些声音主要由直齿变速箱高速运转带来，只相比一般车辆的70分贝稍高一些。

变化三：
赛道：全部采用街道赛

众所周知，F1对赛道要求积极严格，所有比赛都要在符合F1标准的专业赛道上进行，只有在新加坡才有街道赛。而“师弟”FE显然不想那么曲高和寡，而是将赛道全部都搬到了市中心。电动方程式锦标赛将不会在永久性赛道上举行，而是在世界各大城市中心地带的街道赛道上进行，这将更好地对电动车进行推广。首站北京的比赛场地，选择在环奥林匹克公园，赛道围绕着水立方和鸟巢进行，赛道也比较简单，基本上是一个“凸”字形。

随后这一赛事将会来到马来西亚的布城、乌拉圭的埃斯特角城、阿根廷的布宜诺斯艾利斯、美国的迈阿密和长滩、摩纳哥和德国柏林，并于2015年6月27日在英国伦敦举行决赛。此外，赛前练习、资格赛和正式比赛均安排在同一天内进行，将尽量减少对城市交通的影响。

Change 4:

Rule: no battery charge but car change

For FE, some rules seem to be a little boring. In the practice and qualifying races, the driver can drive at the max power mode (200 KW / 270 HP), but in the formal race, the power saving mode (133 KW / 180 HP). The driver can temporarily use the max power by the acceleration button, but the the number is limited. The driver having the most votes in the network can have a chance for speeding up extra.

Due to the charging different from refueling, a car should be used for some hours after one charge. There for, in order to save time, in the practice and qualifying races, the car battery cannot be charged. But in the formal race, the drive should come to the station twice for a change. This is equivalent to the fact that the car having no enough battery electricity is changed.

The result?

Audi ABT team won the champion

Like F1, FE has a competition point: speed. In FE Beijing station, the entire course has 25 cycles. In qualifying race, the French Nicolas Prost obtained the first pole position by 1 minutes 42

变化四：
规则：不充电只换车

对于FE来说，其比赛规则似乎有些“寡然无趣”：首先，统一赛车就意味着在赛车的看点仅限于拉花的不同；其次，练习赛、排位赛时，车手可以使用赛车的最大马力模式（200千瓦/270马力），而正赛时赛车将被调至节电模式（133千瓦/180马力），车手在超车时可以通过一键加速临时使用最大马力，不过次数有限，赛前网络得票数最多的车手将拥有额外一次加速机会。

由于充电不比加油，一辆赛车要充满电没有几个小时可不行，因此为了节省时间，练习赛、排位赛和正赛时，车队都不能为赛车充电，但在正赛时，赛车必须两次进站更换赛车，这就相当于直接替换电量不足的赛车。

赛果如何？
奥迪ABT车队夺冠

跟F1一样，FE比的也是速度。FE北京站的比赛，全程25圈。在排位赛中，法国人尼古拉斯·普罗斯特以1分42秒的成绩获得了电动方程式历史上首个杆位。不过，虽然他在正赛中也一路领先，但在比赛的最后一个弯道，排名第二的海菲尔德从小普罗斯特身后抽头，两辆赛车发生了碰撞，海菲尔德的赛车在碰撞后失控，撞上防护墙后腾空数米，重重砸向地面，场面相当惨烈。虽然双方车手均未受伤，但两人也遗憾退赛。

最终，奥迪ABT车队的迪·格拉西顺势获得了电动方程式历史上的首个冠军。此外，奥迪ABT车队的另一位车手丹尼尔-ABT原本以第三名冲过终点线，但是FIA称其电量消耗超过规则上限的28kwh—丹尼尔-abt的实际消耗量为28.2kwh，所以最终山姆·伯德获得季军。

中国队方面，尼尔森·皮奎特第九位起步，最终以第八名完赛。队友董荷斌的比赛厄运不断，继FP2撞坏前悬挂和散热器，排位出现失误后，正赛开始前又因为更换变速箱被罚退10位，从维修站起步的他最终以第16名的成绩艰难完赛。

未来设想？边比赛边充电

此次比赛组委会提出的换车规则，就是为了避免电动车长时间充电的尴尬。但在赛场内，北京站比赛的宝马i8安全车和i3医疗车，就试用了无线充电技术。根据组委会设想，今后赛

seconds in the electric formula. Although he led in the play, his car collisions with Highfield's car. Highfield's car could not be controlled, so hitting the protective wall and then slamming into the ground. The scene was quite bitter. Both drivers were not injured, but unfortunately they were out of the race.

In the end, Di Grassi from Audi ABT team won the championship for the first time in the history of Electric Formula. ABT from Audi ABT team was the third to cross the finish line, but the FIA said his power consumed was more by 28KWH than the limit specified by the rule. His actual power consumed was 28.2 KWH. So, Sam Bird came second in the end.

In China team, Nelson Piquet started from the ninth place, and finally finished at the eighth place. Teammate Dong Hebin had poor performance. The front suspension and radiator from his car were crashed. He made a mistake in the qualifying race. Due to the change of the gearbox in his car, he backed to the tenth place before the start of the formal race. Starting from the pit lane, he finally was in the 16th place.

The future: will the car race while charging?

The competition organizing committee proposed the rule of change the car, in order to avoid the embarrassment of electric vehicle charging time being too long. But in the racing arena, the BMW i8 safe car and the i3 medical car were charged using the wireless charging technology. According to the ideas of the organizing committee, in the future, the wireless charging technology will be used to realize the advantage that the car can run while charging.

Now a sports car battery only lasts for 25 to 30 minutes, so the organizing committee required each team to stop in the station twice. This maintains the competition by changing a car. According to the organizing committee's vision, the goal of the future FE is that each team can finish the competition through the use of one car and one piece of battery.

In addition, Renault provided the technical support for Spark – Renault SRT – 01E sports cars. From the next year, car makers can made the sports cars for the ten teams according to the requirements of FIA so as promote the electric car technology. As a result, we can see the inside square, Renault, Tesla, BMW and other car companies and so forth show their latest electric cars.

Speed or mileage?

The competition scene had cars, beautiful women, and excellent drivers. The organizing committee specially invited the Chinese star Fan Bingbing as FE Ambassador for FE Greater China Clean

车将在比赛进行中，利用无线充电技术，实现边比赛边充电。

目前一辆赛车的电池只能维持25-30分钟，因此组委会要求在正赛中每支车队都要进站两次，通过换车的形式来持续比赛。但根据组委会的设想，未来FE的目标是每支车队都能够实现用一辆车和一块电池跑完整个比赛。

此外，本次本赛使用的由雷诺提供技术支持的Spark-Renault SRT-01E赛车，而从明年开始，赛事将向所有汽车企业开发，允许10支车队按照国际汽联指定标准打造各自的赛车以促进电动汽车技术竞争。因此，可以看到在广场内，雷诺、特斯拉、宝马等车企纷纷向观众展示最新量产电动车型。

该比的是速度还是续航能力？

有赛车，有美女，有排得上号的车手，组委会特意请来了中国明星范冰冰担任FE大中华区赛事清洁能源环保推广大使，场地还特意选在位于北四环的奥林匹克公园，国际汽联举办的首届FE绝对是个吸睛利器。在观众区，不少企业都拿出了自己的电动车产品做展示，包括特斯拉、宝马等。除此之外，不少电控、电机、电池、轮胎等企业，也纷纷支摊儿，利用这一平台来展示实力。很显然，这不仅仅是一项体育赛事，而是向大众推广电动车的一个窗口。

不过，如果是单纯比速度，那么电动车对于民众来说并没有太大意义—咱总不能动不动就在马路上玩百公里加速吧？而且，事实已经证明了，电机的效率比汽油机、柴油机都要高，在加速度、极速上秒杀传统汽车那是分分钟的事儿，之所以电动车还不能替代传统汽车，还是续航能力的问题。

所以，即便是FE已经将赛道搬到了市区，赛车造得再狂拽炫酷，外围宣传做得再好，对于咱老百姓来说，电动车还是高高在上，不接地气。

反倒是如果FE比的是续航能力，邀请多个厂家拿出自己的电动车型，在规定时间内比谁的续航能力强，谁的耗电量少，对于消费者来说更具意义。

Energy and Environmental Protection. The site also was specially chosen in Olympia Park, The first FE held by FIA was very popular. In the audience area, many enterprises showed their own electric products, including Tesla, BMW I, and etc. In addition, many enterprises in the fields of the electronic controller, motor, battery, tires and so forth set up their own exhibition booths to display their strength. Obviously, this is not just a sports event, but a window to promote electric vehicles.

However, if the competition goal is only the speed, then the electric car will be not much significant for common people. Facts have proved that, as to the efficiency of the motor, EV is higher than the gasoline or diesel car. Moreover, EV is more excellent than the traditional car with regard to acceleration and speed. However, the shortcoming of EV is the mileage.

So, even if FE is moved to the urban track with the cool car appearance and good peripheral propaganda, the electric car still is far away from the common people.

Instead, if the competition goal of FE is the mileage, then we can see the manufacturers to come up with their own electric car models to compete in the mileage and power consumed. Therefore, this is very significant for consumers.