

政府应成为推动电动

The government Should Become the Dominant

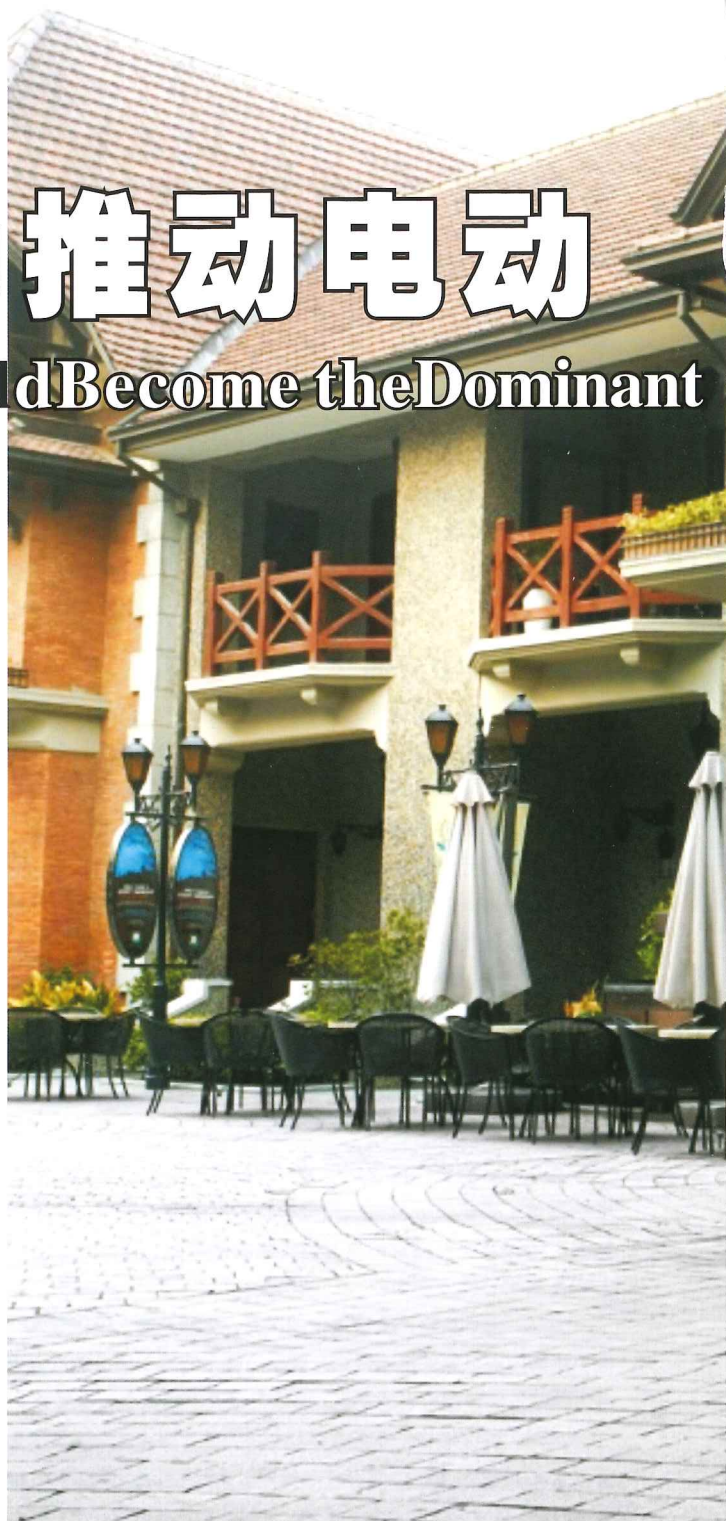
[按]陈清泰在两会期间和汽车界的两会代表见面，介绍了中国电动汽车发展百人会有关问题的背景和筹备情况。值得关注。

李岚清同志在前年就曾经邀请我和吴敬琏同志到他那里讨论电动汽车的发展问题。在去年10月,我们也有过一次讨论.在这期间讨论的主要是中国电动汽车发展的形式,技术转轨带来超越发展的机会和中国电动汽车产业发展有关政策方面的问题。汽车动力技术的电动化带来的影响是极其深刻的,电动汽车已经远远超出了传统汽车专业的范畴,涉及跨产业的协同,涉及生产消费的转型,也涉及能源结构的调整、基础设施的布局和建设等等。岚清同志他希望我们能够搭建一个非官方的平台,邀请有关人士开展电动汽车的技术政策研究,研讨和交流合作,同时为有关部门提供一些咨询建议,以此来促进中国电动汽车在开放条件下实现健康的发展。

电动汽车发展处于非常重要的时期

目前,中国电动汽车的发展处在一个非常重要的时期。经历五年十城千辆示范工程的积累,我们无论在技术、产业、商业模式还是基础设施商业化应用等各个方面应该说都取得了很大的进展。特别是把节能和新能源汽车上升到国家战略之后,推进的力度在加大。而环境问题日益严峻的倒逼,使政府和社会对电动汽车的发展形成了广泛的共识。

去年四季度,国家落实节能和新能源汽车发展战略的步伐明显加快,使我国电动汽车由试验示范期进入了苗圩部长所讲的产业发展导入期。马凯副总理带领部委领导就电动汽车发展进行了专题调研。在调研中,他对新能源汽车提出了有必要、有基础、有差距、有机遇的判断,我想这非常符合我们当前的实际情况。另外,他再次强调四个



[Editorial Words] In the meeting with representatives of our national TWO SESSIONS from the automobile industry, Mr Chen introduced the background and preparation of 100 People's Club for the development of EV in China. It is worthy of attention.

In the previous year, Comrade Li lanqing once invited me and Mr. Wu Jinglian to talk about the development of electric vehicles. In October last year, we had a discussion about the forms of development of EV in China as well as policies and development opportunities due to tech progress in China. The effect of automobile electric power technology is extremely deep. The

车的主导力量

Force in Electric Vehicles



文/陈清泰 Text/Chen Qingtai

不变，也就是发展节能和新能源汽车的国家战略不变；以纯电驱动作为新能源汽车发展的主导战略取向不变；发展目标不变；政府的扶持政策不变。

我国电动汽车的发展也进入了快车道，汽车动力技术的电动化是业界期盼已久的技术变革，一百多年来几起几落，但是都没有形成气候。随着近年动力电池和控制技术的发展，产业化已经进入了临门一脚。今天，汽车产业正在经历诞生百年以来最为重大的技术变革。由于我国早有准备，这为我们汽车产业的追赶者提供了一次良好的机会。

electric car has gone far beyond the traditional car field involving the synergy across the industry, the transformation of production, consumption, the adjustment of energy structure, the layout of the infrastructure and construction and so on. Comrade Li Lanqing hopes we can build an unofficial platform, inviting relevant persons to carry out research, discussion and exchanges and cooperation in the electric car technology and policy. At the same time, some advice is provided by relevant departments. These can promote China's electric cars healthy development under open conditions.

The electric car development is in a very important period



进入导入期，必须越过产业化这个门槛，但是这是一个非常艰难的过程。也是迄今为止我国工业化还很少经历的过程，因为我们原来都是技术追赶，别人做过了我们再做，而由我们自己的技术最后能够发展一个强大的产业，这个对我们来说还是新事物。

政府是推动电动车的主导力量

电动汽车产业化初期面临的是与近乎完美的燃油汽车相比，它始终存在着技术成熟度与市场规模，用户的普及程度和基础设施建设，产业规模与生产成本之间的先有鸡先有蛋的困惑。产业化应该坚持以市场为导向、以企业为主体。十八届三中全会再次肯定了这样的政府与市场的关系。生产者和消费者在缺乏应有预期的情况下，谁也不愿意贸然改变技术取向，因此在电动车产业化初期遇到的问题是市场失灵，或者是市场不太灵的问题。这个时候政府就成了推动电动车的主导力量。这是个需要特别审慎对待的问题。其中发挥市场主导作用与发挥政府的激励和鞭策作用之间的政策设计就显得特别重要。

政府主导绝不是重复过去政府干预企业做什么或者是不做什么，最重要的就是以政府的资源包括资金资源，借助市场的力量加以放大，给市场以稳定预期，以此来调动市场主体的内在动力。因此，应该审慎决定政府该做什么不该做什么，度如何把握，以及政府主导的决策何时和如

At present, the development of China's electric vehicle is in a very important period. After five years of pilot work, we have made great progress in technology, industry, business mode and infrastructure commercialization application and so on. Especially after the energy conservation and new energy vehicles listed into national strategy, more effort is made. The problem of the environment is more and more serious, which forces the government and society to form a broad consensus on the development of electric vehicles.

In the fourth quarter of last year, the national implementation of energy saving and new energy vehicle development strategy was accelerated. The EV in our country goes into the industry development stage. Ma kai, deputy prime minister leading departments has carried on the special investigation on electric vehicle development. In research, he thinks that new energy vehicles have foundation, gaps, and opportunity. I think it very accords with the actual situation. In addition, he again stresses Four UNCHANGES: the national strategy in this regard is unchanged; the strategy taking the pure EV as the leading direction is unchanged; the development goals are unchanged; and the government's supporting policies are unchanged.

The development of electric vehicles in China has entered the fast lane. Automobile electric power technology is a long-awaited technological change. More than one hundred years of rises and falls, the tech did not form any climate. With the development of the power battery and control technology in recent years, the industrialization has been not far away. Today, the auto industry is experiencing major technological changes. Because our country is ready, this for our auto industry provides a good opportunity as a chaser.

In its early development stage, we must cross the industrialization's threshold, but this is a very difficult process. So far we have little experience in such industrialization in our country. We are a technological chaser. We hope to have a strong industry with our own tech. In this regard, it is still a new thing for us.

The government is the dominant force in electric vehicles

In the early years of the industrialization of electric vehicles, the problems are similar to that with fuel cars. These problems are technical maturity and the size of the market, the user's popularity and infrastructure construction, industrial scale and the cost of production and so forth. Industrialization should adhere to the principles of being market-oriented and enterprises as the main body. The government reaffirms that the relationship between the government and the market. Producers and consumers in the absence of good expectations do not rush to change technical orientation. Therefore, at the beginning of the industrialization of electric vehicles, the problem is the market failure. This time the government is the dominant force in electric vehicles. This is a problem that needs special scrutiny. The policy design is especially important.

Government is not repeating the past behavior in which it makes intervention in enterprise affairs. The most important is that the

何淡出，交还给市场。政府实现公共目标有足够的政策公条，支持性政策不可少，但支持过度会产生依赖，更为重要的是创造好的电动车发展环境，包括倒逼式的推进环境，打破地方保护，完善基础设施，政府资金支持竞争间技术研发，及时制定技术标准，放宽市场准入，引入新的进入者，组织跨行业的协调等等。

电动车发展百人会是第三方智库

成立电动车发展百人会，就是以促进电动车发展为目标，打破行业、学科所有制和部门的局限，搭建一个通过研究和交流电动车及相关材料、制造、信息等学科和城市规划、能源供给、交通及信息化等多领域的融合协同创新的一个论坛会。“百人会”的定义就是中国电动车领域跨学科、跨行业、跨部门、跨所有制，非官方非营利性，每年召开学术和政策探讨会的会议平台，是中国电动汽车领域政府人员、专家学者和行业人士资源参加的高端交流平台，是国家在电动汽车领域的第三方智库。

百人会的活动包括举办专业研讨会——对行业重大或热点问题的封闭式专题研讨，邀请政府主管部门、相同领域专家学者和业内人士共同研究探讨，形成共同研究的成果，为政府部门的决策提供参考。开展跨部门、跨产业的交流，在各产业发展过程中涉及不同产业之间的利益协同等重大问题时，邀请来自不同产业和政府部门主管、行业组织、企业等各方面人员开展交流和对话。举办电动汽车年度论坛，邀请百人会成员及受邀嘉宾就电动汽车发展战略等重大话题做深度研讨，分享跨行业、跨领域、跨学科

government's resources including capital resources play a role through market forces and stabilize the market expectations, so as to arouse the inner power of market. We should be prudent to decide what the government should do or what not to do and how to master the degree of playing a role as well as when the government's force will exit. Government policies focus on public goals and include the support policies. The more important is to create a good electric car development environment, including breaking the regional protection, perfecting infrastructure, and providing government funds to support the tech research and development, formulating technical standards, easing market access, and the introduction of new entrants, and coordination cross-industries and so on.

100-People Club is the third party think-tank for electric vehicle development

The Club is aimed to promote the development of electric vehicles, to break the limitations of industry and department, and form a forum for studying and exchanging about the relevant research, making and so forth in the fields of the electric vehicles and related materials, urban planning, energy supply, transportation, and so forth. The Club is a non-official organization having members from different fields, industries, departments, and so forth. It is a non-profit club, and holds meetings and discussions every year. It is also a high-end platform for the government officials, experts and scholars and industry experts and etc. Therefore, it is the national third party think-tank in the field of electric vehicles.

Its activities include professional seminars with regard industry major or hot issues. It invites the government departments, experts and scholars for discussions. It can let the participants exchange their opinions and provide the references for the governmental departments in decision-making. It involves the coordination in the



的研究成果，开展重大课题研究，根据国家战略和电动汽车及相关产业发展的要求，调动中国电动汽车百人会内外的资源，组织专业人员开展研究活动，为政府部门、行业、机构提供政策建议和发展思路。再有，就是编辑内刊和对外沟通，汇集和编辑百人会研究报告及会议研究成果，在百人会成员内部进行共享，促进百人会与政府、行业、企业和社会的沟通与交流，保持内外信息沟通。

百人会设立顾问委员会，有有关部委领导参加，现在应邀参加的万钢部长、苗圩部长、刘坤副部长、谢正华主任、吴新雄国家能源局局长等等；我们设立一个学术委员会，由徐冠华、吴敬琏牵头，由知名专家和院士们出任；设立理事会成员包括汽车领域、能源领域、信息领域、政府部门、交通领域、高校及研究机构的企业家、官员、学者参



interests between different industries in the process of the industry development. The dialogue is made between the personnel from the government, industry, and enterprise. It holds the annual forum on the electric car development. It lets the participants share the research results across the industry, field and department. It carries out the major studies and organizes the professionals to do the special research work so as to provide the suggestions and ideas for the policy-making in the government departments and industrial bodies and so forth. Again, it publishes the journal and compile the reports and books about the research and meeting so on. The internal sharing is made to promote the communications between the members and the government, industry, enterprises and the public. The internal and external information communication is also available.

The Club sets up an advisory committee which invites leaders of



加，理事会有我、欧阳明高、董扬、冯飞，当时我们定的时候冯飞还在国务院发展中心，今天看到就到工信部了，作为理事长和副理事长，欧阳教授负责组织日常工作。

总之，中国电动汽车百人会是一个非官方非营利性的论坛，成员跨学科、跨行业、跨部门，以个人身份参加。百人会接受工信部、科技部、发改委和财政部的指导，努力从一个侧面集思广益，为实现我国电动汽车产业战略做出贡献。中国电动汽车百人会，我们初步定在3月28号召开成立会并开展第一次活动，我想借助这个机会把有关的情况向大家报告一下，希望得到大家的支持。

relevant ministries including Mr. Wan Gang, Miao Wei, Liu Kun, Xie Zhenghua, Wu Xinxiong and so forth as its members. We also set up an academic committee whose leaders are Xu guanhua and Wu Jinglian and members are well-known experts and academicians. We sets up a council whose members include the officials, scholars, and entrepreneurs and so forth from automobile, energy, information, government, transportation, colleges and universities and research institutions. The council includes me, Ou Yang Minggao, Dong Yang, Feng Fei and so forth. As the deputy director, professor Oyang is responsible for organizing daily work.

In short, this Club is a private non-profit forum whose members are being interdisciplinary, cross-industry, inter-departmental and so forth. It is under the guide from the ministry of science and technology, development and reform commission and the ministry of finance and so forth. It will contribute the development of the electric car industry in China. Our Club carried out the activity for the first time on March 28. I want to use this opportunity to introduce it to you all and hope to get everyone's support.





全球最小电动概念车FOMM可漂浮于水面

The global minimum electric concept car FOMM can float on water

文/曾鲜亮 Text / Ceng Xianliang

日本成立刚满一年的FOMM发布了一款全球最小四座电动概念车型。这款由FOMM开发的Concept One概念电动车，其车身尺寸为2495×1295×1550mm。

除了拥有小巧的外形设计外，全景式的前风挡、车窗及车顶设计提供了相当良好的视野，而采用侧滑门的车门开闭方式要让后座乘客方便进出，在驾驶介面上也非传统方向盘设计，而是采用类似于机车的把手设计，前方则设



置了液晶显示屏来展现各项车辆资讯，同时也配置了基本的空调及音响系统。

动力方面，Concept One搭载两台可输出5kW/280Nm功率的电动马达，搭配上模块化的电池系统，带动460公斤的车重还算足够，在市区内拥有约100公里的续航里程。此外，Concept One更引人注目的亮点则是在遇上洪灾时，仍可漂浮于水面上并利用水涡流的方式前进，在遇上紧急情况时提供了充足的应变时间，类似救生胶囊。



Japan has set up just for a full year FOMM launched a global minimum four electric concept car. A Concept developed by FOMM One Concept electric vehicle, the body size is 2495 * 1295 * 1295 mm.

Besides with compact design, the front windshield, window and roof panoramic design provides a good field of vision, and USES the side door of the car door open and close way to let the back seat passengers convenient pass in and out, nor traditional steering wheel on a driving interface design, but the handle design, similar to the locomotive are set up ahead LCD screens to show all the vehicle information, also equipped with basic air conditioning and stereo system.

Motivation, Concept One carrying two output 5 kw / 280 nm power electric motor, modular battery system on collocation, drive 460 kg is enough, the weight of the car has a range of about 100 kilometers in the urban area. In addition, the Concept One more compelling window is caught in a flood in, still can float on the water and use the water vortex on the way forward, in meets an emergency provided adequate response time, similar to a rescue capsule.

中国电动汽车或成世界领跑者

China Electric Car May Be a World Leader



文/ 史毕福 Text / Ulrich Spiesshofer

【按】3月22-24日在北京钓鱼台国宾馆举行的“中国发展高层论坛2014年会”上，ABB集团首席执行官史毕福展望中国电动车有可能成为世界领跑者。

今天非常高兴跟大家讨论支持产业升级、发展制造能力以及实现世界制造业强国的下一个阶段技术。作为ABB公司的CEO，我们在电力、自动化方面有一百多年的历史。我们在中国，包括研发和制造业，都和中国产业链高度融合。

中国需要使产业朝产业链高端延伸

那么，中国制造业面临的挑战有哪些呢？首先，中国的人口结构，尤其是劳动人口的变化，我们看到，人口红利的好日子已经过去。其次，在过去的十年中，国家的主要工业也对环境产生巨大污染和影响。因此我们要实现现代化的压力也越来越大。从长期来说，中国要从劳动密集型向技术密集型的产业转型，中国在这个方面已经取得了令人印象深刻的进步。

我们实现下一个阶段的发展路途是什么样的呢？根据中国的“十二五”规划，根据工信部的政策，我们会提供所需要的支持来对中国的制造业实现现代化的升级。政府已经非常明确地指出产业升级以及包括技术驱动的产业升级这样一个目标，同时，也要培养高质量的人才，还要通过工业机器人来支持新的环境友好产业的发展。

[Editorial Words] At Diaoyutai Guesthouse in Beijing on March 22-24, China's Development Top Forum 2014 was held. In this meeting, Ulrich Spiesshofer CEO with ABB Group said China may be a world leader in the EV field.

Today, I am very happy with you to discuss the next technology to support for industrial upgrading, development, manufacturing capability and etc. As CEO with ABB, I say that we have a history of more than 100 years in power and automation. We in China are highly integrated to her industry chain including research, development etc.

China needs industry chain extension

So, what are the challenges facing China's manufacturing industry? First, China's population structure, especially the change of the working population will let us see that a day of demographic dividend is over. Second, in the past decade, the country's main industry has led to a huge pollution and impact on the environment. The pressure for us to achieve modernization is higher and higher. In the long term, China in the transition from labor-intensive to technology-intensive has made impressive progress.

Let us guess the development path in the next stage. According to China's "twelfth five-year" plan and the policy from the ministry of industry and information, we will provide the needed support to China's manufacturing industry modernization. Government has very clearly points out that the industrial upgrading (including technically-oriented) is a goal, and that the high quality talents are cultivated. Also, the industrial robots are needed to support the development of new environmentally friendly industry.

China needs to extend the industrial chain toward the high end. For China, China needs the local environment of innovation to help the industry achieve its own development and realize the next stage of development. So-called industrial upgrading starts from the new energy. Our company is specialized in electric and automatic production, so we know very well the industry. Industrial energy consumed accounts for 42% of the total power generated, and this is a regrettable fact. In fact

中国需要进一步使产业不断朝产业链的高端延伸，对于中国来说，中国需要在本地环境进行创新，帮助这个行业或者是产业实现自己的发展，实现下一个阶段的发展。所谓产业升级，最初是从新能源开始的，那么作为ABB公司的CEO，我们公司是专门负责电力和自动生产的，我们对这个行业非常了解。工业能耗现在占全部发电量的42%，这是非常令人遗憾的事实，实际上90%的电机还在全速运转，电机用电量占到了能耗的三分之二。显然我们需要进行投资，这种投资会占有很大的回报，而现在电机都是全速运转，这种投资的益处远远超过了行业本身的收益范围，可以使我们减少排放。

绝大多数制造业都需要机器人，机器人够给制造业提供更多的回报。我们提供了一系列解决方案，提高工作效率、工作质量以及工人们的工作质量。这最新、最小型的机器人，只有25公斤重，这是在中国研发和制造的，由我们中国的团队完成。我们在深圳的一个客户，一个电脑零部件生产商就使用这样的机器人来生产他们的鼠标和键盘。

中国电动汽车或成为世界领跑者

我们可以对汽车行业，提供各种各样的自动化解决方案，进一步提高生产效率，同时提高产品的质量和一致性。也能够帮助企业减少劳动力成本的支出。

我们的自动化或者是机器人对中国以及包括全球工业的发展产生巨大影响，中国也从应用机器人方面得到了真正的实惠。

交通的发展对于未来的制造业提升有重要的影响。随着中国制造业朝着高端发展，有一个行业可以成为世界领跑者，那就是电动汽车。

对于中国来说，汽车排放尾气对环境的污染已经成为公众非常关注的一个问题。电力汽车或者是电动汽车是中国政府非常强调、非常重视的一个未来发展领域，而且中国政府已经鼓励在这个领域通过创新来实现新技术。我们在中国本地设计了一款叫棚式的电动汽车，是德国的戴姆勒和中国比亚迪合作生产的电动汽车，ABB向他们提供直流快速充电的设备。

最后，给大家看一看未来可持续发展的环境、先进高效的制造业是怎么样的。未来多种能源提供电力，包括风能、太阳能、水能等等提供电力，生产效率得到了巨大提高，资源利用效率也得到了巨大提高，我们有电动汽车，很多的厂房，但是没有任何排放。这样的未来离我们比较远，但是是可以实现的。

我们可以通过水电项目帮助中国实现清洁能源、可再生能源的发展。我相信中国朝着这个方向继续发展，与全世界技术领导企业共同合作，一定能够进一步提升制造业。

90% of the motors are running at full speed, so the power consumed by the motor accounts for about two-thirds of the energy consumption. Obviously we need to invest. This kind of investment will have a big return. At present, the motor runs at full speed. The benefits of such investment are far beyond the benefit scope in the industry, since it enables us to reduce emissions.

Most of manufacturing industries need robots which give more returns. We offer a range of solutions to improve work efficiency and work quality and so forth. The latest and smallest robot is only 25 kg in weight which is researched and developed by our Chinese team. One of our customers in Shenzhen as a computer parts maker uses such robot to produce its mouse and keyboard.

China's electric car may become the world's leader

We can offer all kinds of automation solutions for the auto industry so as to further improve the production efficiency and improve product quality and consistency. We can also help companies to reduce labor costs.

Our automation or robot has a huge impact on the development of China, and including the global industrial development. China also gets real benefits from the application of robots.

The development of traffic has important influence on the future of manufacturing. With the development of China's manufacturing industry toward high-end, one industry can become the global leader, and it is electric cars industry.

For China, automobile exhaust emissions have become a problem concerned by the public. Electric cars are a field to which Chinese government attaches great importance in the future development, and the Chinese government has encouraged this field to achieve new technology. We designed an awning type electric car in China, which is jointly produced by Germany's Daimler and BYD. We provide them with DC fast charging device.

Finally, let us take a look at the sustainable development environment and the advanced and efficient manufacturing. In the future, wind, solar, water, and so on will largely improve the production efficiency and the resource use efficiency. We will have electric cars and a lot of factories without any emissions. Such future is far from us, but it is achievable.

We can help China achieve development in clean energy and renewable energy through the hydropower project. I believe that China continues to develop in this direction and cooperates with the technology leading enterprises. As such, it can further enhance the manufacturing industry.

