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Opening Ceremony & Plenary Session

Global Innovation Network:
Toward a Convergence of Interests

Editor's note: *Blending into the global innovation network, creating new development frontiers and sharing new opportunities are among the approaches concertedly chosen by countries and regions in the world to realize an innovation-driven and win-win development. Held on 27th and 28th of October under the theme "Global Innovation Network: Toward a Convergence of Interests", Pujiang Innovation Forum 2015 consisted of a plenary session, a Country of Honor Forum and nine sub-forums. The present brief report, developed on speakers' presentations at the opening ceremony and plenary session, is for your reference only.*

XU Guanhua

President of Pujiang Innovation Forum, Academician of Chinese Academy of Sciences

WAN Gang

Minister of Science and Technology, P.R.C.

XU Nanping

Vice Governor of Jiangsu Province

Pujiang Innovation Forum 2014 opened on 25th, October in Shanghai, China. This year's event was highly valued by both the Chinese and Russian governments. Chinese President Xi Jinping and Russian President Vladimir Putin respectively sent congratulatory letters. At the Forum, high-ranking politicians, senior experts and scholars as well as renowned entrepreneurs[1] worldwide conducted discussion over the strategy of innovation-driven growth and the development of Shanghai as an international hub for technological innovation. Many important views presented aroused echoes among the audience.

1. The strategy of innovation-driven development has been recognized by many countries.

It is a common view among the guests that against the backdrop of technological revolution and industrial transformation, only those who go with this tide with an innovative mindset could flourish. In the new round of development, high hopes have been anchored in innovation by many developed countries and regions.

The strength of technological innovation is the ballast for the innovation-driven development of a country, and also something that Israel couldn't have thrived without. As was bluntly put by Silvan Shalom, Israeli Vice Prime Minister and Minister of Interior and Avi Hasson, Chief Scientist of the Israeli Ministry of Economy, Israel is a small and underpopulated country without any water or oil resources. Innovation is the sole power that has propped up Israel's development into a robust economy. Vice President of Microsoft Corp. Danny Yamin said that in today's world, the power of a country is no longer gauged against its size, but its ability to advance technology and make use of capital.

Technological innovation is the most important engine for China's economic development. YU Yongding, member of Chinese Academy of Social Sciences, held that scientific and technological innovation serves as a growing point for China's economic developmennt, for which the drive should be altered from investment and export to technological innovation and domestic demand. Vice Governor of Jiangsu Province XU Nanping said Jiangsu is a relatively small province with scarce resources. What it has achieved today is attributable to a full play of scientific and educational resources and the province's high degree of openness. TU Guangshao, Executive Vice Mayor of Shanghai Government said Shanghai is in a need, more urgent than ever before, of seeking a place in the global innovation network, and the city, with a global perspective and an open mind, is stepping up its effort in building a global science and technology innovation hub.

2. Open innovation is a must for innovation-driven development.

1 Speakers: WAN Gang, Minister of Science and technology, PRC; Silvan Shalom, Vice Prime Minister and Minister of Interior of the State of Israel; TU Guangshao, Executive Vice Mayor of Shanghai Government; XU Nanping, Vice Governor of Jiangsu Province; YU Yongding, Member of Chinese Academy of Social Sciences; Avi Hasson, Chief Scientist of the Ministry of Economy of the State of Israel; Edmund Phelps, Nobel Prize laureate in Economic Sciences; WANG Jian, President of the Beijing Genomics Institute; Danny Yamin, Vice President of Microsoft Corp.

Avi Hasson

Chief Scientist of the Ministry of Economy of the State of Israel

TU Guangshao

Executive Vice Mayor of Shanghai Government

Silvan Shalom

Vice Prime Minister and Minister of Interior of the State of Israel

The world today is in drastic transformation and adaptation, giving rise to an urgent need for innovation of a larger scope and greater depth. Countries in the world should share their experience of reform and innovation and break hurdles for development through cooperative innovation so as to achieve common and inclusive development.

To facilitate an innovation-driven development, efforts should be made to strengthen innovation cooperation with technology at its very core and accelerate the pace of seeking a place in the global innovation network. China's path of innovation is not one featured by "self-innovation" or "isolated innovation", but one that focuses on openness, drawing on constructive experience of others, expanding international collaborations and fully capitalizing global technological resources. In his congratulatory messages, Chinese Premier Li Keqiang pointed out that China has built the technology-centered innovation cooperation into a new highlight and growing point for international collaboration, and China will continue its effort in expanding the global innovation network, promoting an inclusive and well-balanced growth of the world economy and facilitating sustainable development. China's Minister of Science and technology WAN Gang, in his keynote speech, introduced the remarkable achievements China has scored during the "Twelfth Five-Year Plan" period. He believed that China has the ability to contribute its share to the solution of global issues and the sustainable development of the human race by scientific and technological

YU Yongding

Member of Chinese Academy of Social Sciences; Research Fellow, Institute of World Economics and Politics Chinese Academy of Social Sciences; Former President, All China Association of World Economic Research; Former Member of Monetary Policy Committee

Danny Yamin

Vice President of Microsoft Corp

LI Meng

Deputy Minister of Science and Technology, P.R.C.

Edmund Phelps

Winner of the Nobel Memorial Prize in Economic Sciences; Dean of Newhuadu Business School

WANG Jian

President of The Beijing Genomics Institute

innovation. Edmund Phelps, the Nobel Prize laureate in Economic Sciences, said open innovation is of great relevance to an emerging economy like China. Import of specialized expertise, nurturing of the talent pool and globalized exchanges of experience are all conducive to China's transformation from low-value innovation to technology-intensive and highly specialized "high-value innovation", the realization of an innovation-driven economic growth and freeing China from the "middle-income trap".

Open innovation is a win-win and multi-win approach instead of a zero-sum game. A win-win result has become the greatest common pursuit of different countries in open innovation. Israel, a world-renowned innovative country, is one of China's most important partners. According to Israeli Vice Prime Minister Silvan Shalom, Israel enjoys a high level of innovation. Its products and technologies are widely used worldwide and 75% of its export goes to that of high-tech products. Israel has already joined the Asian Infrastructure Investment Bank initiated by China and enhanced its cooperation with China in technological innovation, free trade and the "One Belt One Road" initiative. He also spoke highly of China's strategy of scientific and technological innovation, applauding the far-sightedness of China's focus on technology, R&D and innovation, especially at a time when the global economy slows down and developed economies stagnate.

3. Mass entrepreneurship and innovation and "Israel's recipes"

To realize innovation-driven development, efforts must be made to facilitate mass entrepreneurship and innovation so as to forge a new and much stronger engine for growth.

Now it's the prime time for China to promote mass entrepreneurship and innovation. Entrepreneurship is changing from an attempt of a minority group into something well embraced by the public. Cooperation between the grassroots and elites is springing up. Innovation and entrepreneurial attempts now represent a new type of values, life style and social trend. Mr. WAN Gang said China has great foundations and conditions for mass entrepreneurship and innovation: threshold for entrepreneurial attempts is lowered by the open platform of the internet; venture capital organizations are flourishing; entrepreneurial activities have grown out of organizations; innovative business models are mushrooming; and social networking connects original ideas with customer demands. Prof. Edmund Phelps even expressed his hope that half of the population should dedicate to innovation because it is where the future of a nation lies.

"Israel's recipes" are of constructive value for China's mass entrepreneurship and innovation. The Israeli government, with a forward-looking vision and superb governance approaches, has effectively nurtured domestic technological innovation and entrepreneurship. The experience, in general, is regarded as the "Israel's recipes". The first recipe is shared risks. Avi Hasson said as early as the 1990s, the Israeli government started forming governmental venture capital businesses represented by YOZMA and launched incubator initiatives, so as to share the risks of entrepreneurial failure

of star-ups. However, such a risk-sharing mode is not of a permanent nature. When the market is mature, public funds will be pulled out. In so doing, the sustainability and efficiency of resource allocation is guaranteed and profitability and appreciation of public funds can be achieved. The second recipe is a culture of innovation. Israel's culture of innovation is featured by perseverance and tenacity, boldness to venture into the unknown and the courage to challenge the authority. Danny Yamin pointed out that in the army in many countries, if an infant meets a general, he would probably be dumbfounded. But in Israel, the infant would say "hi" in a natural and relaxed manner. This represents Israel's culture of innovation. The third recipe is the forging of an innovation ecosystem. The"forest-like innovation pattern" under which big companies and start-ups grow and prosper together is an important characteristic of Israel's innovation ecosystem. Big companies are willing to cooperate with star-up enterprises, try their new technologies and provide them with services, investment and even markets along the way. With such support, start-ups have the opportunity to cross the inflection point and grow into big companies.

Country of Honor Forum

China-Israel Cooperation Led by Science and Technology Innovation

Editor's note: *Since its establishment in 2012, the Country of Honor Forum has been increasinglycontributing to the advancement of international technological cooperation and regional innovation; its role as a platform for science and technology diplomacy has been continuouslyenhanced. The Country of Honor Forum this year was held on October 27th. High-ranking government officials and renowned experts[1] from both China and Israel attended the event and conducted in-depth exchange of views. The present brief report, developed on speakers' presentations at the Country of Honor Forum, is for your reference only.*

CHEN Linhao

Deputy Director General, The Department of International Cooperation, Ministry of Science and Technology

LI Meng

Deputy Minister of Science and Technology, P.R.C.

Avi Hasson

Chief Scientist of the Ministry of Economy of the State of Israel

Guests at the Forum agreed that China and Israel have broad consensus and shared interests. The scale of innovation cooperation between the two countries has been expanding and the channels are increasingly diversified. A sound situation featured by an all-round integration of fundamental research, applied research and industrialized research is taking shape. In the future, China and Israel will, on the basis of the Three-Year Action Plan for China-Israel Innovation Cooperation, further improve the top-level design of innovation cooperation and keep blazing new trails in this regard.

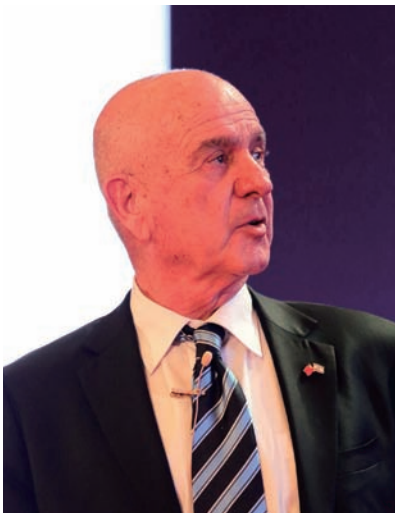
1. Israel's innovation tricks of trade: why a country small in size has great scientific and technological strength.

As a country of innovation, Israel ranks the first worldwide in terms of the proportion of R&D investment in GDP, the density of hi-tech companies and the proportion of people holding a doctoral degree in the entire population. Additionally, Israel ranks the third in the world as regards the per capita hi-tech companies, the fourth in terms of the number of businesses listed in NASDAQ and the fifth with regard to per capita registered patents. Several experts analyzed the path taken by Israel to build itself into an innovativecountry.

Firstly, the pervasive culture of innovation is the most fertile soil for innovative attempts.AviHasson, Chief Scientist of IsraeliMinistry of Economy, said a culture of innovation and exploration is deeply rooted in the Israeli society. It is one of the top priorities of the government to support science and technology innovation, and as a result, more than half of the country's exported products come from innovation.Ambassador of Israel to China MatanVilnai said it is now a responsibility of the entire Israeli society to build an innovation-based economy. Innovative products of Israel such as the USB disc, capsule endoscope, etc. have benefited billions of people across the world. Last year, Israel's ranking on the global innovation index edged up from the 10th in 2002 to the 5th. The city of Tel Aviv has the second largest number of start-up companies in the world, second only to Silicon Valley.

Second, Israel puts high premium on education. The adventurous spirit and courage to face up to failure are seated in the genes of the Israelis and deemed as glory. The fact that Israel was founded with a limited territory, a small population, inadequate natural resources and complex geopolitical situations is a striking evidence of a culture featured by great entrepreneurial spirit. Matan believed that the Jews regard education as a major contributor to success. In the meantime, the only authority in Israel is knowledge. Children grow up being encouraged to challenge the authority,

1 Chinese speakers included: LI Meng, Deputy Minister of Science and Technology, P.R.C.; CHEN Linhao, Deputy Director General, The Department of International Cooperation, Ministry of Science and Technology; ZHANG Jing, Deputy Director General, The Department of International Cooperation, State Intellectual Property Office of the P.R.C; FEI Gaoyun, Mayor of Changzhou Municipal People's Government; ZHANG Jiang, Director of Ping An Ventures; Israeli speakers included: AviHasson, Chief Scientist of the Ministry of Economy of the State of Israel; MatanVilnai, Ambassador of Israel to China; AvrahamLuvton, Executive Director, Asia Pacific Department, MATIMOP/OCS; Asa Kling, Director of Israel Patent Office; Ron Gura, Israeli Entrepreneur and Investor



Matan Vilnai

Ambassador of Israel to China

FEI Gaoyun

Mayor of Changzhou Municipal People's Government

Avraham Luvton

Executive Director, Asia Pacific Department, MATIMOP/OCS

raise questions and embrace different ideas. AviHasson and Matan cited an example to illustrate this point. In Israel, a mother would never ask her children "how many questions raised by the professor have you answered?" but "have you raised the best question?" That is to say, the Israelis are never satisfied with the status quo or take it for granted. Their continuous appetite for curiosity is the main drive behind innovation and entrepreneurial attempts. Embracing and appreciating failure is a cornerstone for Israel's innovation culture. Israeli Entrepreneur and InvestorRon Gura, citing his own experience, drove home the idea that failure, as an experimental process, gives people more insights and motivates people, to a greater extent, to stand up and succeed.

Third, an enabling environment is the basis for the building of innovative and entrepreneurial advantages. The Israeli government, while attaching importance to the improvement of infrastructure, lays focus on setting up a platform shared by scientists and entrepreneurs to encourage new ideas.ZHANG Jiang, Director of Ping An Ventures, introduced the company's investment in Israeli enterprises and held that well-developed information-sharing systems and government's incentives play a crucial role in advancing innovative activities in Israel. AviHasson pointed out that the government and social capital cooperate in supporting the growth of start-ups, promoting innovation by "bottom-up" approaches such as market analysis of entrepreneurial endeavors and government funds for "non-state-owned enterprises" management.

2. China-Israel Innovation Cooperation keeps yielding achievements

China-Israel innovation cooperation enjoys a solid foundation and high mutual complementarity. It is an important component of the bilateral relationship. In recent years, the two countries have been collaborating on innovative endeavors in science and technology, education, culture and health, etc., instilling new energy into the bilateral ties.

First, cooperation in different areas proceeds shoulder to shoulder. AvrahamLuvton, Executive Director, Asia Pacific Department, MATIMOP/OCS, introduced that in terms of trade, China is Israel's second largest exporter and fourth largest importer. Moreover, China has already become Israel's largest trading partner in Asia. In the area of tourism, Chinese people travelling to Israel have been increasing at a rate of 20%-30%. On the academic front, the two countries signed in 2012 the Three-Year Action Plan for China-Israel Academic Cooperation and great progresses have been made in collaborations between Israeli and Chinese universities. As regards investment, both direct and venture investment are on the rise. In 2014, investment made by Israeli enterprises in China registered $302 billion and the total capital investment between the two countries hit $524 million.

Second, innovation cooperation between the two countries is of great prominence. Since China and Israel established diplomatic ties in 1993, the scale of innovation cooperation between the two has been expanding and the channels are increasingly diversified, creating momentums for an all-round collaboration. According to Deputy Minister of Science and TechnologyLI Meng, China's Vice Premier LIU Yandong

ZHANG Jing

Deputy Director General, The Department of International Cooperation, State Intellectual Property Office of the P.R.C

Asa Kling

Director of Israel Patent Office

ZHANG Jiang

Director of Ping An Ventures

and Israeli Prime Minister signed,in May 2014,the memorandum for China-Israel innovation cooperation, marking the official start of China's first innovation cooperation with another country. In January this year, the two countries signed the Three-Year Action Plan for China-Israel Innovation Cooperation2015-2017, pinning down the focuses and measures of China-Israel innovation collaborations in the next three years. As the first demonstration park between the two, the China-Israel Changzhou Innovation Park has become a highlight in the bilateral innovation cooperation. AvrahamLuvton said R&D cooperation between the two countries have made great strides. Since 2009, over 100 bilateral projects have been approved and 8 agreements concerning infrastructure development have been signed. Israel has signed R&D cooperation agreements with several Chinese provinces including Jiangsu, Shanghai, Guangdong, Shandong, etc., areas covered including clean technologies, communications, internet, life science, semi-conductors and so on.

It is worth noticing that cooperation in the realm of intellectual property rights (IPR) will be a crucial part of China-Israel innovation cooperation in the future. IPR protection and utilization is an integral component of a sound innovation ecosystem. That being the case, cooperation in this regard between the two countries is among the priorities of the Three-Year Action Plan for China-Israel Innovation Cooperation.ZHANG Jing, Deputy Director General at the Department of International Cooperation of the State Intellectual Property Office, said in recent years, the Office has been expanding and carrying forward collaborations with international IPR organizations and relevant agencies in different countries. One of its important strategies in the future is to strengthen its cooperation with Israel.Director of Israel Patent OfficeAsa Kling pointed out that the Israel Patent Office is dedicated to providing best services to the public in order to create a favorable innovation ecosystem in which the Office could actively participate. He also introduced the experience of the Office's success in providing related services such as regular release of its database, streamlining of its review mechanism, on-line cooperation and demonstration, guaranteed transparency of information, etc.

3. Opening up new prospects for China-Israel innovation cooperation

The global technology revolution and industrial transformation not only bring about opportunities but also pose new challenges to China-Israel innovation cooperation. Speakers believed that the cooperationbetween the two nations represents the joining of hands between a major country in the world and an innovation powerhouse. With a high degree of mutual complementarity, cooperation between the two enjoys enormous potentials. China and Israel will continue their joint effort in enhancing the foundation for cooperation, establishing a long-acting mechanism, promotingthe innovation of cooperation areas, modes and philosophy.

First, efforts should be made to improve the top-level design and planning of China-Israel innovation cooperation. LI Mengsaidthe two countries need to further improve the communication mechanism within the framework of the joint committee of China-Israel cooperation and reinforce coordination at the state

Ron Gura

Israeli Entrepreneur and Investor

level. Competent authorities and local governments in both countries should, according to the Three-Year Action Plan for China-Israel Innovation Cooperation, make substantial progresses in the field of science and technology as well as education. FEI Gaoyun pointed out that an instruction office for the establishment of the Changzhou Innovation Park should be jointly set up as soon as possible.

Secondly, the scale of cooperation needs to be expanded.AviHasson said to better promote bilateral collaborations between China and Israel, new fields should be opened up and a platform for open dialogue, created. MA Teng further pointed out that there are great prospects for the two countries to cooperate in a wide range of areas such as water processing, agri-technology, medicine and renewable energies. LI Meng held that universities and enterprises in the two countries should, taking into account their common interests, carry their exchanges and cooperation into a greater depth and seek new patterns for business cooperation. FEI Gaoyunsaid Israel's healthcare resources such as rehabilitation services would be imported into the Changzhou Innovation Park in order to facilitate the commercialization of Israel's technological outcomes in China.

Third, a better play should be given to the China-Israel Innovation Cooperation Center, which serves as an important carrier for exchanges, cooperation and coordination between the two countries. LI Meng said efforts need to be made to consolidate the role of the Center as a cooperation platform so as to deliver all-round services, including IPR protection, technological exchanges, business incubation, information sharing, etc., to enterprises of both countries. AvrahamLuvtonpointed out that the Center needs to function as a bridge connecting innovators, entrepreneurs and investors. Not only should it facilitate the information sharing process, but also, it should provide specialized services to make it easier for enterprises to seek partners and access government support.

The Enterprise Forum

Forging Open Innovative Organizations

Editor's note: *The Enterprise Forumof the Pujiang Innovation Forum 2015, under the theme of "Forging Open Innovative Organizations", focusedattention on how to carry out globalized innovations. Speakers exchanged views on how to help Shanghai, or even China, actively involve itself in the global innovation network and distribute innovation resources globally. The present brief report, developed on speakers[1] presentations at the Enterprise Forum, is for your reference only.*

TANG Jiayin

Producer and Anchor, Yicai

Tzu-Yin Chiu

Chief Executive Officer and Executive Director, Semiconductor Manufacturing International Corporation

Jaani Heinonen

Vice President & Head of East Asia Region, Finpro

Currently, globalized distribution of innovation resources is a major trend faced by each and every enterprise. Speakers at the Forum believed that in the present context of open innovation, the enterprise can be incorporated into the global innovation network only by adopting a fully open innovationstructure. Whether an enterprise can achieve this end with a global vision is key to its future success.

I. Corporate innovation system is changing

Globalization of innovation is transforming enterprises' innovation ecosystem with its sweeping power. Jaani Heinonen, Vice President & Head of East Asia Region at Finpro, citing the example of Nokia, expounded on this point: Nokia's fall was mainly the result of its relatively closed innovation ecosystem. This is a hard lesson for Finland and other countries as well.

1. Globalization has boosted enterprises' efficiency in innovation. HUANG Haiyan, CEO of Techcode SME Services Co., Ltd, said Techcode captured the human, capital and technology resources needed by customers through a globalized network and can help customers integrate them and optimize their distribution globally. Yesha Y. Sivan, Executive Director of Coller Institute of Venture at Tel Aviv University, pointed out that Israel's super angel investors elevate the enterprise's value through nurturing the innovation network and channel resources and then sell them to other companies. With such a relay of capitals and specialized services, speed and efficiency of innovation investment is increased. Tzu-Yin Chiu, Chief Executive Officer and Executive Director at Semiconductor Manufacturing International Corporation, said in the global innovation network, SMIC, for the first time, integrated the most advanced customers both at home and abroad as well as R&D partners such as Huawei into the R&D process, and established joint R&D institutions. This helps accelerate the transformation of R&D results into products, shrink the R&D cycle and increase R&D efficiency.

2. Globalization spreads innovation risks faced by the enterprise. Globalized innovation network has further divided the roles of innovators, drastically lowering the pressure and risks generated by innovative attempts. Yesha Y. Sivan said in Israel, some investors and agencies are dedicated to investing in good and creative ideas. That is to say, innovators can make money even when their ideas are not yet patents or they haven't set up a company to put the ideas into practice. Moreover, Israel has specific institutions to provide online platforms to help

1 Speakers include: Tzu-Yin Chiu, Chief Executive Officer and Executive Director, Semiconductor Manufacturing International Corporation; Jaani Heinonen, Vice President & Head of East Asia Region, Finpro; CHENG Jinglei, Senior Engineer and Chief Engineer of SAIC Motor Corporation Limited; Yesha Y. Sivan, Executive Director Coller Institute of Venture at Tel Aviv University; LI Hui, Head of Wireless Technology and Internet of Things, Siemens China; CHEN Weiwei, Chairman of The Board, General Manager, Shanghai Zhangjiang Science & Technology Venture Capital Co.,Ltd.; ZHU Haifa, Founder and Partner of Youcheng Capital; JIANG Biao, Deputy Director, Shanghai Advance Research Institute, Chinese Academy of Sciences; HUANG Haiyan, CEO of Techcode SME Services Co., Ltd

CHENG Jinglei

Senior Engineer and Chief Engineer of SAIC Motor Corporation Limited

Yesha Y. Sivan

Executive Director Coller Institute of Venture at Tel Aviv University

LI Hui

Head of Wireless Technology and Internet of Things, Siemens China

innovators apply for patents, raise fund by crowdfunding andoutsource.

3. Globalization restructured innovation patterns and diversified business models. In a globalized innovation network, a faster and more convenient combination of innovation resources makes competition fiercer, further divides the roles of innovators and diversifies the market demand. LI Hui, Head of Wireless Technology and Internet of Things at Siemens China, held that the open and globalized market atmosphere has enabled new innovation patterns to spring up. Yesha Y. Sivan pointed out that with a globalized innovation network, enterprises don't need to make comprehensive arrangements along the entire process of innovation. Instead, they only need to make more detailed division of work and focus on where their strength lies, and create core values for the enterprise. HUANG Haiyan believed that different from super angel investors in Israel who focus on good and creative ideas, Techcode is more ready to capitalize on its own networked innovation resources, helping commercialized companies to seek technologies and talents worldwide. Techcode even brings such companies overseas to immerse them in local competitions so as to increase their global presence.

II. Innovative enterprise should be open both internally and externally

In the face of increasingly fierce competition, enterprises, besides globalizing their strategies and visions, should strengthen external cooperation, instilling more energy and vitality into themselves.

To globalize strategies, the enterprise must be open "internally". This is to build up enough support from internal organizationalrecourses for external cooperation. ZHU Haifa, Founder and Partner of Youcheng Capital, held that the organizations of start-up enterprises, venture funds and incubators are all undergoing innovative revolutions. CHENG Jinglei, Senior Engineer and Chief Engineer of SAIC Motor Corporation Limited, said to establish an open innovation organization, SAIC first set up a strategic framework out of the original idea, then adjusted specific function modules, established strategy research and information center, and upgraded its original IT department into the information strategy and system support department. In the meantime, a strategy and innovation committee has been set up to support such an organizational structure. Additionally, SAIC set up an internal fund to facilitate the incubation of internal innovative ides and put in place a preliminary investment of ?100 million, greatly boosting the internal openness. CHEN Weiwei, Chairman of The Board and General Manager at Shanghai Zhangjiang Science & Technology Venture Capital Co.,Ltd, also pointed out that to build an open innovative enterprise, it must first be open internally so as to gather all the internal factors. Such a platform-based management pattern may create more opportunities.

To stand out, the enterprise must open "externally".Several entrepreneurs

CHEN Weiwei

Chairman of The Board, General Manager, Shanghai Zhangjiang Science & Technology Venture Capital Co., Ltd.

ZHU Haifa

Founder and Partner of Youcheng Capital

JIANG Biao

Deputy Director, Shanghai Advance Research Institute, Chinese Academy of Sciences

said that they are enhancing cooperation with new Internet companies, overseas R&D institutions, important potential costumers and other external organizations. They also actively engage themselves in the tide of "Internet Plus ", restructure their R&D processes, expand business channels, reshape business models and create momentum for sustained innovation. Yesha Y. Sivan pointed out that against the backdrop of globalization, an enterprise needs to maintain its own uniqueness for better development. LI Hui held that Siemens opened its industrial innovation system which has been taking shape during the past century and shares experience with SMEs and technology companies. In so doing, the development of those beneficiary companies and Siemens itself is boosted.

HUANG Haiyan

CEO of Techcode SME Services Co., Ltd.

III. Small and medium-sized companies should actively seek external innovation cooperation.

Currently, SMEs need to actively seek external cooperation in order to better adapt to the new trend of mass innovation and entrepreneurship.

1. SMEs should actively seek strategic cooperation with big companies. LI Hui held that SMEs need to seize opportunities to build partnership with big companies, fully utilize the big company's resources and locate area of cooperation.

2.SMEs should enhance cooperation with research institutions.JIANG Biao, Deputy Director of Shanghai Advance Research Institute at Chinese Academy of Sciences, said since SMEs are just at the infant stage of innovation and have just started to draw venture investment, it is hard for them to afford high-caliber human resources and sophisticated equipment. Therefore, they can lean on research institutions and harness their resources of technology and equipment. In the meantime, such cooperation may also help the institutions, through the mobility of talents and R&D results, to bring their researches closer to the market.

3. SMEs should enhance cooperation with service agencies. JIANG Biao said as the collective strength grows, the entrepreneurial service system is being improved. Entrepreneurs need to identify their advantages and seek more partnership in terms of investment, marketing, consumption, incubation, etc.. Importance of such moves is never higher than it is now to SMEs.

The Technology Finance Summit Forum

Jointly Building a Technology Finance Ecosystem

Editor's note: *Technology finance is an important driving force behind the strategy of innovation-driven development. Forging a "technology finance ecosystem" to promote the integration and optimization of innovation resources of various kinds has become a focus of relevant parties. At the Technology Finance Summit Forum, speakers from the political, industrial and academic arenas both at home and abroad shared valuable opinions, receiving warm response from the audience. The present brief report, developed on speakers' presentations at the Technology Finance Summit Forum, is for your reference only.*

YUAN Yue

Chairman, Horizon Research Consultancy Group

WANG Yuan

Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance

LIU Xinyi

President of Shanghai Pudong Development Bank

At the Technology Finance Summit Forum of Pujiang Innovation Forum 2015, Chinese Academy of Science and Technology for Development, China Association for Promotion of Science&Technology and Finance, and Shanghai Pudong Development Bank jointly released the Annual Report on The Eco-system of Science and Technology Finance in China 2015, outlining a general picture of China's technology finance ecosystem. Experts at the Forum conducted in-depth exchange of views regarding the"technology finance ecosystem", presenting thought-proving opinions.

I. Functions and Characteristics of the technology finance ecosystem

Since the concept of technology and finance integration was brought up in the institutional reform of science and technology in 1985, its nature has been evolving from instrumental supply to an ecosystem. Experts held that the technology finance ecosystem enhances its ability of social resources distribution through the innovation and optimization of the financial system, industrial patterns and services. In so doing, the ecosystem could facilitate an efficient transformation of technology innovations into material wealth and in turn, promote the development of the financial industry. Such is a state featured by mutual promotion and support.

1. Diversity, symbiosis, complementarity and dynamism are among the basic features of technology finance. WANG Yuan,Director of China Association for Promotion of Science & Technology and Finance, pointed out that a technology finance ecosystem can be observed from seven structural aspects: fiscal funds, venture investment, science and technology loans, multilayer capital market, science and technology insurance, bond market and technology finance service platform. In the mean time, the ecosystem has five basic features. The first is diversity, which is realized by the supply of different financial products, varied financial industry patterns and diverse participants; the second is complementarity. In the technology finance ecosystem, fiscal instruments, market instruments, the government

1 Speakers at the Forum include: TU Guangshao, Executive Vice Mayor of Shanghai Government; LI Meng, Deputy Minister of Science and Technology, P.R.C.; WANG Yuan, Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance; DENG Tianzuo, Vice Inspector of Resource Allocation and Management Department of Ministry of Science and Technology; ZHENG Yang, Director of Shanghai Finance Services Office; JIN Aihua, Chief Regulator (Deputy Advisor) of CBRC Shanghai Office; LIU Xinyi, President of Shanghai Pudong Development Bank; YANG Bin, General Manager of Corporate Banking Department, Shanghai Pudong Development Bank; GE Peijian, General Manager, Vice President, Shanghai Zhangjiang Hi-Tech Park Development Co., Ltd.; ZHAO Haishan, chairman, Tianjin Municipal Science and Technology Commission; Anya Hana Eldan, General Manager, Early Stage Support Programs, Office of the Chief Scientist, Ministry of Economy, Israel; HE Shiyou, Executive Director of Zhongxing Telecommunication Equipment Corporation, Chairman & President of ZTE Health Technology Co.,Ltd.; YUAN Yue, Chairman, Horizon Research Consultancy Group; WU Jiang, Director of Operation Department, National Equities Exchange and Quotations; YUAN Hui, Founder & Chairman of Shanghai Zhizhen Intelligent Network Technology Ltd. Co. (Xiaoi); QIAN Xuefeng, Founding Partner of New Access Capita

LI Meng

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Executive Vice Mayor of Shanghai Government

DENG Tianzuo

Vice Inspector of Resource Allocation and Management Department of Ministry of Science and Technology

and social capital all play a role; the third is symbiosis. The ecosystem is not gauged against its size or strength. Instead, different financial products, industrial patterns and financial entities are in a symbiotic relationship the fourth is an evolutionary nature. The ecosystem keeps evolving; the fifth is dynamism. The evolutionary process is both orderly and dynamic. Technology and finance influence and adjust each other, learn from each other and grow together.

2. The essence of technology finance lies in its function of value identification, integrationof elements and wealth creation. WANG Yuan said the value that technology finance is to identify is not only about how advanced atechnology is or whether a creative idea is good. It is identified from the perspective of the market demand, cost and return on investment. In the meantime, technology finance has the function of integrating various elements. It assembles elements and bodies such as inventors, managements, financial administrators and production organizers, thus turning a creative idea into a product which can enter the technological processes. Moreover, in a diversified capital market, technology finance helps to create greater wealth.

3.Construction of the technology finance ecosystem is in line with the tide of our times.

Executive Vice Mayor of Shanghai GovernmentTU Guangshao stated that technology finance should to be discussed within the general settings of innovation-driven development, and technology and finance need to be integrated to a greater extent to promote innovation. He also pointed out that innovation of technology-financial products, instruments and service patterns, together with institutional reforms, must be placed high on the agenda of national development. DENG Tianzuo, Vice Inspector of Resource Allocation and Management Department at Ministry of Science and Technology, held that it takes several phases, including the cooperation, merging, ecosystem and innovation of technology and finance, to realize the integration. At present, China is moving from the phase of merging towards that of the ecosystem.

II. Prerequisites for a sustainable technology finance ecosystem.

Currently, opportunities presented by reforms of the national technological institution and financial sector should be seized and plausible approaches both at home and abroad, adopted to build a sustainable technology finance ecosystem.

1. Efforts should be made to draw on successful international practice. According to JIN Aihua, Chief Regulator (Deputy Advisor) of CBRC Shanghai Office, endeavors are supposed to be made in four aspects. First, related national legislative arrangements need to be enhanced.The United States and Japan both apply exemptive relief to commercial banks that make venture investment within a controlled degree, so as to stimulate technological innovation.Second, a multi-layer capital market should be knocked into shape.At the start-up stage, over-the-counter market financing is needed, while at the maturity stage, exchange market financing plays the biggest

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Chief Regulator (Deputy Advisor) of CBRC Shanghai Office

Anya Hana Eldan

General Manager, Early Stage Support Programs, Office of the Chief Scientist, Ministry of Economy, Israel

HE Shiyou

Executive Director of Zhongxing Telecommunication Equipment Corporation, Chairman & President of ZTE Health Technology Co., Ltd.

role. Third, a business model featured by the combination of lending and investment should be developed. Besides the traditional practice of bank loans as well as patent and IP pledge loans, an approach combining lending and investment can be put in place to provide credit funds. In the meantime, it can also provide bridging loans for equity funds. Fourth, the governmental fund and credit guarantee system should be reinforced. In developed countries, the government supports technology innovation enterprises through direct subsidized loans or tax exemption. In the meantime, it places equal emphasis on the credit guarantee system to share the risks faced by commercial banks.

2.Opportunities presented by reforms of the national technological institution should be seized. Presently, under the request of the central government, the Ministry of Science and Technology is making endeavors, together with relevant parties, to facilitate reforms of the technological institution and promote the integration of technology and finance. Deputy Minister of Science and TechnologyLI Meng pointed out that in the future, the Ministry would mainly focus on reforms and development in the following three aspects. The first is to reform the management mechanism of technological programs funded by the central government; give a better play to the leading role of fiscal investment at different levels; expand the scale of the national guidance funds for technological transfer; and upgrade the support for innovative and entrepreneurial attempts. The second is to develop a new mode for technology finance featured by the combination of lending and investment. The Ministry, along with People's Bank of China and China Banking Regulatory Commission, would select proper nationaldemonstration areas of independent innovation and financial institutions to carry out pilot lending-and-investing projects, spreading successful practice nationwide. The third is to make prompt reviews on the efforts of promoting technological and financial innovations in big cities such as Beijing, Shanghai, Wuhan, etc.

3. Efforts should be made to promote financial reforms and innovation.Financial innovations are supposed to stem from technological innovations and in return, technological innovations wouldn't survive without the support of innovations in the financial sector. The technology finance ecosystemtakes shape on the basis of sustained reforms and innovation. DENG Tianzuo believed that innovation should cover many aspects including the government, finance, service, modes, systems and mechanisms. Without innovation, further development of the ecosystem isimpossible. To forge an enabling environment for reforms, the government should break the institutional shackles and transform its focus from administration to service. Besides, no less importance should be attached to financial reforms by the government, and only in so doing, can the technology finance ecosystem be successfully established.

4. A healthy ecosystem needs to be built. TU Shuguangsaid the establishment and continuous improvement of the ecosystem

ZHAO Haishan

Chairman, Tianjin Municipal Science and Technology Commission

YANG Bin

General Manager of Corporate Banking Department, Shanghai Pudong Development Bank

GE Peijian

General Manager, Vice President, Shanghai Zhangjiang Hi-Tech Park Development Co., Ltd.

provides momentum and support to the development of technology finance. LIU Xinyi, President of Shanghai Pudong Development Bank, held that financial service is the weakest point of China's innovation system. Only a technology finance ecosystem that is vital and has assembling and merging power can develop sustainably. First, the technological and financial sectors should be closely connected; second, the merging of technology and finance triggers "chemical reactions"; third, vitality sustains long-term cooperation.

III. Bottlenecks for the development of technology finance ecosystem

Sound development of the technology finance ecosystem requires concerted efforts of the government, financialsector and enterprises in addressing financing difficulties of SMEs.

1. Technology enterprises face the problem of credit enhancement. Thelisting and market-maker systems in the "new third board" (National Equities Exchange and Quotations, NEEQ) arrangement may effectively help technology companies enhance their credit. WU Jiang, Director of Operation Department at National Equities Exchange and Quotations, held that the "new third board" market would achieve this end in both a visible and invisible manner by listing most of the enterprises in the "new third board" market and applying the market-maker system. Currently, 900 out of 3800 listed enterprises have chosen the market-maker system and brokers' decision of purchasing their stocks is made upon in-depth analysis on the prospects of these companies. This helps enhance the credit of listed enterprises invisibly.

2. Technology enterprises are facing financing difficulties. Presently, financing difficulties hanging over technology SMEs in Shanghai haven't been properly addressed. GE Peijian, General Manager and Vice President of Shanghai Zhangjiang Hi-Tech Park Development Co., Ltd., said now financing difficulties are mainly encountered by two types of companies. Oneis start-ups, which haven't grown into technology enterprises in a real sense due to the absence of business contracts in spite of their innovative attempts; the other is platform-like companies, which have no fixed assets, cash flow or readily available registered patents and thus couldn't yet get loans from the bank. YANG Bin, General Manager of Corporate Banking Department at Shanghai Pudong Development Bank,

WU Jiang

Director of Operation Department, National Equities Exchange and Quotations

YUAN Hui

Founder & Chairman of Shanghai Zhizhen Intelligent Network Technology Ltd. Co. (Xiaoi)

QIAN Xuefeng

Founding Partner of New Access Capital

held that technology enterprises are not equipped with the financial expertise to obtain and properly use financial assistance. YUAN Hui, Founder & Chairman of Shanghai Zhizhen Intelligent Network Technology Ltd. Co. (Xiaoi), belieVed that venture capital firms are reluctant to invest in projects that last more than 5 years, but it normally takes 5 to 10 years to make world-class innovations. Therefore, the government needs to show more support to such projects.

3. The problem of inadequate government guiding funds needs to be addressed. Compared with some other provinces or municipalities, Shanghai still lags behind in terms of the scale of government guiding funds. Founding Partner of New Access CapitaQIAN Xuefeng said Zhongguancun has established a 1000-2000 million worth of Fund of Funds (FoFs) to promote mass entrepreneurship and innovation. Shanghai should increase FoFs to incubate more individual funds, giving rise to a venture investment ecosystem.

The Policy Forum

Formulating Open and Inclusive Innovation Policies

Editor's note: *At the Policy Forum of the Pujiang Innovation Forum 2015, renowned experts and scholars from both home and abroad exchanged views on how to, as is stressed by the theme,"Formulate Open and Inclusive Innovation Policies". Their valuable opinions generatedwarmresponse from the audience. The present brief report, developed on speakers' presentations at thePolicy Forum, is for your reference only.*

WANG Yuan

Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance

WANG Xinkui

Vice-chairman of Shanghai People's Political Consultative Committee, President of Shanghai WTO Affairs Consultation Center

HE Defang

Director General of the Department of Policy, Minister of Science and Technology

With technological and economic globalization, China's development is increasingly correlated to international innovation resources and the global market. Openness and inclusiveness have expanded the connotation of innovation policies and created new requirements for the philosophy, instruments and means of their formulation.

I. New thoughts should be adopted to formulate open and inclusive innovation policies.

China's economic development has entered a new normal phase.As innovators and innovation patterns undergo major changes, higher and more urgent requirements have been created for the formulation of innovation policies.

1. New innovation policies should be in line with the nature and laws of innovation. About how to formulate open and inclusive innovation policies, WANG Xinkui, Vice-chairman of Shanghai People's Political Consultative Committee and President of Shanghai WTO Affairs Consultation Center, said considerations need to be made from the flowing aspects: the first is the target and purpose of the policy. In an innovative environment, the entrepreneur refers to neither a profession nor a specific person but an innovative state. One purpose of the innovation policy is to drive more people into the entrepreneur state to make constant innovative attempts. Another purpose is to promote the transfer from a stable economic growth to a modernized one. That is to say, people in the entrepreneur state lie at the very core of innovation. Another aspect is the nature and major players of innovation. Technological advancement and its driving force—scientific discoveries—are the headspring and engine for innovative activities.

2. Inclusiveness and openness are essential to innovation policies. An incentive itself, the innovation policy is different from other incentives. WANG Xinkui held that instead of focusing on the output, which is a feature of traditional economic growth patterns, the innovation policy should lay more emphasis on motives and pay closer attention to innovations that are still at the R&D stage. The sophisticated healthcare system mentioned by Obama in his State of the Union address reflects the designing philosophy behind innovation policies featured by openness and inclusiveness. This is an example of medical system innovation

1 Speakers include: WANG Yuan, Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance; WANG Xinkui, Vice-chairman of Shanghai People's Political Consultative Committee, President of Shanghai WTO Affairs Consultation Center; HE Defang, Director General of the Department of Policy, Regulations and Reform,Ministry of Science and Technology; HU Zhijian, President, Chinese Academy of Science and Technology for Development; AviHasson, Chief Scientist of the Ministry of Economy of the State of Israel; LIU Xielin, Professor of University of Chinese Academy of Science; Sandrine Kergroach, Policy Analyst, Co-ordinator of the STI Outlook, Science and Technology Policy Division, Directorate for Science, Technology and Innovation; TANG Yuli, Director of the office of Policy and General Affairs, the Department of Policy, Regulations and Reform,Ministry of Science and Technology

HU Zhijian

President, Chinese Academy of Science and Technology for Development

Avi Hasson

Chief Scientist of the Ministry of Economy of the State of Israel

LIU Xielin

Professor of University of Chinese Academy of Science

in the Internet age. LIU Xielin, Professor of University of Chinese Academy of Sciences, believed that a higher degree of openness helps China obtain global technological and human resources, which serve domestic independent innovative activities. In the meantime, the effects of policy inclusiveness shouldn't be overestimated. For example, policies designed for hi-tech programs do not necessary suit their traditional counterparts. AviHasson, Chief Scientist of the Ministry of Economy of the State of Israel and WANG Yuan, Deputy Director of Pujiang Innovation Forum and Director of China Association for Promotion of Science & Technology and Finance, both held that introducing openness and inclusiveness merely for their own sake is dogmatic and runs counter to the original philosophy of open and inclusive policies. The extent of openness and exclusiveness may vary between different industries and fields.

3. Formulation of innovation policies must be put into the context of the global innovation network. Sandrine Kergroach, Policy Analyst and Co-ordinator of the STI Outlook, Science and Technology Policy Division, OECD Directorate for Science, Technology and Innovation, pointed out that innovation policies in the future should be developed on the basis of the knowledge triangle represented by universities, governments and enterprises. Enlargement of the innovation network involves more objectives, participants, cooperation patterns, programs and instruments. Both the bottom-up and top-down approaches should be adopted in the monitoring and evaluation of innovation policies. HU Zhijian, President of Chinese Academy of Science and Technology for Development, held that innovation globalization has entered the 2.0 age and future innovative development is hinged upon more open and inclusive international cooperation. Thanks to the strategy of boosting innovation capacities through open collaborations, China has made remarkable achievements in the field of technology innovation. At the age of globalization 2.0, innovation policies should further highlight participating in the formulation of international roles, taking the initiative to utilize global innovation resources, forging innovation ecosystem and promoting cooperation between mass entrepreneurship and innovation and innovation chains. LIU Xielin said lessons should be drawn from the phenomenon known as the middle-income trap in foreign countries to make corresponding policy package. The government should transform the traditional mindsets and lay equal emphasis on nurturing high and new technology industries and upgrading traditional industries. Moreover, efforts should be made to accommodate regional differences, formulate demand-oriented policies that stimulate spending of the middle class, boost domestic innovation engines by utilizingglobal innovation resources, drastically change the education patterns of universities and give universities a third role besides education and scientific research, i.e. encouraging and supporting

Sandrine Kergroach

Policy Analyst, Co-ordinator of the STI Outlook, Science and Technology Policy Division, Directorate for Science, Technology and Innovation

entrepreneurial activities including technological transfer.

II. Efforts should be stepped up to break through restrictions on the formulation of open and inclusive policies.

1. Inconsistencies exist between government policies and the development of market.HE Defang, Director General of the Department of Policy, Regulations and Reform at the Ministry of Science and Technology, said inconsistencies are found between government policies and situations of the market; the incentive mechanism for innovation is not yet well-developed; challenges encountered by the government in forging an enabling market environment for innovation haven't been addressed. In the meantime, there are also looming problems concerning the government support for scientific research projects. For example, applied researches and commercialization projects outnumber those of other kinds; fundamental researches and generic technologies are underfunded. LIU Xielin pointed out that currently China lacks a level playing field for competition, which is very important for industrial development. The government pays excessive attention to the increase of the enterprise's size and strength, rendering SMEs with financing difficulties, high cost credit and other problems. Such a reality needs to be changed.

2. Policies are not well-structured. Emphasis hasn't been evenly distributed among industries. Instead, the high and new technology industry is attached excessive importance, while traditional industries are given cold shoulder.LIU Xielin pointed out that for a long period of time, China's industrial policy favors the high and new technology sector, but is slow to upgrade traditional labor-intensive industries. Up to now, policies concerning the upgrading of traditional industries are still rarely seen in the policy packages issued by Ministries. Therefore, reflections need to be made in this regard. Moreover, drastic differences exist between industries and regions, "one size fits all" is definitely not the principle for policy making.

3. There are difficulties for the implementation of policies. HE Defang said some policies are hard to implement due to inconsistency and lack of detailed guide or rules. Cases in point include policies regarding the government procurement, financing and technology import, etc.. As for some high-cost policies, executive authorities tend to keep a tight control over them. As a result, implementation of such policies is compromised. TANG Yuli, Director of the office of Policy and General Affairs at the Department of Policy, Regulations and Reform of the Ministry of Science and Technology, held that a great number of policies are in the charge of different departments. Poor coordination between them might impede the implementation process. WANG Yuan pointed out that the government, while making policies, must also consider establishing a mechanism for the withdrawal of policies.

The Regional & Urban Forum

Construction of the Global Technology Innovation Center and Regional Development

Editor's note: *At the Regional & Urban Forum of the Pujiang Innovation Forum 2015, senior officials, experts and scholars in the field of urban and regional development from both home and abroad exchanged views. Under the theme of "Construction of the Global Technology Innovation Center and Regional Development", they introduced Shanghai's practice in building a technology innovation center with global influence and expounded on the implementation of national strategies such as the "One Belt One Road" initiative and the Yangtze River Economic Belt, driving home the relationship between the construction of "technology innovation center" and coordinated regional development. The present brief report, developed on speakers' presentations at theRegional & Urban Forum, is for your reference only.*

HUO Jiazhen

Dean of the School of Economics and Management, Professor, Tongji University

WANG Zhen

Vice President, Shanghai Academy of Social Sciences
Shmuel Gants, Director-General of Haifa Municipality, Israel

Dr. K. Rangarajan

Professor and Centre Head, Indian Institute of Foreign Trade

It's shown by the global practice that technology innovation centers are usually built on a sound innovative culture and supported by highly synergetic, integrated and developed city clusters. At the Regional & Urban Forum, government officials, experts and scholars agreed that the natural endowment and development potentials of a region normally determine whether there's a possibility of building a technology innovation center.

I. When building a "technology innovation center", both national strategies and regional collaborations need to be considered.

Regional development is not possible without the guidance and support from economic growth poles and the source of innovation, and regional development in turn serves the formulation and progression of the two.

1. Efforts should be made to synergize the building of a technology innovation center with the "One Belt One Road" (OBOR) initiative and the development of the Yangtze River Economic Belt. Shanghai, to develop into a global magnet and distribution hub of technology innovation resources, must adopt a broader vision and further adapt itself to a global network that is more open. Experts agreed that Shanghai should make full use of its advantages and take the initiative to play a bigger role in the OBOR strategy. WANG Zhen, Vice President of Shanghai Academy of Social Sciences, stressed that Shanghai could make the most of the competitive edges created by the Free-Trade Zone and corresponding preferential polices to encourage more local traders, investors and financial institutions to take part in the OBOR initiative and in turn allow the countries and regions along the routes of the initiative to access, via the Free-Trade Zone, regions such as Shanghai and those covered by the Yangtze River Economic Belt.WANG Chengbin, Vice Mayor of Changzhou Municipal People's Government, said Shanghai, as a major city, should adopt a strategic philosophy of seeking development by providing service and delivering win-win results. Only by supporting the progress of the Yangtze River Economic Belt and breaking down national borders can Shanghai merge into the OBOR initiative in a real sense.

2. Cities within a region should each assume a particular and proper part of development endeavors and develop together in a mutually promoting way. Shanghai's development should be put into the context of the Yangtze River Delta and other cities within the region need to identify their own potentials and advantages. SHEN Xuejun, Senior Vice President of Siemens China, held that Shanghai must make breakthroughs in major and fundamental fields in the future, and a prerequisite for this is a robust ecosystem. SHI Jianxun, Director of the Institute of Finance and Economics at Tongji University, said currently administration is increasingly regionalized and local governments have their own jurisdictions and

1 Speakers include: HUO Jiazhen, Dean of the School of Economics and Management, Professor, Tongji University; WANG Zhen, Vice President, Shanghai Academy of Social Sciences; Dr. K. Rangarajan, Professor and Centre Head, Indian Institute of Foreign Trade; WANG Chengbin, Vice Mayor of Changzhou Municipal People's Government; Shmuel Gants, Director-General of Haifa Municipality, Israel; SHEN Xuejun, Senior Vice President, Siemens Ltd., China; Daniel Calto, Global Head of Data Sciences Group/Team, Elsevier; SHI Jianxun, Director of the Institute of Finance and Economics, Tongji University.

WANG Chengbin

Vice Mayor of Changzhou Municipal People's Government

Shmuel Gants

Director-General of Haifa Municipality, Israel

SHEN Xuejun

Senior Vice President, Siemens Ltd., China; General Manager, Shanghai Office General Manager, Cities Center of Competence Asia in Shanghai

development goals. As a result, development of the Belt at large is mostly in the air and it is difficult to make coordinated overall arrangement. WANG Chengbin said Changzhou has pinned down the blueprint for its development into an "industrial technology innovation center" based on its advantages. In so doing, Changzhou could not only back up Shanghai's development as a "technology innovation center" but also promote a smart division of work between the two cities and realizemutually beneficial development.

3. Technological cooperation and cultural exchanges are important components of regional collaborations. Dr. K. Rangarajan, Professor and Centre Head of Indian Institute of Foreign Trade, pointed out that technological and innovation cooperation between countries and regions plays a big part in promoting regional collaborations and integration. In the process, the roles of academic institutions and government agencies are indispensable. SHI Jianxun, citing the OBOR initiative as an example, stressed that efforts should be made, not only to facilitate commercial trade and transport networking, but also to promote technological and cultural exchanges as part of the top-level design. Daniel Calto, Global Head of Data Sciences Group/Team at Elsevier, believed that when carrying out the OBOR initiative, relevant cities and regions should identify their own uniqueness and advantages, and make a joint force out of technological cooperation and exchanges to serve the development of the entire region.

II. The government is crucial to the efficacy and efficiency of regional innovation.

As the major player of institutional reforms, the government is a crucial driving force behind regional innovations. The government needs to transform its functions, adjust policies and help effectively allocate innovation resources.

1. Regulations and restrictions should be relaxed to give enterprises more freedom to make innovative attempts. SHEN Xuejun said as for enterprises or projects, the government could set priorities and focuses at the macro level, but should make no specific selections at the micro level. K.Rangarajan pointed out that the governmental interference in innovative activities should be well-prepared, well-organized and efficient so as to ensure that the enterprise can keep the initiative in their own hands. WANG Zhen said the government should transform its administrative approaches and loosen their reins on enterprises. Besides, it is urgent at the moment for the government to think about how to effectively allocate the public resources in a fair and sensible way, how to protect technology innovations and how to spend wisely. Shmuel Gants, Director-General of Haifa Municipality, Israel, believed that too much interference in innovative attempts from the government might backfire. The government should give a full rein to enterprises and let them decide the paths, and what really needs to be done by the government is to make sure that the economy keeps growing and the quality of service, improving.

2. A favorable environment should be created to promote mobility of innovation elements. An enabling environment can draw global innovation elements and is a decisive appeal for innovative enterprises. SHI Jianxun held that the government should create a

Daniel Calto

Global Head of Data Sciences Group/Team, Elsevier

SHI Jianxun

Director of the Institute of Finance and Economics, Tongji University.

fair, equal and transparent environment for innovative and entrepreneurial attempts. Vigorous efforts should be made to protect innovations and crack down on infringement. This means much for the growth of the business. SHMUEL Gants said the Haifa municipal governmenthas been playing dual roles in technology innovation. One is to create a policy mechanism in favor of innovation activities, and the other is to enrich the talent pool for innovative economic development. WANG Chengbin held that what really matters is whether the government can allocate limited resources (capital, land, etc.) to innovation. The Israeli government gives premium to technology innovation and has made enormous investment in areas such as technology R&D, fundamental research and education.

3. The cost of innovation should be lowered to give more push to enterprises toinvolve in innovative endeavors. Enterprises' innovation is usually driven by market profits. Therefore, the government needs to make use of the market mechanism and promote innovations by lowering the cost. SHEN Xuejun said the government could, not only clear the barriers for companies to make innovative attempts and reduce the explicit cost for innovation by establishing incubators and technology parks, but also lower the implicit cost for innovation by improving the public service (such as transport). In so doing, the enterprises, encouraged by the favorable policies, would involve more in the market competition in a equal footing. K.Rangarajan pointed out that it is even more difficult for technology SMEs to commercialize innovative outcomes and the government should, through technological and commercial incubation, narrow the gap between innovation and commercialization in order to make enterprises more motivated to engage themselves in innovation activities.

III. Openness and integration are among the major values created by regional innovation.

1. Open and innovative cooperation needs to be enhanced. Against the backdrop of innovation globalization, open innovation is essential to urban and regional development. Wang Chengbin said in recent years, Changzhou's development has benefited greatly from open innovation featured by the import and utilization of valuable domestic and foreign innovation resources. For example, Changzhou has built cooperative ties with prestigious innovation institutions in Israel, UK, US, etc. and established platforms such China-Israel Technology Cooperation Center and China-Israel international business incubator. SHI Jianxun suggested that new innovation cooperation patterns be put in place in accordance with national strategies. He believed that the China-America-India MBA program (a program that recruits students from India, China and America each year) at Tongji University could also accept students from Israel because the more diversified the students'backgrounds are, the more innovation resources might be introduced into China and this can give rise to new cooperation, innovationand industries.

2. More emphasis should be attached to the import of talents and enhancement of creativity. The talent is a primary resource for innovation. Shanghai, while making vigorous effort in importing specialists from other provinces in China and from

foreign countries, should not overlook the building of the local talent pool. WANG Chengbin said Changzhou has made remarkable progresses in this regard. To date, 2166 projects involving corresponding specialists have been introduced, and 344 Chinese experts and over 400 foreign specialists awarded by China's Thousand Talents Program are involved. Shmuel Gants said Israel attaches special emphasis on education and creativity, and related trainings, especially in the fields of science and technology, start as early as the kindergarten years. Besides, students are encouraged to take part in activities related to film-making, music and other forms of art and to combine their knowledge in this connection with that in science and technology, mathematics, physics, computer science, etc.. Such a practice further boosts students' creative mind.

3. More attention needs to be paid to the development of the society and improvement of people's livelihood. Innovation is supposed to not only break new technological and industrial grounds but also highlight the social values of inclusiveness, equality and universal wellbeing. K.Rangarajan said seeking technological breakthroughs is just one part of technological innovation and what matters more is using technology innovation to address social and economic issues, for instance alleviating poverty, promoting economic growth, removing inequality and facilitating all-round development of human beings. Only in so doing can regions develop at a higher level and with a better quality. He also stressed that technology innovation should "serve the poor", and a balance should be struck between the application of new technologies and employment. Technology innovation, while focusing on new technological breakthroughs and application of them, shouldn't result in unemployment. That is to say, blind replacement of human capital by technology capital needs to be avoided.

The Industry Forum - Intelligent Healthcare

New Global Industrial Structures and Strategic Choices

Editor's note: *The Industry Forum –Intelligent Healthcareof the Pujiang Innovation Forum 2015, focusedattention on practice in the fields of Internet healthcare, precision medicine, personal health, etc.. Hotspot issues including the technology innovation, operation modes as well as laws and regulations of intelligent healthcare were discussed. The present brief report, developed on speakers[1]' presentations at the Industry Forum –Intelligent Healthcare, is for your reference only.*

LI Yixue

President, Institutes of Biomedical Sciences, Shanghai Industrial Technology Institute; Director, Shanghai Center for Bioinformation Technology

GAO Jiechun

Vice-President, Secretary of The Party Committee, RED CROSS Society of China Shanghai Branch

LU Zuhong

Professor, College of Engineering, Peking University

Intelligent healthcare is crucial to the strategic transformation of the healthcare industry. Speakers at the Forum unanimously agreed that in the age of big data, development of an individualized, intelligentized and commercializedhealthcare service system, combining the Internet's advantages in precisely serving customers, is more than important for the deepening of the healthcare reform.

I. New technologies facilitate the transformation of healthcare service patterns

1. Sharing of the health information props up new healthcare service patterns.GAO Jiechun, Vice-President of the RED CROSS Society of China Shanghai Branch, held that the healthcare sector has picked up its speed of transformations in many aspects, for instance, changing from a "face-to-face pattern" to one that is based on the "healthcare cloud", from "hospital-centered service" to "coordinated online service", from "focus on treatment" to "focus on prevention". Healthcare management service should be integrated with quality resources of healthcare institutions so as to diversify the range of service.

2. Mobile healthcare may effectively streamline the medical procedure and improve its quality. The mobile healthcare developed upon the mobile communications technology doesn't rely on the wired network and is usually carried by portable devices. CHEN Zhongyang, CEO of PKU Healthcare IT Co.,Ltd, put forward the concept of a mobile healthcare system based on "one cloud and three terminals" (the personal terminal, hospital terminal and doctor terminal). ZHANG Hongjiang, CEO of Kingsoft&Kingsoft Cloud, proposed a cloud computing-based framework incorporating an intelligent hospital network, local healthcare platform and family health system.

3. The great value created by the healthcare big data should be properly harnessed. Paul M. Matthews, Professor and Head of Division at Imperial College London, Department of Medicine, Division of Brain Sciences, held that precision medicine can predict possible diseases of individuals in the future, individual reactions to diagnosis and treatment and individual preference and characteristics. CHEN Zhongyang said the application of intelligent healthcare system can be reflected in two major aspects: one is clinical application, including hospitalinflammation early warning, overall hospital operation analysis, review of patient consultation and assistive clinical decision making; the other is scientific research, including knowledge maps of diseases and search engines for specialist electronic medical history big data.

II. Legal and moral issues must be tackled head on

Several speakers held that in order to develop intelligent healthcare,issues in the existing mechanism concerning

1 Speakers include：LI Yixue, President, Institutes of Biomedical Sciences, Shanghai Industrial Technology Institute; Director, Shanghai Center for Bioinformation Technology；GAO Jiechun, Vice-President, Secretary of The Party Committee, RED CROSS Society of China Shanghai Branch；LU Zuhong, Professor, College of Engineering, Peking University；Paul McMahon Matthews, Professor, Head of Division, Imperial College London, Department of Medicine, Division of Brain Sciences；CHEN Zhongyang, CEO of PKU Healthcare IT Co.,Ltd.；ZHANG Hongjiang, CEO of Kingsoft&Kingsoft Cloud；Shimon Eckhouse, Co-Founder and Chairman of the Board, Syneron Medical Ltd；ZHU Yanmei, Executive Vice President of The Beijing Genomics Institute；LIU Fan, Assistant of President, Peking University People's Hospital；WEI Ran, General Manager of Tecniplast China；LV Hui, Distinguished Professor, Shanghai Jiaotong University

Paul M. Matthews

Professor, Head of Division, Imperial College London, Department of Medicine, Division of Brain Sciences

CHEN Zhongyang

CEO of PKU Healthcare IT Co.,Ltd.

ZHANG Hongjiang

CEO of Kingsoft & Kingsoft Cloud

legal protection and privacy mush be tackledhead on. Major issues include the following two:

1. Slow progress in legal protection and regulations has become a hurdle for development. GAO Jiechun said the insufficiency of laws and regulations impede the development of the intelligent healthcare industry. First, the electronic medical history data, a data storage and communication pattern more scientific and rigorous, don't have the equivalent legal effect withits written counterpart; second, China currently is void of laws and regulations concerning the ownership of the medical history record and exiting practice is based on international rules and historical conventions; third, as for service patterns such as electronic prescription, online pharmacy and online hospitals, effective supervision and guidance are not in place. Speakers held that the government should take the initiative to accelerate the formulation and assessment of policies as the intelligent healthcare sector surges ahead.

2. Privacy protection is in conflict with information sharing. With the development of intelligent healthcare, the function of clinical data is more reflected in the decision-making process. Collection and analysis of mass data builds experience and rules, presenting the optimal approaches to doctors. LIU Fan, Assistant of President at Peking University People's Hospital, said due to the lack of laws concerning medical ethics, clinical data involving privacy are extremely hard to access in medical research. Besides, the ownership of the clinical data is not explicitly stipulated in IPR laws and regulations. These are all obstacles for information sharing. LV Hui, Distinguished Professor at Shanghai Jiaotong University, pointed out that compared with developed countries, regulations in China for healthcare date sharing is not transparent enough. Prospective medical professionals, when being trained, usually couldn't access real clinical data due to ethical issues. GAO Jiechun held that it is imperative that medical data is open to sharing and privacy is not violated. He proposed that the government lead the way in improving the top-level design and environment for medical data sharing, drawing explicit lines between "responsibility, rights and interests" and raising public awareness through propaganda, so as to proceed with relevant work more smoothly.

III. Establishing a Chinese pattern of the intelligent healthcare industry

1. Taking universal and all-time healthy lifestyle as a development goal.In recent years, big cities such Beijing, Shanghai, Guangzhou and Shenzhen are proactively improving existing healthcare modes through the Internet, mobile communications technologies, IOT, cloud computing and big data. GAO Jiechun believed that although the industrial patterns of the healthcare sector is transforming, relations of production between doctors and patients are hard to change. A nationwide healthcare database is the basis for intelligent healthcare. LIU Fan and LvHui both heldthat although China has made progresses in data collections and hospital informationization, the quality of data still needs to be improved. Further attention should be attached to the structuralization, standardization and formatization of healthcare data collection. LU Zuhong, Professor at College of Engineering, Peking University, held that healthcare

Shimon Eckhouse

Co-Founder and Chairman of the Board, Syneron Medical Ltd

ZHU Yanmei

Executive Vice President of The Beijing Genomics Institute

LIU Fan

Assistant of President, Peking University People's Hospital

data detection should be conducted from two perspectives: "genetic factors" and "health state"; and its focus should be shifted from the disease to health.

2. Investment in DNA sequencing technologies and facilities should be increased. ZHU Yanmei, Executive Vice President of The Beijing Genomics Institute, believed that breakthroughs in DNA sequencing technologies would influence the existing healthcare pattern to a great extent, generating a great variety of possibilities for growth. She took the birth defects of newborns as an example, pointing out that as the DNA sequencing technologies steadily develop, if efforts are made to change the detection methods, lower its cost and expand the target population, the rate of birth defects in China would be dramatically reduced. Paul M. Matthews suggested that an appraisal system covering individual "risks, costs and harms" be set up during the clinical application of precision medicine, so as to boost the success rate of treatment.

3. Establishing public-private partnership on the basis of intelligent healthcare service. LI Yixue, President of the Institutes of Biomedical Sciences at Shanghai Industrial Technology Institute,held that practice and research made by the US in this connection is quite relevant. Namely, the enterprise provides equipment and technological support, andnon-profit public organizations or institutions form healthcare associations to carry out massive DNA information collection as well as formulate baselines and indicators for various diseases. LIU Fan pointed out that hospitals, healthcare centers and enterprises in China produce a great amount of data everyday, but their values can not be played out withoutcooperation and sharing. In recent years, Peking University People's Hospital has been actively engaged in establishing partnerships with medical centers and enterprises. However, relevant cooperation initiatives are not sufficiently controlled by regulations

WEI Ran

General Manager of Tecniplast China

LV Hui

Distinguished Professor, Shanghai Jiaotong University

and rules.

4. Searching for multi-channel business models. GAO Jiechun and ZHU Yanmei pointed out that China might change the current income structure of the medical sector through new business models of intelligent healthcare. For one thing, bearers of payments can be expanded from the government and hospital to the insurance company and patient; for another, the payment pattern can be changed from an individual agency bearing it all to subsidies, pharmaceutical companies, insurance companies and other stakeholders sharing the fee. With the development of intelligent healthcare, such a transformation of business model is not only facilitated by the transformation of healthcare service patterns, but also made for the sake of multi-party participation in a more complicated healthcare service system in the future.

The Culture Forum

Maker and Its Impact

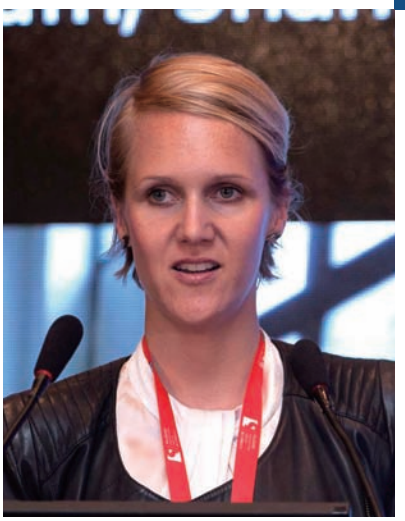
Editor's note: *TheCulture Forumof the Pujiang Innovation Forum 2015focusedattention on "Maker and Its Impact". Influential big names in the maker community, renowned scholars, university as well as high school and primary school students were invited to exchange ideas on the nature and importance of makers. In-depth discussion was conducted on how makers in China should do to seize opportunities brought about by the new technology revolution and how to become the backbone of sustainable transformations. The present brief report, developed on speakers[1]' presentations at the Culture Forum, is for your reference only.*

Jeff Ding

Director of Fablab O Shanghai, College of Design and Innovation, Tongji University

Mitch Altman

CEO, Cornfield Electronics, Inc



Silvia Lindtner

Assistant Professor of University of Michigan

At present, as the Third Industrial Revolution led by the Internet surges on, maker movements are in full swing across the globe, becoming a highlight in an age of mass innovation and entrepreneurship.

I. The maker culture is catching on

The maker, as a crucial creator of the innovation culture, is leading a modern trend that is changing societies and innovation configurations worldwide.

1. The essence of the maker lies in "playing"."Playing" is an important headspring of innovation. A curious and playful state of mind is a must for makers. "Godfather of Makers" and CEO of Cornfield ElectronicsMitch Altman pointed out that the primary goal of a maker is not to "make money" or start a business, but have fun by creating. For a maker, identifying the customer's interest and drawing lessons from failed projects are more relevant than generating profits. Richy Ye, CEO and Co-founder of DFRobot, held that maker refers to someone who knows innovation like the back of his hand. It represents a belief, an everlasting curiosity and creativity rather than a title.

2. Interest is the only prerequisite for the making of a maker. With interest, it is possible for everyone to become a maker. Tomas Diez from Fab Lab Barcelona, IAAC, said a maker shouldn't be labeled; everyone has the opportunity to change the world; and what really matters is their cognition of the world and interest in it. Memet Ünsal, Program Director of InnoCampus, also mentioned that it doesn't take any skill or ability to become a maker but curiosity. In particular, children shouldn't be taught to stick to conventional rules but to break them. John Klein, Principle and Architect at John Klein Design, JKD & MIT Media Lab, believed that a maker should be equipped with the perseverance and patience to overcome difficulties in technologies and other aspects. CHEN Zhengxiang, CEO of STARY Board, said the Stary project started with interest in technologies. Such a passion, together with constant attempts and a spirit of creation, finally gave birth to electric boards.

3. The makerspace is a crucial platform for exchanges between makers. Mitch Altman introduced that as a cooperative community, Noisebridge provides various tools (machinery, laser or even cookware). Everyone can dive into the area they are interested in, learn to make things as they like and exchange ideas with others. Fiona Ching, General Manager of MakerBay, believed that diversity isof the highest importance for a

1 Speakers include: Mitch Altman, CEO, Cornfield Electronics, Inc; Silvia Lindtner, Assistant Professor of University of Michigan; David LI, Co-founder of Maker Collider; Tomas Diez, Diez Ladera of Fab Lab Barcelona, IAAC; Cesar Harada, Founder and Director of MakerBay; John Klein, Principle and Architect and John Klein Design, JKD & MIT Media Lab; Memet Ünsal, Program Director of InnoCampus; Hyun Park, Designer and Maker; CHEN Zhengxiang, CEO of STARY Board; Fiona Ching, General Manager of MakerBay; Junfeng Jeff Ding, Director of Fablab O Shanghai, College of Design and Innovation, Tongji University; Richy Ye, CEO and Co-founder of DFRobot; Justin WANG, Founder of Beijing Makerspace; Leo Lee, Innovation Department manager, Engineering Training Center of Southwest Jiaotong University; GUO Qiang, Founder, Madnet Incubator, Shenzhen Makermountain Hardware Accelerator; LOU Yongqi, Dean, College of Design and Innovation, Tongji University; ZHU Shouchen, Specially-honored Professorial Teacher, Shanghai YanAn Senior High School; Gordon XU, Complete The Charity Congregation Raised Project, Student of YK Pao School; SHEN Siyang, Student of Tongji University

David LI
Co-founder of Maker Collider

Tomas Diez
Diez Ladera of Fab Lab Barcelona, IAAC

John Klein
Principle and Architect and John Klein Design, JKD & MIT Media Lab

makerspace. If talents of various kinds from various fields could be drawn together, new ideas and opportunities would mushroom. CHEN Zhengxiang said makers shouldn't rely heavily on the makerspace but need to adopt a sharing and cooperative mindset. This is what makerspaces in China are void of--most of them don't even have their own wiki, let alone the communication and circulation of knowledge.

4. Makers create infinite possibilities for mass entrepreneurship. Creative ideas of makers and the cornucopia of products coming out of them fully meet the market demand, instilling vitality into mass entrepreneurship and innovation. Mitch Altman said when a maker finds the inspiration for new ideas, others might follow and buy the products, thus turning a maker, naturally, into an entrepreneur. Silvia Lindtner, Assistant Professor of University of Michigan, held that the maker movement around the world, with support from governments and companies, is changing its nature from an alternative cause into a popular one. For one thing, the maker is changing the existing standard ways of doing

Memet ünsal
Program Director of InnoCampus

Hyun Park
Designer and Maker

CHEN Zhengxiang
CEO of STARY Board

Leo Lee

Innovation Department manager, Engineering Training Center of Southwest Jiaotong University

GUO Qiang

Founder, Madnet Incubator, Shenzhen Makermountain Hardware Accelerator

LOU Yongqi

Dean, College of Design and Innovation, Tongji University

things and education models. This is conducive to the transformation from the manufacturing economy to the knowledge economy; for another, makers are contributing their share to the solution of cross-border issues in the world.

II. Maker education supports the maker movement

To give a stronger momentum to the maker movement in China, the maker education needs to be further strengthened. It should adopt a new pattern featured by openness, mutual assistance and self-learning.

1. Self-motivated learning ability and exploratory spirit should be cultivated. ZHU Shouchen, Specially-honored Professorial Teacher, Shanghai YanAn Senior High School, said people gifted with creativity might come up with successive creative ideas, and they are usually acutely observant and can apply their knowledge across disciplines. The education system should lay focus on students' ability of self-motivated learning; they need to be encouraged to search for resolutions to problems. Hyun Park, Founder of PHabric8, held

Fiona Ching

General Manager of MakerBay

Richy Ye

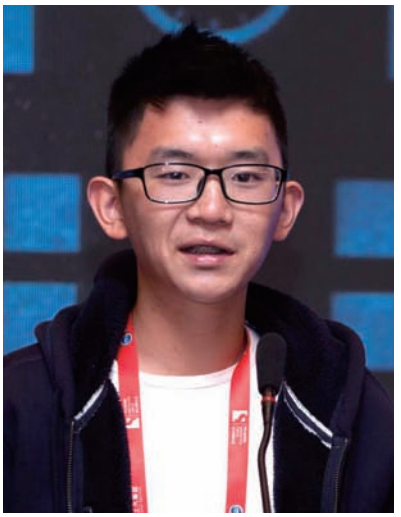
CEO and Co-founder of DFRobot

Justin WANG

Founder of Beijing Makerspace

ZHU Shouchen

Specially-honored Professorial Teacher, Shanghai YanAn Senior High School



Gordon XU

Complete The Charity Congregation Raised Project, Student of YK Pao School

SHEN Siyang

Student of Tongji University

that in the US, educators put high premium on practice and for every piece of work, there's a reviewer. LOU Yongqi, Dean of the College of Design and Innovation at Tongji University, pointed out that the maker education should be closely tied up to the national issues, for instance, transformation of the manufacturing industry, social welfare, environmental pollution, etc. Only in so doing can the value of makers be played out to the full.

2. Students should learn to boost creativity through open communication and teamwork. SHEN Siyang, a student of Tongji University, said the makerspace is an open and inclusive place where the concepts of age, teachers or students don't exist. Moreover, if everyone, with his particular forte, knows how to effectively communicate or share knowledge with others, more ideas and insights would be produced. With such an atmosphere, the number of makers would increase exponentially in the future. Gordon XU, a student of YK Pao School, said students should learn to put their ideas into practice through teamwork; the role of teachers is not to cram knowledge into students' minds, but inspire them to make creative attempts. The makerspace is more of a platform, through which people can learn and create. Memet Unsal stressed that when a maker is dealing with something he's not familiar with, he needs to cooperate and communicate with others, sharing ideas and finding resolutions to problems.

III. A maker culture with Chinese characteristics and features of Shanghai should be nurtured.

Development of any makerspace is impossible without the support of an urban environment. Since each city has its own characters and uniqueness, a special cultural ambience should be created accordingly for the growth of makers.

1. The maker culture should be incorporated into the diverse local culture. In China, different areas have their own history and cultures. Therefore, cultural differences should be fully considered when forging a maker culture. Siliva Lindtner held that the knockoff culture and street culture unique to China gives new traits to the makerspace. For example, Shenzhen, long immersed in its "knockoff" culture, has developed a comprehensive and open electronic hardware manufacturing industry covering design, production and packaging. This enables the makers and entrepreneurs to easily have their innovative products manufactured and share resources. Another case in point is the cellphone repair stands along many streets in Shanghai. In the future, Shanghai's makerspae can be connected to the roadside repair and manufacturing industry. Junfeng Jeff Ding, Director of Fablab O Shanghai, College of Design and Innovation, Tongji University, held that unique characters of makerspaces in different cities should be highlighted so as to avoid uniformity. In the meantime, the essence of the maker should be expanded, so that all the creative people can put their ideas into practice at the makerspace.

2. Connection between local industries and communities should be reinforced. The Beijing Makerspace, the first of its kind in China, is developed on Beijing's solid industrial foundation. It brought up, for the first time, the idea of integrating the makerspace with

industries. To date, it has already joint hands with TCL, LG, Haier, Sany, Cherry, etc. in building a ￥4.5 billion worth of industrial crowd innovation makerspace, which has raised funds of ￥400 million. With a sales volume of nearly ￥600 million, the makerspace has 12 off-line incubated makerspaces. It's already a new economic engine combining crowd innovation, the Internet and China's national industries. According to Leo Lee, Innovation Department manager at the Engineering Training Center of Southwest Jiaotong University, the city of Chengdu, different from big hectic cities, has its own styles in terms of the makerspace, which emphasize exchanges, education, creativity, coordination and even religious practice. In Chengdu, creation is nothing different from normal activities such as eating, drinking and travelling. It's just a part of life. Many makerspaces in Chengdu are established within communities. With tools and equipment contributed by community members, makers can create whatever they want at a lower cost and in an easier and more relaxed manner.

3. Shanghai has its advantages in promoting the maker culture. YE Chen held that makers in Shanghai are famous for their boldness, passion, playfulness and patience. Makerspaces in Shanghai actually are vey well developed. Without entrepreneurship as the top priority, makers are encouraged to play. Once creative ideas collide with a playful mind, robust vitality would come out of it and drive the makers to seek any possible knowledge that enables them to play on. Additionally, Shanghai boasts great academic resources. Cross-disciplinary integration, open and diverse cultural exchanges and supportive policies for entrepreneurial attempts all provide an enabling environment for makers in Shanghai to convert their creative ideas into products. CHENG Zhengxiang believed that Shanghai has great competitive edges in branding and globalization, which enable makers to quickly find excellent designers and marketing professionals.

The Future Science Forum

Brain Science and Artificial Intelligence

Editor's note: *At the Future Science Forum of the Pujiang Innovation Forum 2015, renowned experts and industrial leaders from both home and abroad under the theme of "Brain Science and Artificial Intelligence", exchanged views on the latest developments of artificial intelligence, the problems it faces and its prospect in the future. The present brief report, developed on speakers' presentations at theFuture Science Forum, is for your reference only.*

XU Ningsheng

Academician of Chinese Academy of Sciences, President of Fudan University

Sean Hill

Professor of EPFL, Co-Director of Neuroinformatics in the European Union funded Human Brain Project (HBP)

GUO Aike

Academician of Chinese Academy of Sciences, Professor, Institute of Neuroscience, Shanghai Institutes for Biological Sciences, CAS

Brain science and artificial intelligence are the frontiers of science and technology development. In recent years, artificial intelligence, rooted in brain science, has scored groundbreaking achievements. Neurologists, information scientists and industrial leaders join hands to enable the integration of knowledge across fields, triggering new technological and industrial revolutions. This will,in the foreseeable future, wield a profound influence on people's thinking patterns and lifestyle and create a brand new perspective for the human beings to observe the world.

I. The "Human Brain Project" has riveted global attention.

At present, integration of the information and communications technology and biology has reached such a point that it is able to turn the control of human brain, which is long dreamt of by us, into reality. The combination of brain science and artificial intelligence will greatly facilitate the advancement of the brain-like intelligence research, lead the development of artificial intelligence in the future and reshape the configuration of industry, military and service. It will become an important embodiment of a country's core competitiveness. The European Union and United States initiated, in 2013, human brain projects worth $1000 million and $4500 million respectively. Sean Hill, Professor of EPFL and Co-Director of Neuroinformatics in the European Union funded Human Brain Project (HBP), systematically introduced HBP.

A global cooperation network. The goal of the project is to lay the foundation for new information and computer technologies that are needed by neuroscience, medicine and computing, collect all the information regarding the human brain and rebuild human brain to its every detail by modeling and simulation on supercomputers. Due to its demand on massive data and its interdisciplinary nature, the project must be carried out within a global context. It has involved over 400 researchers and 112 research institutions in the fields of cognitive neuroscience, medicine and computer science in Europe, Asia and America. It is claimed that the project will generate new knowledge of the human brain and related diseases, develop new computer and robot technologies, and thus become the world's most significant human brain research project.

Focus on major fields. First, information and computing technologies lie at the very core of HBP. The project will develop an information and communications platform for

1 Speakers include: XU Ningsheng, Academician of Chinese Academy of Sciences, President of Fudan University; Sean Hill, Professor of EPFL, Co-Director of Neuroinformatics in the European Union funded Human Brain Project (HBP); GUO Aike, Academician of Chinese Academy of Sciences , Professor, Institute of Neuroscience, Shanghai Institutes for Biological Sciences, CAS; LUO Qingming, Vice President, Huazhong University of Science and Technology; DENG Li, Principal Researcher, Microsoft Research, Redmond, USA; WANG Xiaojing, Associate Vice Chancellor for Research, Professor, Shanghai New York University; WANG Jun, Partner of Beijing Genomics Institute; Founder of Tanyuan Tech; FENG Jianfeng, Principal Investigator, Dean, Professor in Mathematics, Biology and Medicine, Fudan University; HU Xiaoping, Professor, Georgia Research Alliance Eminent Scholar in Imaging in the Wallace H. Coulter joint department of biomedical engineering at Georgia Tech and Emory University; Director of Biomedical Imaging Technology Center in the Emory University School of Medicine; SHI Chuanjin, Professor in Electrical Engineering at the University of Washington, Seattle; CHEN Qun, CEO of Corporate Research Center at Shanghai United Imaging Healthcare; XU Yifeng, Professor of Psychiatry and Chairman, the Department of Psychiatry, Shanghai Jiao Tong University School of Medicine (SJTUSM) in Shanghai; David Waxman, Professor of University of Montpellier

LUO Qingming

Vice President, Huazhong University of Science and Technology

DENG Li

Principal Researcher, Microsoft Research, Redmond, USA

WANG Xiaojing

Associate Vice Chancellor for Research, Professor, Shanghai New York University

neuroinformatics, brain emulation and supercomputing. Second, a newly established medical information platform will gather clinical data across the world, benefiting medical researchers and combining the data with the computer models of related diseases. Third, the simulated neural computing platform and neurorobotics platform help promote the R&D of new computer systems and robots in accordance with the structure and circuits of the human brain. Besides the above three functions, HBP has launched anEthics and Society program, whose goals are to explore the project's social and ethical implications.

Sustained financial assistance.HBP, incorporated into the EU's FET (Future and Emerging Technologies) Flagship Program in 2013, will win €1000 worth of financial support within a decade. The first two years and a half is the growing period, whose focus will be on establishing an initialinformation and communications platform and collecting scrutinized strategic data for it. The flowing four years is the operating period, during which the collection of strategic date will be intensified and new functions of the platform, created. Also in this period, initiatives will be taken to demonstrate the importance of this platform to the fundamental research in cognitive neuroscience, medical applications and future computer technologies. The last three years is the stabilizing period, in which the project will build on what have been achieved during the last period and realize self-sustaining, turning the knowledge created by the platform into permanent asset for the scientific research and industrial development in Europe.

II. The development of artificial intelligence has entered a new phase.

With the advancement of brain cognitive science and neuroscience, the academic communities, both at home and abroad, have recognized that intelligent technologies can draw new insights from brain science and neuroscience, developing new theories and methods, and increasing the intelligence of robots. Research on human brain's information processing mechanism and artificial intelligence may generate new theories and technologies of brain-like intelligent computing, thus leading information technology down the track of intelligence in the future.

Brain research is the prerequisite for breakthroughs in artificial intelligence. GUO Aike, Academician of Chinese Academy of Sciences and Professor at the Institute of Neuroscience, Shanghai Institutes for Biological Sciences, CAS, believed that we are now at a crucial stage of artificial intelligence development. Technologies such asbrain-like intelligence, brain-like chips, brain-computer interface, deep learning algorithms and mass modeling of neural network, etc. are mushrooming. However, human beings' knowledge about the brain has barely scratched the surface. Introduction of brain science into artificial intelligence is still insufficient. This is a main reason behind the fact that not many breakthroughs have yet been made in the field of artificial intelligence.DENG Li, Principal Researcher at Microsoft Research, Redmond, USA, pointed out that many applied technologies of artificial intelligence are originated from researches on the neural system of human brain. For instance, deep learning is inspired by researches on the neural network of human brain. It simulates the way that human brain processes information to interpret images, sounds and texts. The deep

WANG Jun

Partner of Beijing Genomics Institute; Founder of Tanyuan Tech

FENG Jianfeng

Principal Investigator, Dean, Professor in Mathematics, Biology and Medicine, Fudan University

HU Xiaoping

Professor, Georgia Research Alliance Eminent Scholar in Imaging in the Wallace H. Coulter joint department of biomedical engineering at Georgia Tech and Emory University; Director of Biomedical Imaging Technology Center in the Emory University School of Medicine

learning technology helps greatly reduce the errors of speech recognition.

Notable progresses have been made in the Mapping Brain Functional Connections program (MBFC). GUO Aike pointed out that MBFC is at the very frontier of brain science. The program is more than necessary for the exploration of brain functions, research on the pathogenesis of brain diseases and development of brain-like computing. It is highly possible that groundbreaking findings can be made in this regard. In 2012, the Chinese Academy of Sciences initiated a preliminary project, namely the MBFC program, to analyze and simulate the neural connections and network structures of specific brain functions. Todate, the program has made substantial headways. LUO Qingming, Vice President of Huazhong University of Science and Technology, held that fluorescence-based optical imaging of brain tissues is the latest and most effective technology to map brain functional connections. Through special genetic engineering methods, fluorescence is injected into the guinea pigs and traced. The process can be likened to the observation of a firefly's trail in the darkness. In this way, a detailed map of the brain's neural networks is established.

Big data technically supports the mass application of artificial intelligence. FENG Jianfeng, Principal Investigator, Dean and Professor in Mathematics, Biology and Medicine at Fudan University, said with the advancement of science and technology, massive amounts of data concerning brain science and artificial intelligence are built up. The integration of big data and brain science will exert transforming impact on the research in the fields of brain science and artificial intelligence. Big data presents a general picture, enabling the research of human brain and artificial intelligence to be approached in a thorough manner; moreover, big data provides effective analytical instruments, which help promote the development of artificial intelligence. DENG li pointed out that in the past decades, rapid development of artificial intelligence is reflected bythe advent of intelligent algorithms such as the application of deep learning. The success of deep learning consists in the big database and enhanced ability of mass computing. Because of this, deep learning even surpasses the human beings in human face recognition and speech recognition. Currently, the error rate of speech recognition of Microsoft, Google and Baiduis as low as 4.8%, 0.2% lower than that of humans. HU Xiaoping, Professor at Georgia Research Alliance Eminent Scholar in Imaging in the Wallace H. Coulter joint department of biomedical engineering at Georgia Tech and Emory University, pointed out that how to connect data collected by different channels or measured against different criteria are very important questions.

III. Suggestions on future development

Besides exchanging views on technical issues in the fields of brain science and artificial intelligence, experts at the Forum also gave constructive suggestions on how to better conduct researches in the future.

1. Focus should be laid on major fields and the Shanghai version of human brain project needs to be carried out. FENG Jianfeng said Shanghai shouldattach particular attention to four aspects: research on neurons, development of intelligent algorithms, integration of brain science

SHI Chuanjin

Professor in Electrical Engineering at the University of Washington, Seattle

CHEN Qun

CEO of Corporate Research Center at Shanghai United Imaging Healthcare

XU Yifeng

Professor of Psychiatry and Chairman, the Department of Psychiatry, Shanghai Jiao Tong University School of Medicine (SJTUSM) in Shanghai

and wearable devices or chips and application of brain science in different social sectors. According to him, after more than a year of discussion and preparation, the overall plan for the development of brain science in Shanghai will be put in place in May. At present, endeavors are already being made to initiate major research projects concerningneural networks and the intelligent system for human brain's information processing.

David Waxman

Professor of University of Montpellier

2. Disciplinary barriers should be removed and interdisciplinary cooperation, reinforced. WANG Xiaojing, Associate Vice Chancellor for Research and Professor at Shanghai New York University, held that brain science and artificial intelligence cover several areas and involve different disciplines. But in spite of relevant research spanning over 20 years, a better part of experiments and theories are confined to specific areas of the brain. A complicated dynamic system, the human brain can be thoroughly understood only by researches in difference aspects. Besides, to further develop theories and data analysis, cooperation between experimenters and theorists in multiple disciplines, such as statistics, physics, mathematics, engineering and information science, must be enhanced. XU Yifeng, Professor of Psychiatry and Chairman of the Department of Psychiatry at Shanghai Jiao Tong University School of Medicine (SJTUSM), pointed out that besides biological factors, social and psychological research can also lay the foundation for the development of psychiatry. According to the website of the White House, psychiatry is to apply the right treatment to the right people at the right time. That means mass data and analysis are needed. However, there's no simple way to analyze such a big size of data. Therefore, only when doctors and scientists work closely together, can great strides be made.

3. Information exchanges should be promoted to enable data sharing. WANG Jun, Partner of Beijing Genomics Institute and Founder of Tanyuan Tech, believed that big data are meant to be shared. Data generated by researches in the field of brain science and genetics are not collected by a single company or agency, nor are they gauged against a single set of criteria. Therefore, if not shared, these bits and pieces of information don't make any sense. But some people are willing to share, while others not. Therefore, a cooperation mechanism is more than necessary. FENG Jianfeng said the US has already launched large-scale data-sharing projects to integrate data from multiple resources and in various dimensions. Once completed, the legacy would be huge. China also should kick start similar data integration projects.

The Entrepreneur Forum

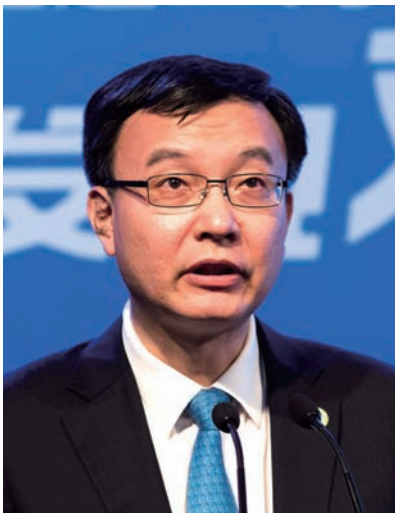
"Discover Innovation and Entrepreneurship Star" Themed Event Shanghai

Awarding Ceremony of Shanghai Innovation & Entrepreneurship Competition

Editor's note: *At theEntrepreneur Forum of the Pujiang Innovation Forum 2015, renowned scholars, entrepreneurs and government officials[2] from both home and abroad, under the theme of "Mass Entrepreneurship and Innovation", exchanged views on how to forgeand optimize enabling environment and shared their successful stories of supporting entrepreneurs with an inclusive spirit and sharing experience. Awarding Ceremony of Shanghai Innovation & Entrepreneurship Competition was also held at the Forum. The present brief report, developed on speakers' presentations at the Entrepreneur Forum, is for your reference only.*

HAI Bo
Commentator of Yicai, SMG

ZHOU Junfu
Anchor of DongfangCaijin



ZHOU Bo
Vice Mayor of Shanghai Government

Mass entrepreneurship and innovation is the engine for development and the recipe for the wellbeing of the people and the country. It is highly relevant for economic restructuring, the building of new development engines and the strategy of innovation-driven development. Speakers at the Forum agreed that as mass entrepreneurship and innovation moves forward in high gear, grassroots entrepreneurs and organizers of small and micro companies as well as entrepreneurial associations are becoming the backbone. They will keep creating new opportunities for economic and social development.

I. An era of mass entrepreneurship is hastening into shape.

The world today is witnessing a tide of innovation surging ahead at a speed never seen before and an explosive growth of entrepreneurial groups. In the meantime, entrepreneurs find themselves facing a new environment featured by new development trends, systems and service patterns.

1. Technology innovation brings about opportunities for entrepreneurship. YANG Yuecheng, Deputy Director General of the Torch High Technology Industry Development Center at Ministry of Science and Technology, held that the advent of big data and IOT has generated new industrial modes such as the Internet finance, e-business, online payment, etc. and lowered the threshold for entrepreneurial attempts. Avi Cohen, LiveU COO and Co-Founder, believed that technological development is changing the competition climate and facilitating the transformations of traditional industries. In the media industry, traditional media is being replaced by the streaming media. Therefore, efforts need to be made to transform the mindset and capitalize on new technologies as well as new ways of product innovation and circulation.

2. Rapid growth of entrepreneurship has facilitated the formation of the "new coordinate" system. The entrepreneurial tide drives the development of innovation into a new stage featured by a wider scope, higher level and greater depth. YANG Yuecheng said against the background of a new age of entrepreneurship, a "new coordinate system" comprised of new driving mechanisms, new innovation patterns, new industrial organization modes, new financing methods, new consumption patterns, new production patterns and new ways of resources distribution, etc. is taking shape. Therefore, efforts need to be made to put in place market mechanisms, specialized services, standardized approaches, networked support and globalized connections. To promote mass entrepreneurship and innovation, special attention should be attached to the development of

1 Speakers include: HE Defang, Director General of the Department of Policy, Minister of Science and Technology; YANG Yuecheng, Deputy Director General, Torch High Technology Industry Development Center, Ministry of Science and Technology; TAO Chuang, Founder and President of Zhizhuo Group; Avi (Avichai) Cohen, LiveU COO and Co-Founder; JIN Ying, Deputy Director, Management Committee of ZhangjiangInnopark; HE Zhiyi, Chairman of Newhuadu Business School; XU Chen, Partner of Gobi； XIONG Lei, Representative from 3DMedcare; PENG Zhigang, President, General Manager, Founder, JOININ Energy; ZHU Weidong, Operation Manager of Aiqi; ZHAO Yiwei, President, Kunbo Biotechnology Shanghai Ltd,. Co; LIAN Jianping, Representative from Doweidu Network Technology Ltd,. Co; WANG Sunan, General Manager, Small and Medium-sized Enterprise Operation Center, Pudong Development Bank; SUN Yian, Founder, President & CEO of Istuary Innovation Group

HE Defang

Director General of the Department of Policy, Minister of Science and Technology

YANG Yuecheng

Deputy Director General, Torch High Technology Industry Development Center, Ministry of Science and Technology

XIONG Lei

Representative from 3DMedcare

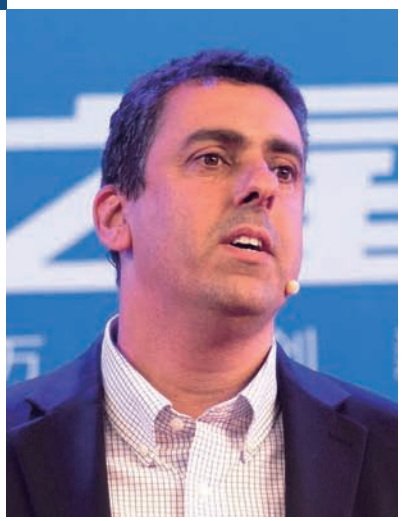
innovation enterprises of various kinds and at different levels, cultivation of new industrial patterns and growth of new economic dimensions.

3. Various entrepreneurial platforms play a crucial part in facilitating innovation and entrepreneurship. JIN Ying, Deputy Director, Management Committee of ZhangjiangInnopark, pointed out that as an important driving force behind innovation and entrepreneurship, ZhangjiangInnopark has developed new characteristics during its years of attempts and practice. The first is internationalization. While introducing well-known global institutions, the park also encourages enterprises in the park to reach out and seek overseas cooperation. The second is specialization. On the basis of industrial advantages, special efforts have been made to promote the development of specialized incubators in areas of information technology, integrated circuits, biomedicine, etc. The third is mutual assistance. The park encourages the establishment of joint incubators to forge an environment for innovation and entrepreneurship that is featured by resources sharing and factor mobility. YANG Yuecheng held that endeavors should be made to forge a service platform in favor of entrepreneurs, efficiently reinforce the connectivity between companies, provide enterprises with integrated solutions, support the development of innovation companies with various means such as the preliminary fund and seed fund, and further develop and improve the service platform. Moreover, Chairman of Newhuadu Business School HE Zhiyi said entrepreneur education is the key to innovation and entrepreneurship. As a major discipline in the world, entrepreneurshipeducation in China is still at its embryonic stage.To separate it from traditional education, an "entrepreneurial community" composed of entrepreneur education institutions can be established to provide sustained support to students in their related endeavors.

II. Three key factors to successful entrepreneurship

Starting a business is an important way to fulfill personal values and create wealth. It's an upward battle, but never short of hope and happiness. Speakers at the Forum held that there are three major contributors for entrepreneurial success:

1.Well-targeted measures and explicit goals. A successful entrepreneur or team is necessarily the developer or creator of market demands. XIONG Lei, Representative from 3DMedcare, said his company's goals are set around precision medicine and precision prevention to provide customized medical plans. Avi Cohen introduced that at the very beginning of his entrepreneurial attempt, he innovatively employed the 3G technologies to enable live broadcast instead of using the Outside Broadcasting Van as an intermediate link, thus creating a huge market demand. LIAN Jianping, Representative from Doweidu Network Technology, said their APP is designed to deliver solutions to customers who, once in a while, need to snap things online due to the limited time of promotion. This caters to the psychological demand of young professionals in the cities to purchase goods with high value-for-money. PENG Zhigang, President, General Manager and Founder of JOININ Energy, said his company focuses on the R&D of seawater desalination



Avi (Avichai) Cohen
LiveU COO and Co-Founder

LIAN Jianping
Representative from Doweidu Network Technology Ltd,. Co

PENG Zhigang
President, General Manager, Founder, JOININ Energy

technologies, aiming at addressing the problem of drinking water for residents in newly-developed cities and towns. ZHU Weidong, Operation Manager of Aiqi, introduced that his company focuses on the air quality and is dedicated to producing affordable air purifiers.

2. The courage and perseveranceto brave all odds. The process of building a business is never a plain sailing. The entrepreneur usually has to assume long-term intensive work and face up to obstacles as well as ups and downs. XIONG Lei said he was turned off by over 30 renowned venture companies during the first year of his entrepreneurial endeavor. LIAN Jianping also mentioned the hardship his team has been through when starting the business, but their efforts finally paid off. PENG Zhigang said, at the beginning, everything was hard—harsh working conditions and awful accommodations. He believed that as long as the entrepreneurs,with a down-to-earth attitude, have the courage and perseverance to march forward, success will finally come along.

3. Innovation in its real sense. An innovator is not a follower but an explorer. XU Chen, Partner of Gobi, held that an entrepreneur should find

JIN Ying
Deputy Director, Management Committee of Zhangjiang Innopark

TAO Chuang
Founder and President of Zhizhuo Group

WANG Sunan
General Manager, Small and Medium-sized Enterprise Operation Center, Pudong Development Bank

ZHU Weidong
Operation Manager of Aiqi

XU Chen
Partner of Gobi

ZHAO Yiwei
President, Kunbo Biotechnology Shanghai Ltd,. Co

a right method with explicit goals, doing business completely different from that of others. The essence of entrepreneurship doesn't lie in a new technology or product, but in the fact that the entrepreneur has found a niche. This is particularly true in the Internet industry where innovations don't always topple traditional industries but create new demands. TAO Chuang, Founder and President of Zhizhuo Group, pointed out that achievements shouldn't be the criteria for success. All entrepreneurs, as long as they are down-to-earth, passionate and aiming high, should be encouraged even if their attempts have failed.

III. Development of new investment and financing modes should be stepped up.

Innovators and entrepreneurs are the heroes of the new age, where new modes boost innovation and entrepreneurial activities. Speakers at the Forum held that development of new investment and financing modes should be stepped up.

1. From technology finance to technology entrepreneurship finance. Resources serve as the basis for innovation and entrepreneurship. At the stage where there are no explicit goals, capital is the most important resource. WANG Sunan, General Manager of Small and Medium-sized Enterprise Operation Center atPudong Development Bank, pointed out that financing is at the core of technology finance, and efforts need to be made to help increase the enterprises' credit through means such as government recommendation and allowance, so as to help them gain more fund. He added that banks usually favor big technology companies or those with mature technologies, but those that are in a crying need for capital are technology start-ups. Technology finance should mainly serve start-ups and growing companies, thus turning technology finance into technology entrepreneurship finance.

2. Anangel partnership pattern should be forged. Success of start-ups is not only attributable to sufficient capital support but also to the guidance provided by proper entrepreneurial patterns. TAO Chuang held that angel investment brings along resources and patterns besides capital. Therefore, investors should rally up and initiate a partnership to provide entrepreneurs with resources, capital, experience and connections. This is a boost to entrepreneurial attempts and helps lower the risks on investors.

3. Seeking commercialized innovation and entrepreneurship patterns. SUN Yian, Founder, President & CEO of Istuary Innovation Group, believed that a more systematic pattern should be found for innovation and entrepreneurial activities. First, efforts can be made to develop a partnership pattern involving research institutions, capital and consultation. A globalized industrial research academy should be knocked into shape and then integrated with funds. Then consultation sets in to support the top-level design, further incubate the enterprise and make technology innovation last long; second, projects, funds and consultation should be profoundly integrated. Entrepreneurs and technicians should join hands to work out solutions to technological risks; third, efforts should be taken to forge a new type of production line on which each link, from the launch of the project to the establishment of business

HE Zhiyi

Chairman of Newhuadu Business School

SUN Yian

Founder, President & CEO of Istuary Innovation Group

units and then to commercialization, is supported by corresponding fund and consultation service; fourth, a closed and flexible mechanism should be built for the withdrawal of capital. This is to spread the risk and guarantee investment returns.

The Industry Forum-Industrial Internet (Part 1)

New Global Industrial Structures and Strategic Choices

Editor's note: *At the Industry Forum (Industrial Internet) of the Pujiang Innovation Forum 2015, discussion was conducted, under the theme "New Global Industrial Structures and Strategic Choices", on the connotation and impact of Industrial Internet; views were exchanged over the current situation and trends of smart manufacturing, Internet Plus, big data and internet of things (IOT); and suggestions were made for the development of Industrial Internet and upgrading of the manufacturing industry in China. The present brief report, developed on speakers[1]' presentations at the Industry Forum (Industrial Internet), is for your reference only.*

HU Xiao

General Manager, China Software & Analytics Center, GE Group

Matt Denesuk

Chief Data Science Officer, GE Digital

NIU Xiaoming

Director of Shanghai Industrial Technology Institute

"Industrial Internet"refers to the integration of the global industrial system, advanced computing, analysis, sensor technology and Internet. Its aim is to establish an open and globalized network that connects humans, data and machine, to upgrade major industries and to facilitate the transformation of manufacturing enterprises into service-focused businesses. Speakers agreed that in the future, Industrial Internet would develop into a new ecosystem for global industrial development. Together with Consumer Internet, it will generate a new shape of production and living in the future society.

I. Global Industrial Internet has entered a fast-developing phase

At present, a new round of industrial revolution is speeding up. Developed countries and regions are making strategies to build their lead at the frontier of the manufacturing industry in the future. Cases in point include America's Advanced Manufacturing National Program, Germany's Industry 4.0, Britain's manufacturing 2050, New Industrial France, Made in India project and Made in China 2025. Revolution of the manufacturing industry will sweep the world. Speakers at the Forum agreed that infrastructure is the key to smart manufacturing and Industrial Internet, its foundation.

Infiltration of the Internetinto the production service area facilitates the advent of new industrial patterns. Having undergone the stages of academic R&D and the rise of Consumer Internet, the Internet is now entering a third stage, namely its infiltration into the field of production service.It has greatly impacted factors of production, organization patterns, customer roles, business formats and management modes. Internet's entry into the industrial field will help speed up the process of industrial upgrading and transformation and trigger revolutions in the national economy. ZHANG Yanchuan, Vice President of China Academy of Information and communications Technology, believed that during the integration of the Internet and industries, the two have their own focuses. Based on the specific advantages of each of them, different paths are taken to facilitate the integration. YANG Haicheng, Chief Engineer of China Aerospace Science and Technology Corporation, said "Internet+" is not just a technique or a platform, it brings about new knowledge and data, which are penetrating every nook and cranny of industries and the society, and reshaping industrial functions and smart and intelligent technologies in a comprehensive manner.

Moreover, progresses of the industrial information technology pave the way for the development of Industrial Internet.Matt Denesuk, Chief Data Science Officer at GE Digital, held that the IOT, intelligent machinery,

1 Speakers include: Matt Denesuk, Chief Data Science Officer, GE Digital; Joseph Salvo, Director and Founder of the Industrial Internet Consortium; YANG Haicheng, Chief Engineer of China Aerospace Science and Technology Corporation; ZHANG Yanchuan, Vice President of China Academy of Information and communications Technology; XU Honghai, President, Professor of Engineering, Shanghai Institute of Process Automation Instrumentation

ZHANG Yanchuan

Vice President of China Academy of Information and communications Technology

Joseph Salvo

Director and Founder of the Industrial Internet Consortium

YANG Haicheng

Chief Engineer of China Aerospace Science and Technology Corporation

big data and analysis and specialized expertise, as a whole, have laid the foundation for Industrial Internet. As a dynamic network, the IOT connects the machine, data and humans; smart machinery enables remote control and dynamic correction; big data and analysis techniques quickly turn mass data into relevant information; specialized expertise enables systematic encoding of experience, which can be integrated into the information and communications system. ZHANG Yanchuan pointed out that information and communications technologies, since the day they appeared, have been constantlytransforming the manufacturing industry and promoting its development. The evolvement of the information and communications technologies has ushered in a new stage known as the Industrial Internet.

II. Industrial Internet leads innovations of development patterns

1. Crowdsourcing and mass customization transform the organization of R&D and production. ZHANG Yanchuan held that at the R&D stage, cloud design and virtual simulated design help enterprises utilize, more easily, external intelligent resources and make R&D endeavors by crowdsourcing; at the production stage, mass customization is a major trend of smart manufacturing. Influenced by the Internet economy, mass customization is a way to organize production, which is in line with both economic laws and the customer demand. YANG Haicheng believed that the mode of industrial development wouldchange from standardized mass production to personalized customization and from centralized production to decentralized production, more efficiently arranging and utilizing manufacturing resources in the society in accordance with demands.Industrial Internet, in the future, will bring the trend of ubiquitous production into the manufacturing sector, for instance, enabling the on-site 3D manufacturing in deep space and oceans. Joseph Salvo, Director and Founder of the Industrial Internet Consortium, taking the practice of GE as an example, expounded upon his opinions. GE launched a competition of jet engine bracket designing. Among the nearly 700 entries from 56 countries and regions, the one that finally stood out could save materials by 85%. This shows the positive effect of coordinated development.

2. Industrial Internet helps coordinate production and sales. ZHANG Yanchuan said after the Internet enters the arena of production service, it is possible for customers to involve in the decision-making and marketing process. This is vital to well-targeted organization and arrangement of production. In terms of the supply chains, coordination of them based on the Internet is a major trend. The development of the industrial e-business platform and the infiltration of vertical e-business platform into production activities are both examples of the merging of coordinated industries and the Internet.

3. Enhancement of the service function of the manufacturing industry helps increase the enterprise's capability of value creation.Joseph Salvo pointed out that the physical world is changing and progressing rapidly. GE's intelligent

XU Honghai

President, Professor of Engineering, Shanghai Institute of Process Automation Instrumentation

SHI Qian

Vice President, China Academy of Information and Communications Technology; Vice President, Shanghai Industrial Technology Institute

SUN Ming

Director, Intelligent Manufacturing, Haier Group

platform "brilliant manufacturing" created a "digital thread" that covers design, simulation, prototyping and manufacturing. Meanwhile, in the manufacturing process, GE tests each component and part individually instead of conducting sampling tests. This helps optimize the performance of components and parts and brings about revolutions in following value-added service. YANG Haicheng held that manufacturing is turning into full-life-cycle manufacturing service. The enterprise, by installing in each of its products an intelligent "brain", provides new types of service such as problem diagnosis, operation management, recycling, etc., thus extending its value chain, constantly creating new values and changing the industrial patterns.

III. Solutions and suggestions: seizing opportunities, laying a solid foundation and forging an ecosystem

The Report on the Work of the Government 2015 mentioned two programs: "Made in China 2025" and "Internet Plus", laying the strategic foundation for China's industrial transformation and upgrading into "Internet plus manufacturing".

1. Integration and interaction between major players should be promoted. ZHANG Yanchuan believed that the industrial transformation might generate newecosystems or new major players. Three camps of new players will play significant roles, among which the traditional enterprise is the essence; and the Internet enterprise and manufacturing service company are two major driving forces. Integration and interaction between the three camps will lead to new progresses related to the trend of "Internet plus manufacturing", generate new service patterns or produce emerging markets featured by cross-sector integration. Advancement of the Industrial Internet is possible only when three major players, namely, the government, enterprises and industrial organizations, make concerted efforts. The government's role consists mainly in providing strategic instructions, making laws and regulations, nurturing the market and financial environment, facilitating the formulation of standard and increasing financial support.

2.The building of a standard system and test verification platform should be advanced. XU Honghai, President and Professor of Engineering at Shanghai Institute of Process Automation Instrumentation, said to grow into a great manufacturing power, China is still insufficient in many aspects such as key generic technologies, core technologies, standard system, test verification, industrial facilities and innovative environment. In accordance with the national strategy towards the year 2025, still much needs to be done before a sound innovation ecosystem for intelligent manufacturing is finally put in place. The standard system should be developed, because it is needed for the interaction and connection of the data and information flow in intelligent manufacturing.Additionally, a verification service platform must be set up to verify the standard system. ZHANG Yanchuan pointed out that there are now over 20 sets of standard commonly used in the international industrial networks and among them, those led by industrial enterprises

RUAN Weimin

Head Engineer of Shanghai Mitsubishi Elevator CO., LTD

FAN Feiya

Director and General Manager, Shanghai Oriental Technology Development Co., Ltd

WANG Zhenjun

Director of Internet of Things Solutions, Huawei Technologies Co., Ltd.

account for more than a half. Another half is dominated by standards developing organization and integrators, etc.. Therefore, the entire configuration is very much loosely connected. He also suggested that efforts be taken to build a proper domestic standard system first and then it with the Industrial Internet society and the Industry 4.0 initiative in Germany to globalize the system.

3.An enabling innovation ecosystem for the Industrial Internet should be vigorously developed. YANG Haicheng said an industrial ecosystem brought about by the Internet should be equal, sharing and self-organized in nature, and should enable the coexistence of big, medium-sized and small enterprises. Joseph Salvo pointed out that the Industrial Internet should be treated the way the Nature and Universe are. Instead of making excessive efforts, we should have faith in the Industrial Internet itself for its ability to create new industrial patterns and opportunities. Cut-throat competition or zero-sum game shouldn't be seen in the ecosystem, connectivity and interaction is the rule. Matt Denesuk held that for the building of the Industrial Internet ecosystem, the most difficult is to enable global collaborations. To achieve this end, industrial data should be open to share, so that the industrial asset operators, industrial integrators, industrial OEM/ODM and cloud providers could join the innovation ecosystem. ZHANG Yanchuan suggested that attempts be made to establish new industrial platforms, promote information sharing and integrated innovation, improve and upgrade the Internet structure, support the intelligent manufacturing system, encourage reformative endeavors taken by enterprises on the basis of intelligent facilities, and enhance the value creation ability by making intelligent products with a feature known as "visible product+invisible service".

Ricky SUN

Managing Director, EMC Labs China/CTO

CAI Jin

Deputy Director, China Federation of Logistics & Purchasing; Director of China Logistics Information Center

The Industry Forum-Industrial Internet (Part 2)

Integrated Innovation is the Only Way Out

Editor's note: *At the Industry Forum (Industrial Internet) II of the Pujiang Innovation Forum 2015, discussion was conducted, under the theme "New Global Industrial Structures and Strategic Choices" and from the perspective of the enterprises, on the practice and future development of the Industrial Internet. The present brief report, developed on speakers[1] presentations at the Industry Forum (Industrial Internet), is for your reference only.*

The Industrial Internet represents a revolution in the global industrial system and the enterprise is undoubtedly the major player and beneficiary. Speakers at the Forum agreed that the integration and innovation of the Internet and industries are very important. Only by multi-level and all-round integration can the value of the Industrial Internet be played out. Perceived from the perspective of the industrial chain, the more closely a link is connected to the customer, the higher the level of integration is. Currently the integration and innovation in sales, production service and R&D is in full swing.

I. Sales: the Industrial Internet facilitates the integration of products and service.

Enterprises choose the Industrial Internet not just to keep up with the tide of informationization but also because they have realized its importance to the enhancement of competitiveness. The benefits brought about by the Industrial Internet are not only reflected by the increase of efficiency and profit margin, but also by the transformation of the organization pattern and production mode of the enterprise. WANG Zhenjun, Director of Internet of Things Solutions at Huawei Technologies, said the Industrial Internet would redefine "production" and "consumption": the major determiner of production would change, from the manufacturer, to the consumer; and the nature of consumption would turn, from product-oriented, into service-oriented.

The Industrial Internet is able to address some long-standing issues of the traditional enterprises. SUN Ming, Director of Intelligent Manufacturing at Haier Group, pointed out that the sales pattern of traditional enterprises characterized by self-centered and closed procedures, inventory building and price war is completely out of tune with the increasingly flattened, decentralized and distributed pattern in the Internet age. Establishment of a customer-centered and open ecosystem that enables the customers to involve in a tailor-made procedure and helps improve the products according to the customer experience is inevitable. In the traditional manufacturing system, high production flexibility would lead to ill-organized production activity. Adopting the Industrial Internet technology is a major way to promote the integration of service demand and existing industrial system.

Moreover, the Industrial Internet may help increase core competitiveness. RUAN Weimin, Head Engineer of Shanghai Mitsubishi Elevator, said a general trend in the present global elevator market is that the better part of the profit comes from services such as operational maintenance. In countries like Germany, sales of elevator hardware only account for 35% of the total turnover, the rest all comes from operational maintenance. The manufacturing industry, with product manufacturing at its core, is extending to the service sector; and its focus is changing from product manufacturing to providng products and value-added service. This is an important marker of sustainable development of the industry. The Industrial Internet is a major way to create value-added service and upgrade service capability. Therefore, it is highly relevant to the increase of the enterprise's economic and social benefits.

II. R&D: in-depth integration of the Internet and the traditional manufacturing industry.

Presently, the focus of innovation is shifting from the customerInternet to Industrial Internet. In 2014, 7 billon connections are made in the customer Internet featured by light asset, zero fee and extensive experience. It is estimated that by 2020, connections made in the Industrial Internet characterized by heavy-asset, fee involvement, safety, reliability and spontaneity would hit over 100 billion. The Industrial Internet has scored an explosive growth and will provide all-round and multi-level support to the manufacturing industry.

First, the Industrial Internet can integrate the digital world and factories in the real world. FAN Feiya, Director and General Manager at Shanghai Oriental Technology DevelopmentCo., Ltd, said currently China's manufacturing sector is facing six major questions: how to plan and make arrangements; how to realize information integration; how to make the production procedure more transparent; how to adapt to the changes in the market; how to prevent possible problems in the future; how to maintain a leading position. The digital simulation system developed based on the Industrial Internet technology enables a full-lifecycle simulation of factory operations covering the planning stage, the production stage and everything in between. This can greatly cut the cost for planning, operation and decision making, thus creating huge competitive edges for enterprises.

Second, the Industrial Internet will keep integrating different industrial sectors. HU Xiao, General Manager

1 Speakers include: SUN Ming, Director, Intelligent Manufacturing, Haier Group; RUAN Weimin, Head Engineer of Shanghai Mitsubishi Elevator CO., LTD; FAN Feiya, Director and General Manager, Shanghai Oriental Technology Development Co., Ltd; WANG Zhenjun, Director of Internet of Things Solutions, Huawei Technologies Co., Ltd.; Ricky SUN, Managing Director, EMC Labs China/CTO; CAI Jin, Deputy Director, China Federation of Logistics & Purchasing; Director of China Logistics Information Center and HU Xiao, General Manager, China Software & Analytics Center, GE Group

of China Software & Analytics Center at GE Group, pointed out that the Predix platform of GE was originally tailored for the company's internal departments such as General Aviation and General Electric. But as the platform develops, the concept of the Industrial Internet takes shape. The platform, at present, remains largely foreign to manufacturing sectors except those of aviation, dynamics and electric equipment. But the headquarters has already started drawing on experience from external manufacturing sectors to expand the possibility of Industrial Internet application. This September, the platform opened online cooperation application. Next year, the procedure will be completely opened and the review will no longer be imperative.

III. Production service: the Industrial Internet facilitates the integration and development of the logistics and manufacturing industries.

Logistics service is a major component of production service. CAI Jin, Deputy Director of China Federation of Logistics & Purchasing, held that there are two ways to conduct industrial upgrading: technological innovationthat is widely emphasized and the innovation of production organization modes, to which the integration of industrial production and logistics is crucial. Such integration can generate new production patterns and production organization modes and its foundation is the Industrial Internet. Last year, China's logistics cost accounted for 16.6% of the GDP, which was 8%-9% higher than that of the US and indicted a ￥5 trillion worth of reduction of profits. There is a crying need for the integration and innovation of industries and logistics.

First, transformation and upgrading of the logistics sector will be an important stepfor China's industrial development in the future. CAI Jin pointed out that the development of the global logistics industry since the 1990s has now reached the point of supply chain management. Perceived from the history, the upgrading of modern logistics industry is always accompanied by industrial development. Now China stands at a transitional stage between the first and second phases (which is consistent with China's economic state). This impedes the social and economicdevelopment as well as the innovation and upgrading of the industrial economy. Innovation of the logistics sector should come along with that of industries.

Second, the Industrial Internet creates significant opportunities for the cross-sector development of China's logistics sector. CAI Jin held that the low efficiency of China's industrial sector can be largely attributed to the problems of severed links between procurement and production as well as between production and product circulation. That being the case, a great amount of time is wasted and production cost, elevated. Integrating the industrialization and informationization may help bridge the severed links and push China's logistics sector to reach the world level. To realize common development of industries and the logistics sector, requirements of integrated innovation must be met. The logistics industry, separated from other industries, is useless. New values are created only in the process of integration.

Third, enterprises and the government should assume their specific responsibilities in promoting the integration and development of the logistics and manufacturing industries. CAI Jin believed that the government should mainly take care of the top-level design, infrastructure development, high-level coordination and policy promotion; while the enterprises should be in charge of logistics standardization and equipment intelligentization. Logisticsshould serve the purpose of lowering social operation cost instead of merely creating industrial profits.

Agenda for Pujiang Innovation Forum 2015

Dongjiao State Guest Hotel

2015.10.27 (Tuesday)	
09:00-09:30	**Opening Ceremony** **Zijin Hall, 1F, Convention Center**
Chair	**XU Guanhua,** President of Pujiang Innovation Forum, Academician of Chinese Academy of Sciences
Opening Remarks	**Avi Hasson,** Chief Scientist of the Ministry of Economy of the State of Israel.
	XU Nanping, Vice Governor of Jiangsu Province
	TU Guangshao, Executive Vice Mayor of Shanghai Government
09:30-10:30	**Keynote Speech** **Zijin Hall, 1F, Convention Center**
Chair	**XU Guanhua,** President of Pujiang Innovation Forum, Academician of Chinese Academy of Sciences
09:30-10:30	**WAN Gang,** Minister of Science and Technology, P.R.C.
	Silvan Shalom, Vice Prime Minister and Minister of Interior of the State of Israel
10:30-10:50	**Break**
10:50-12:10	**Plenary Session** **Zijin Hall, 1F, Convention Center**
Chair	**LI Meng,** Deputy Minister of Science and Technology, P.R.C.
10:50-11:10	**Edmund Phelps,** Winner of the Nobel Memorial Prize in Economic Sciences; Dean of Newhuadu Business School
11:10-11:30	**WANG Jian,** President of The Beijing Genomics Institute
11:30-11:50	**YU Yongding,** Member of Chinese Academy of Social Sciences; Research Fellow, Institute of World Economics and Politics Chinese Academy of Social Sciences; Former President, All China Association of World Economic Research; Former Member of Monetary Policy Committee
11:50-12:10	**Danny Yamin,** Vice President of Microsoft Corp
14:00-17:00	**Country of Honor Forum** **China-Israel Cooperation Led by Science and Technology Innovation** **Zijin Hall, 1F, Convention Center**
Chair	**CHEN Linhao,** Deputy Director General, The Department of International Cooperation, Ministry of Science and Technology

14:00-14:50	**LI Meng,** Deputy Minister of Science and Technology, P.R.C.
	Avi Hasson, Chief Scientist of the Ministry of Economy of the State of Israel.
	Matan Vilnai, Ambassador of Israel to China
14:50-15:05	**FEI Gaoyun,** Mayor of Changzhou Municipal People's Government
15:05-15:25	**Avraham Luvton,** Executive Director, Asia Pacific Department, MATIMOP/OCS
15:25-15:40	**ZHANG Jing,** Deputy Director General, The Department of International Cooperation, State Intellectual Property Office of the P.R.C
15:40-15:55	**Asa Kling,** Director of Israel Patent Office
15:55-16:10	**ZHANG Jiang,** Director of Ping An Ventures
16:10-16:25	**Ron Gura,** Israeli Entrepreneur and Investor
16:25-16:35	**Q&A**
16:35-17:00	**Signing Ceremony**
14:00-17:00	**The Enterprise Forum** **Forging Open Innovative Organizations** **Organizers: Shanghai Zhangjiang (Group) Co., Ltd.** **Yulan Hall, 2F, Convention Center**
Forum Interpretation	As economic globalization advances, there is a growing trend toward cyber zed innovative organizations and business models. China has a cohort of enterprises which, with innovative vitality, great science and technology strength as well as an international vision, keep pressing ahead with the opening-up of innovative organizations and business models. Quite a few internet-based models for innovative cooperation including crowd sourcing and crowd funding start to ride high and sweep across various industries. A new round of innovative cooperation poses great challenges to Chinese enterprises: what do they need to do to build cyber zed innovation organizations and make innovations more efficient and rewarding? What should they do to allocate innovation resources around the globe so as to make themselves an organic part of the global innovation network? How to move up the industrial chain with a focus on the core of the global value chain and provide high value-added products and service which are more superior and advanced?
Chair	**TANG Jiayin,** Producer and Anchor, Yicai
14:00-14:20	**Tzu-Yin Chiu,** Chief Executive Officer and Executive Director, Semiconductor Manufacturing International Corporation
14:20-14:40	**Jaani Heinonen,** Vice President & Head of East Asia Region, Finpro
14:40-15:00	**CHENG Jinglei,** Senior Engineer and Chief Engineer of SAIC Motor Corporation Limited
15:00-15:20	**Yesha Y. Sivan,** Executive Director Coller Institute of Venture at Tel Aviv University
15:20-15:40	**LI Hui,** Head of Wireless Technology and Internet of Things, Siemens China

15:40-16:00	**Break**
16:00-16:30 Panel Discussion One	**Tzu-Yin Chiu,** Chief Executive Officer and Executive Director, Semiconductor Manufacturing International Corporation
	CHEN Weiwei, Chairman of The Board, General Manager, Shanghai Zhangjiang Science & Technology Venture Capital Co.,Ltd.
	ZHU Haifa, Founder and Partner of Youcheng Capital
	JIANG Biao, Deputy Director, Shanghai Advance Research Institute, Chinese Academy of Sciences
16:30-17:00 Panel Discussion Two	**CHENG Jinglei,** Senior Engineer and Chief Engineer of SAIC Motor Corporation Limited
	Yesha Y. Sivan, Executive Director Coller Institute of Venture at Tel Aviv University
	HUANG Haiyan, CEO of Techcode SME Services Co., Ltd
	LI Hui, Head of Wireless Technology and Internet of Things, Siemens China
14:30-18:00	**The Technology Finance Summit Forum** **Jointly Building a Technology Finance Ecosystem** **Hosts: Ministry of Science and Technology of People's Republic of China, Shanghai Municipal People's Government** **Organizers: Shanghai Center for Pujiang Innovation, Shanghai Pudong Development Bank** **Guest Hall, 1F, Convention Center**
Forum Interpretation	President Xi Jinping pointed out that ‘Technology innovation has become the key factor to enhance the overall national strength as well as the strong lead for the change and advance of the social production mode and people’s way of life. The one who holds the key and makes the upper hand move in technology innovation will gain the initiative and the advantage.’ If market opening brought splendor to China’s economy over the last 30 years, then the independent innovation of the science and technology enterprises holds the key to China’s next golden era. This forum will actively explore how the financial firms, in face of scientific, technological and industrial revolution, can play their role as an important driving force to the innovation-driven development mode, build an ‘all-round, professional and one-stop’ innovative financial service platform and meet the financing needs of the technology start-ups in all their entrepreneurial process. With the help of financial force, all the resources and advantages in talents, capital, technology and information can be aggregated and optimized for the creation of a ‘science, technology and finance ecosphere’ where we can, through information share, resource integration and continued innovation, assist the technology start-ups to grow and achieve the win-win results for all the parties involved.
Chair	**YUAN Yue,** Chairman, Horizon Research Consultancy Group
14:30-14:50	**Release and Explain the Annual Report on The Eco-system of Science and Technology Finance in China（2015）** **WANG Yuan,** Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance **ZHENG Yang,** Director of Shanghai Finance Services Office **LIU Xinyi,** President of Shanghai Pudong Development Bank

14:50-15:00	**Publishing Ceremony of the Annual Report on The Eco-system of Science and Technology Finance in China（2015）** **WANG Yuan,** Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance
15:00-15:20 Opening Remarks	**LI Meng,** Deputy Minister of Science and Technology, P.R.C.
	TU Guangshao, Executive Vice Mayor of Shanghai Government
15:20-15:35	**DENG Tianzuo,** Vice Inspector of Resource Allocation and Management Department of Ministry of Science and Technology
15:35-15:50	**JIN Aihua,** Chief Regulator (Deputy Advisor) of CBRC Shanghai Office
15:50-16:05	**LIU Xinyi,** President of Shanghai Pudong Development Bank
16:05-16:20	**Anya Hana Eldan,** General Manager, Early Stage Support Programs, Office of the Chief Scientist, Ministry of Economy, Israel.
16:20-16:35	**HE Shiyou,** Executive Director of Zhongxing Telecommunication Equipment Corporation, Chairman & President of ZTE Health Technology Co., Ltd.
16:35-16:45	**Break**
16:45-18:00 Round-table Conference	**ZHAO Haishan,** chairman, Tianjin Municipal Science and Technology Commission
	YANG Bin, General Manager of Corporate Banking Department, Shanghai Pudong Development Bank
	GE Peijian, General Manager, Vice President, Shanghai Zhangjiang Hi-Tech Park Development Co., Ltd.
	WU Jiang, Director of Operation Department, National Equities Exchange and Quotations
	YUAN Hui, Founder & Chairman of Shanghai Zhizhen Intelligent Network Technology Ltd. Co. (Xiaoi)
	QIAN Xuefeng, Founding Partner of New Access Capital
19:00-21:00	**The Night of China and Israel (By Invitation)** **Zijin Hall, 1F, Convention Center**

2015.10.28 (星期三)	
09:00-12:00	**The Policy Forum** **Formulating Open and Inclusive Innovation Policies** **Organizers: Chinese Academy of Sciences and Technology for Development** **Zijin Hall, 1F, Convention Center**
Forum Interpretation	As economic and technological globalization gathers momentum, China's development is increasingly dependent on international innovation resources and markets. In the meantime, China's role as an indispensable part in the global innovation network is further cemented. Confronted with such changes, China needs to deepen its reform endeavors and formulate innovation policies which are more open and inclusive. Such policies should, with a global vision, map out a plan for technological innovation and engage, more effectively, key factors of innovation such as overseas specialists, technology and capital in China's innovation initiatives; should fully draw on valuable domestic and foreign experience and international practices, and better the system for innovation policy-making so as to bring the dividend thus created to all companies investing in China; should improve and implement the generally preferential policies, thus lowering the cost for development of micro, small, and medium-sized enterprises as well as for grassroots innovations and enabling the disadvantaged population, weak industries and less-developed regions to participate more in innovative activities and share related profits; should coordinate policies in various fields including science and technology, economy, industry, education, etc. to generate a collective force that drives innovation. The Policy Forum focuses on formulating more open and inclusive innovation policies, promoting the popularization and internationalization of technological innovation, adding "Chinese elements" to the mechanism of the global innovation network and bringing the benefits of technological innovation to every people and country in the world.
Chair	**WANG Yuan,** Deputy Director of Pujiang Innovation Forum, Director of China Association for Promotion of Science & Technology and Finance
09:00-09:20	**WANG Xinkui,** Vice-chairman of Shanghai People's Political Consultative Committee, President of Shanghai WTO Affairs Consultation Center
09:20-09:40	**HE Defang,** Director General of the Department of Policy, Minister of Science and Technology
09:40-10:00	**HU Zhijian,** President, Chinese Academy of Science and Technology for Development
10:00-10:20	**Break**
10:20-10:40	**Avi Hasson,** Chief Scientist of the Ministry of Economy of the State of Israel.
10:40-11:00	**LIU Xielin,** Professor of University of Chinese Academy of Science
11:00-11:20	**Sandrine Kergroach,** Policy Analyst, Co-ordinator of the STI Outlook, Science and Technology Policy Division, Directorate for Science, Technology and Innovation
11:20-12:00	**Panel Discussion**

09:00-12:00	**The Regional & Urban Forum—— Construction of the Global Technology Innovation Center and Regional Development Organizers: Tongji University Guest Hall, 1F, Convention Center**
Forum Interpretation	China's economy, after three decades of rapid growth, starts to slightly slow down its pace. Building several innovation centers with regional or even global influence and creating new growth poles to lead regional development are of great importance for China to carry out economic restructuring, maintain the growing momentum and ensure sustainable social and economic development. Different regions have already set varied objectives based on their specific geographical advantages, innovation capability and industrial shapes. Cases in point include Shanghai's endeavor to build a global technology innovation hub and Xinjiang's efforts in forging a Eurasian business and trade center. China, in its campaign to open up further to the outside world, has enhanced technological cooperation and stepped up its effort in building a free trade area with neighboring countries, creating unprecedented development opportunities for the coastal and border regions. This Forum, focusing on strategies such as "One Belt and One Road", Yangtze River Economic Belt and coordinated development of Beijing, Tianjin and Hebei Province, etc., initiates discussions over the following questions: what kind of role should China play in the global arena of development? What we should do to build influential new regional technology innovation centers and growth poles with distinct features so as to realize balanced and sustainable regional development? In so doing, the Forum may present forward-looking opinions and policy proposals for governments at various levels to optimize resources structure and guide regional innovation endeavors.
Chair	**HUO Jiazhen,** Dean of the School of Economics and Management, Professor, Tongji University
09:00-09:20	**WANG Zhen,** Vice President, Shanghai Academy of Social Sciences
09:20-09:40	**Dr. K. Rangarajan,** Professor and Centre Head, Indian Institute of Foreign Trade
09:40-10:00	**WANG Chengbin,** Vice Mayor of Changzhou Municipal People's Government
10:00-10:20	**Shmuel Gants,** Director-General of Haifa Municipality, Israel
10:20-10:40	**Break**
10:40-12:00 Panel Discussion	**SHEN Xuejun,** Senior Vice President, Siemens Ltd., China; General Manager, Shanghai Office General Manager, Cities Center of Competence Asia in Shanghai
	Daniel Calto, Global Head of Data Sciences Group/Team, Elsevier
	SHI Jianxun, Director of the Institute of Finance and Economics, Tongji University.

09:00-12:00	**The Industry Forum –Intelligent Healthcare** **New Global Industrial Structures and Strategic Choices** **Organizers: Shanghai Industrial Technology Institute** **Yulan Hall, 2F, Convention Center**
Forum Interpretation	The prospect of the healthcare service industry is to make it intelligent, which can be achieved by means of current technologies such as Internet, Mobile Communication, Internet of Things, Cloud Computing and Big Data and through construction of the electronic health record sharing system, intelligent hospital system, and family health monitoring and management system. China, as a country in huge need of healthcare, has made strategic choice and eye-catching actions to form a new pattern of healthcare industries which would be inter-connected, coordinated, preventive, widespread, innovative, reliable and intelligent. The key issue for the intelligent healthcare industries to develop in a healthy way is to find out the best breakthrough point where we can learn international advanced experience, address the status quo, problems and characteristics of China's healthcare system, and explore the technology innovation, operation mode and legal protection of the system.
Chair	**LI Yixue,** President, Institutes of Biomedical Sciences, Shanghai Industrial Technology Institute; Director, Shanghai Center for Bioinformation Technology
09:00-09:20	**GAO Jiechun,** Vice-President, Secretary of The Party Committee, RED CROSS Society of China Shanghai Branch
09:20-09:40	**LU Zuhong, Professor,** College of Engineering, Peking University
09:40-10:00	**Paul McMahon** Matthews, Professor, Head of Division, Imperial College London, Department of Medicine, Division of Brain Sciences
10:00-10:20	**CHEN Zhongyang,** CEO of PKU Healthcare IT Co.,Ltd.
10:20-10:40	**ZHANG Hongjiang,** CEO of Kingsoft & Kingsoft Cloud
10:40-11:00	**Shimon Eckhouse,** Co-Founder and Chairman of the Board, Syneron Medical Ltd
11:00-11:20	**Break**
11:20-12:00 Panel Discussion	**ZHU Yanmei,** Executive Vice President of The Beijing Genomics Institute
	LIU Fan, Assistant of President, Peking University People's Hospital
	WEI Ran, General Manager of Tecniplast China
	LV Hui, Distinguished Professor, Shanghai Jiaotong University
	GAO Hengjun, Director, Shanghai Engineering Research Center of Molecular Medicine

14:00-17:00	**The Culture Forum** **Maker and Its Impact** **Organizers: Chinese Academy of Sciences and Technology for Development** **Co-organizer: Fablab O - Shanghai** **Guest Hall, 1F, Convention Center**
Forum Interpretation	Based on the Internet, the third industrial revolution makes the self-makers emerge ‘from the bottom up’ and the maker movement develop like wild fire all over the world. The makers try to realize their own interests and values through self-innovation and step further to become the core of the social reform when involved in social issues through the Internet communities. So, what are the similarities and differences between the Chinese and Western maker cultures? How should Chinese society and economy face such a reform under the global background? How should China deal with the influence of Internet on its tradition ‘from the top down’? How can China's traditional innovative culture bear the impact of the new technology and culture? How can China's ‘makers’ grasp the historic opportunity to become the backbone of social and economic reform and help China leap forward from ‘Made-in-China’ to ‘Created-in-China’?
Chair	**Junfeng Jeff Ding,** Director of Fablab O Shanghai, College of Design and Innovation, Tongji University
14:00-14:25 Compare The Chinese Maker Culture With Foreign Countries Under Internet Age	**Mitch Altman,** CEO, Cornfield Electronics, Inc
	Silvia Lindtner, Assistant Professor of University of Michigan
	David LI, Co-founder of Maker Collider
15:00-15:20	**Panel Discussion**
14:35-15:15 Multi-culture of Makers and Social Concerns	**Tomas Diez,** Diez Ladera of Fab Lab Barcelona, IAAC
	Cesar Harada, Founder and Director of MakerBay
	John Klein, Principle and Architect and John Klein Design, JKD & MIT Media Lab
	Memet Ünsal, Program Director of InnoCampus
	Hyun Park, Designer and Maker
	CHEN Zhengxiang, CEO of STARY Board
15:15-15:30 Panel Discussion	**Fiona Ching,** General Manager of MakerBay
15:30-16:00	**Break - Benjamin Lee Bacon,** Sound Spade, Electronic music instruments

16:00- 16:20 Chinese Regional Culture and Maker Development	**Richy Ye,** CEO and Co-founder of DFRobot
	Justin WANG, Founder of Beijing Makerspace
	Leo Lee, Innovation Department manager, Engineering Training Center of Southwest Jiaotong University
	GUO Qiang, Founder, Madnet Incubator, Shenzhen Makermountain Hardware Accelerator
16:20-16:30	**Panel Discussion**
16:30- 16:50 Education and Future	**LOU Yongqi,** Dean, College of Design and Innovation, Tongji University
	ZHU Shouchen, Specially-honored Professorial Teacher, Shanghai YanAn Senior High School
	Gordon XU, Complete The Charity Congregation Raised Project, Student of YK Pao School
	SHEN Siyang, Student of Tongji University
16:50-17:00	**Panel Discussion**
14:00-17:40	**The Future Science Forum** **Brain Science and Artificial Intelligence** **Organizers: Fudan University** **Zijin Hall, 1F, Convention Center**
Forum Interpretation	Brain science and artificial intelligence are currently the most upfront areas in science and technology arena. Development of the former lays a solid theoretical foundation for the simulation of the nervous system and application of its functions, while maturity of intelligence algorithms, big data and applications provides everything the latter needs to break through the bottleneck for massive industrial applications. In the recent years, artificial intelligence has been developing by leaps and bounds. Neuroscientists, information scientists and industrial elites have joined hands and developed various products such as Google Brain, Apple Siri, Facebook photo search and IBM Watson, etc.. All of these has made artificial intelligence a groundbreaking force behind technological and industrial revolution, bringing benefits to every nook and cranny of human life and hopefully making a greater impact on people's lifestyle and mindset in a foreseeable future.
Chair	**XU Ningsheng,** Academician of Chinese Academy of Sciences, President of Fudan University
14:00-14:20	**Sean Hill,** Professor of EPFL, Co-Director of Neuroinformatics in the European Union funded Human Brain Project (HBP)
14:20-14:40	**GUO Aike,** Academician of Chinese Academy of Sciences , Professor, Institute of Neuroscience, Shanghai Institutes for Biological Sciences, CAS
14:40-15:00	**LUO Qingming,** Vice President, Huazhong University of Science and Technology
15:00-15:20	**DENG Li,** Principal Researcher, Microsoft Research, Redmond, USA
15:20-15:40	**WANG Xiaojing,** Associate Vice Chancellor for Research, Professor, Shanghai New York University
15:40-16:00	**WANG Jun,** Partner of Beijing Genomics Institute; Founder of Tanyuan Tech

16:00-16:20	**FENG Jianfeng,** Principal Investigator, Dean, Professor in Mathematics, Biology and Medicine, Fudan University
16:20-16:40	**Break**
16:40-17:40 Panel Discussion	**HU Xiaoping,** Professor, Georgia Research Alliance Eminent Scholar in Imaging in the Wallace H. Coulter joint department of biomedical engineering at Georgia Tech and Emory University; Director of Biomedical Imaging Technology Center in the Emory University School of Medicine
	SHI Chuanjin, Professor in Electrical Engineering at the University of Washington, Seattle
	CHEN Qun, CEO of Corporate Research Center at Shanghai United Imaging Healthcare
	XU Yifeng, Professor of Psychiatry and Chairman, the Department of Psychiatry, Shanghai Jiao Tong University School of Medicine (SJTUSM) in Shanghai
	David Waxman, Professor of University of Montpellier
28 October (Wednesday) Whole Day	**Israeli Cleantech Roadshow to China-Shanghai** **Organizers: China Science and Technology Exchange Center, Israeli Industry Center for R&D** **Co-organizers: Shanghai Center for Pujiang Innovation Center, Shanghai Technology Exchange, Shanghai Technology Innovation Center, Shanghai Science and Technology Exchange Center** **South Building**

Agenda for Pujiang Innovation Forum 2015

Sub-Forums

2015.10.27 (Tuesday)	
13:30-18:00	**The Entrepreneur Forum** **"Discover Innovation and Entrepreneurship Star" Themed Event Shanghai Awarding Ceremony of Shanghai Innovation & Entrepreneurship Competition** **Organizers: Shanghai Technology Innovation Center, Science and Technology Commission of Pudong District** **Co-organizer: DongfangCaijing - Pudong** **Grand Ballroom, 4th floor, Shanghai Science & Technology Museum** **2000 Century Avenue Pudong New District**
Forum Interpretation	Today, popular entrepreneurial and innovative endeavors are mushrooming. The advent of Maker Culture and Group Innovation Space will inevitably promote a new round of economic transformation and development in China. Grassroots innovators, micro and small enterprises as well as various incubating organizations, which are vast in number, constitute an important driving force behind the implementation of the strategy featured by innovation-driven growth. To give a full play to the advantages of these innovation actors and facilitate the development of emerging industries, two factors are decisive. One is the ability of the entrepreneur and market opportunity, the other is the overall social environment for entrepreneurial endeavors. Therefore, it is imperative to build a favorable environment and an enabling ecosystem for business creation and innovation. The contest "Starting Your Business in Shanghai", which has been held for three years, is becoming a platform for pooling resources and forging favorable entrepreneurial environment. The Entrepreneur Forum will host the award ceremony of the contest and invite representative entrepreneurs to exchange views with domestic and foreign business incubating organizations. Discussions will be conducted over how to forge and optimize an enabling environment with an open view. Guests will share with the audience their recipe for success.
Chair	**HAI Bo,** Commentator of Yicai, SMG **ZHOU Junfu,** Anchor of DongfangCaijin
13:30-13:40 Opening Remarks	**ZHOU Bo,** Vice Mayor of Shanghai Government
	HE Defang, Director General of the Department of Policy, Minister of Science and Technology
13:40-13:55	**TED Theme Sharing** **YANG Yuecheng,** Deputy Director General, Torch High Technology Industry Development Center, Ministry of Science and Technology
13:55-14:00 Awarding Ceremony	**Awarding Ceremony of Shanghai "Double Entrepreneurship Star": Most Valuable Investment**
14:00-14:15	**Keynote Speech by Winner Enterprise** **XIONG Lei,** Representative from 3DMedcare

14:15-14:20 Awarding Ceremony	**Awarding Ceremony of Shanghai "Double Entrepreneurship Star" : Entrepreneurship Spirit Awards**
14:20-14:35	**TED Theme Sharing** **Avi (Avichai) Cohen,** LiveU COO and Co-Founder
14:35-14:40 Awarding Ceremony	**Awarding Ceremony of Shanghai "Double Entrepreneurship Star" : The Most Popular Award in Public**
14:40-14:55	**Keynote Speech by Winner Enterprise** **LIAN Jianping, Representative from Doweidu Network Technology Ltd,. Co**
14:55-15:00 Awarding Ceremony	**Awarding Ceremony of Shanghai "Double Entrepreneurship Star" : Most Development Potential**
15:00-15:15	**Keynote Speech by Winner Enterprise** **PENG Zhigang,** President, General Manager, Founder, JOININ Energy
15:15-15:20 Awarding Ceremony	**Awarding Ceremony of Shanghai "Double Entrepreneurship Star" : Best Organization Award**
15:20-15:35	**TED Theme Sharing** **JIN Ying,** Deputy Director, Management Committee of Zhangjiang Innopark
15:35-15:50	**TED Theme Sharing** **TAO Chuang,** Founder and President of Zhizhuo Group
15:50-16:00	**Break**
16:00-16:10	**TED Theme Sharing** **WANG Sunan,** General Manager, Small and Medium-sized Enterprise Operation Center, Pudong Development Bank
16:10-16:20	**Keynote Speech by Winner Enterprise** **ZHU Weidong,** Operation Manager of Aiqi
16:20-16:30	**Micro Film Competition Awarding Ceremony**
16:30-16:40 Excellent Enterprise Released	**2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: New Material Area**
	2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: Biological Medicine Area
16:40-16:50	**TED Theme Sharing** **XU Chen,** Partner of Gobi

16:50-17:00	**Winner Enterprise Theme Sharing** **ZHAO Yiwei, President,** Kunbo Biotechnology Shanghai Ltd,. Co
17:00-17:15 Excellent Enterprise Released	**2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: Advanced Manufacture Area**
	2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: New Energy, Energy Conservation and Environment Protection Area
	2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: Culture Creativity Area
17:15-17:25	**TED Theme Sharing** **HE Zhiyi, Chairman of Newhuadu Business School**
17:25-17:35	**TED Theme Sharing** **SUN Yian, Founder, President & CEO of Istuary Innovation Group**
17:35-17:45 Excellent Enterprise Released	**2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: The Internet and Mobile Internet Area**
	2015 Shanghai Innovation & Entrepreneurship Competition Excellent Enterprise Released: Electronic Information Area
17:45-17:50 Awarding Ceremony	**Awarding Ceremony of Shanghai Innovation & Entrepreneurship Competition: Team Award**
17:50-18:00	**Closing Ceremony**
2015.10.28(Wednesday)	
9:00-12:30	**China-Israel Intellectual Property Seminar** **Sponsored by: State Intellectual Property Office of The P.R.C (SIPO), Israel Patent Office (ILPO)** **Organizer: Shanghai Intellectual Property Administration (SIPA)** **Co-Organized by: Shanghai Pudong New Area Intellectual Property Administration, Shanghai Pudong Intellectual Property Association** **No.555, Dingxiang Road, Parkview Hotel, Huicui Hall**
28 October (Wednesday) Whole Day	**The Industry Forum –(Industrial Internet)** **New Global Industrial Structures and Strategic Choices** **Organizers: Shanghai Industrial Technology Institute** **Co-organizer: Industrial Internet Consortium, GE** **3F/PIT Conference Room, CTC Middle Building, GE China**
Forum Interpretation	The industrial internet refers to the integration of global industrial system with advanced calculation, analysis, networked sensors and Internet. It aims to build an open and global network which connects people, data and machines for the implementation of industrial upgrade and the service transformation of manufacturing enterprises. The development of Industrial Internet in China requires full combination of China's industry and information technology, clear understanding of the connotation of Industrial Internet, and calm consideration and judgment of its development trends. All these are important for China's manufacturing sector to upgrade its innovation capability and achieve a leap forward development.

Chair	**HU Xiao,** General Manager, China Software & Analytics Center, GE Group
09:00-09:20 Opening Remarks	**Matt Denesuk,** Chief Data Science Officer, GE Digital
	NIU Xiaoming, Director of Shanghai Industrial Technology Institute
09:20-11:00 Keynote Speech	**ZHANG Yanchuan,** Vice President of China Academy of Information and communications Technology
	Joseph Salvo, Director and Founder of the Industrial Internet Consortium
	YANG Haicheng, Chief Engineer of China Aerospace Science and Technology Corporation
	Matt Denesuk, Chief Data Science Officer, GE Digital
11:00-11:10	**Break**
11:10-12:00 Panel Discussion	**XU Honghai,** President, Professor of Engineering, Shanghai Institute of Process Automation Instrumentation And four speakers above
12:00-13:00	**Lunch**
Chair	**SHI Qian,** Vice President, China Academy of Information and Communications Technology; Vice President, Shanghai Industrial Technology Institute
13:00-14:15 Industry Solution Sharing	**SUN Ming,** Director, Intelligent Manufacturing, Haier Group
	RUAN Weimin, Head Engineer of Shanghai Mitsubishi Elevator CO., LTD
	FAN Feiya, Director and General Manager, Shanghai Oriental Technology Development Co., Ltd
	WANG Zhenjun, Director of Internet of Things Solutions, Huawei Technologies Co., Ltd.
	LIU Wei, Vice President and General Manager, EMC China COE **Ricky SUN,** Managing Director, EMC Labs China/CTO
14:15-15:00	**Panel Discussion**
15:00-15:30	**CAI Jin,** Deputy Director, China Federation of Logistics & Purchasing; Director of China Logistics Information Center
15:30-15:50	**HU Xiao,** General Manager, China Software & Analytics Center, GE Group
15:50-16:05	**Break**

16:05-16:45	**Intelligent logistics Closed Door Meeting (For Invited Guests Only)**
Chair	**Brian Selby,** Managing Director Global Alliance Management (ex. Americas), GE Ventures
Speaker	Representative from Shunfeng Express
	XUE Yang, General Manager of TIZA Information Industry Corporation INC.
	PAN Naiyue, Chief Operating Officer, Shanghai Yupei (Group) Co., Ltd.
	Representative from Potevio
	Representative from Kunming Shipbuilding Equipment Co.,Ltd.
28 October (Wednesday) Whole Day	**National Innovative Urban Areas Development Conference of Yangpu District & The Innovation and Entrepreneurship Forum of the Bay Area Council& Siemens Entrepreneurship Dream Bridge Demo Day** **New Sail, Make the Dream of Innovation and Entrepreneurship Come True** **First Floor, Building 7, KIC Plaza,No.388, Songhu Road, Yangpu District**
Event One	**National Innovation Urban Areas Development Conferences of Yangpu District & Innovation and Entrepreneurship Forum of Bay Area Council** **Hosts: Science and Technology Commission of Shanghai Municipality, Yangpu Government, Bay Area Council** **Organizers: Science and Technology Commission of Yangpu Government, Shanghai Center for Pujiang Innovation Center, Siemens (China) Co., Ltd, Bay Area Council's Shanghai Office**
Chair	**TAN Bing,** Deputy Head of Yangpu District
09:00-09:20	**Opening Remarks (Yangpu District;** Department of Development Planning, Ministry of Industry and Information; Leader of STCSM **)**
09:20-11:00	**Keynote Speech**
09:20-09:40	**XIE Jiangang,** Head of Yangpu District
09:40-10:00	**Anya Hana Eldan,** GM Early Stage and Incubator Programs, Office of the Chief Scientist, Ministry of Economy, Israel.
10:00-10:20	**Fred Li,** Chief Information Officer, Siemens Ltd. China
10:20-10:40	**MI Wanjun ,** CEO and General Manager of Shanghai Matrix United Technologies Co.,Ltd.
10:40-11:00	**Ryan Nadeau,** Director of Special Projects at Galvanize Inc
11:00-11:10	**Break**

Chair	**NING Zhong,** Professor of Fudan University, Director of Fudan University Center for Entrepreneurship & Venture Capital Research
11:10-12:00 Panel Discussion	**Fred Li,** Chief Information Officer, Siemens Ltd. China
	MI Wanjun , CEO and General Manager of Shanghai Matrix United Technologies Co.,Ltd.
	Del Christensen, Chief of Global Business Development
	Alic Chen, Co-Founder at CITRIS Foundry
12:00-13:30	**Lunch**
Event Two	**Siemens Entrepreneurship Dream Bridge Demo Day** **Organizers: Science and Technology Commission of Yangpu Government, Shanghai Center for Pujiang Innovation Forum, Siemens ltd. China, INNOSPACE**
13:30-13:40 Opening Remarks	**LI Ming,** Director of Venture Technology, Siemens Corporate Technology, Technology To Business Centers
	TAN Bing, Vice Governor of Yangpu District
13:40-15:50	**Speech of Entrepreneur**
15:50-16:20	**Break**
16:20-16:40	**Award Ceremony**
16:40-17:40	**Free Chat**

***The agenda is subject to change.**

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主办单位 **Hosts**

中华人民共和国科学技术部
Ministry of Science and Technology of the People's Republic of China

上海市人民政府
Shanghai Municipal People's Government

承办单位 **Organizers**

上海市科学技术委员会
Science and Technology Commission of Shanghai Municipality

中国科学技术发展战略研究院
Chinese Academy of Science and Technology for Development

同济大学
Tongji University

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