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2021 Pujiang Innovation Forum Bulletin VII

Future Connect——The Blockchain Development Seminar

Editor’s Note: In 2021 Pujiang Innovation Forum – The Blockchain Development Seminar, with the theme of “ Future Connect – The Blockchain Development Seminar ” , several well-known experts and scholars proposed a lot of important ideas as well as forward-looking and constructive suggestions. This bulletin is a summary based on the reports from the participating guests¹, and is intended for reference.

¹ YAO Qizhi, the first Asian scientist winning the Turing Award, Academician of Chinese Academy of Sciences, and Foreign Academician of National Academy of Sciences; WANG Ye, Deputy Director-General, Science and Technology Commission of Shanghai Municipality; MEI Jianping, Deputy Director-General of Department of High and New Technology, MOST; LONG Fan, Dean of Shanghai Tree-Graph Blockchain Research Institute, Vice Chairman of Shanghai Blockchain Technology Association, and Associate Professor of University of Toronto; SI Xueming, Chief Scientist of Center for Blockchain Studies, Shanghai Jiao Tong University and Director of China Computer Federation, Technical Committee of Blockchain; TAN Wensheng, Director-general of the Development Research Center of Hunan Province People’s Government; CAO Jiaming, Vice Chairman of the Architectural Society of China; Andreas Park, Professor of University of Toronto and StableCoin Advisor of Bank of Canada; LI Jie, Chair Professor of Shanghai Jiao Tong University and Foreign Member of the Engineering Academy of Japan; HAN Jun, Vice Chairman of the Board, CESA and Former Inspector of the Department of Science and Technology, Ministry of Industry and Information Technology; WU Ming, CTO of Shanghai Tree-Graph Blockchain Research Institute; HU Jie, Professor of Shanghai Advanced Institute of Finance, Former Senior Economist of the Federal Reserve, and Member of China Computer Federation, Technical Committee of Blockchain

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The Blockchain Development Seminar focused on the essence, development space and path of blockchain and clarified the confusion to create a solid consensus for the development of blockchain in China and find more resources for ecology cultivation of blockchain. As a result, China's voice can be heard in the world competition and China can continue to stand on the tide and lead the future in terms of blockchain technology.

I. The Status Quo and Development Trend of Blockchain Technology

Firstly, blockchain technology has become the new development trend of the digital economy in China. In the opinion of **MEI Jianping**, with the significant strategic decision of constructing “Digital China”, digital industrialization and industrial digitalization have become the new trends of and impetus for the economic development in China. As a new foundation and a new approach for social governance, blockchain offers significant technological support for the transformation and upgrading of the real economy. In the opinion of **SI Xueming**, blockchain lays the foundation for building trust in the digital society, for the development of digital economy, and thus for the future world. According to **HAN Jun**, the development of blockchain technology will be a potent weapon

because the essence of the digital society is data, which is inseparable from blockchain.

Secondly, the potential application scenarios of blockchain technology are being constantly expanded. According to **WU Ming**, blockchain technology is highly applicable to the scenarios involving credit issues during mutual cooperation, with some typical scenarios including the logistics, supply chain, management of building lifecycle, platforms for renting, and financial insurance. In the opinion of **LONG Fan**, blockchain can finally empower all scenarios involving multiple parties with a stress on mutual trust in all walks of life. According to **LI Jie**, blockchain is the basic platform with access to the reliable data from the Industrial Internet.

Thirdly, China is in the period of strategic opportunities for promoting the construction of the blockchain technology system and industrial ecosystem. According to **MEI Jianping**, the Ministry of Science and Technology will enhance its cooperation with Shanghai and support Shanghai as usual in gathering R&D resources at home and abroad, improving the capability of original innovation, expanding application scenarios, enhancing industrial empowerment and deepening open cooperation, to achieve more and greater progress on blockchain R&D and application. In the opinion of **Andreas Park**, blockchain is the infrastructure available for all parties to contact and cooperate with each other. Currently, banks act of their own free will, and blockchain will

bring them new development opportunities if they embrace blockchain in the future.

II. The Weaknesses and Shortcomings of Blockchain Technology in Empowering the Future

Firstly, the consensus divide holds blockchain technology back from empowering the whole society. In the opinion of **LONG Fan**, the lack of social consensus holds blockchain technology back from empowering the whole society, mainly reflected in speculation sin, label generalization and regulatory challenges. The concept of decentralization is still not generally accepted. Only with the reconstruction of the social consensus can blockchain technology achieve the goals of changing the world and empowering all walks of life. As pointed out by **WU Ming**, the concept of decentralization requires a lot of education and communication during its promotion and application because it hasn't been accepted by the majority.

Secondly, it's still difficult to realize the overall implementation of blockchain technology. In the opinion of **SI Xueming**, in terms of the integration and application of blockchain technology, foreign applications stress the implementation capability while domestic applications are still facing challenges in practical implementation even though blockchain integration is highly concerned in China. According to **WU Ming**, the crux of the implementation of blockchain concerns a number of factors.

Firstly, as an emerging technology, blockchain can only be promoted on the premise of the change of the original system and structure. Secondly, as an emerging industry, blockchain is in shortage of talents who have sound knowledge of blockchain technology, and there are also some problems in curriculum provision and teaching staff.

Thirdly, the unified standard for blockchain technology remains to be formulated. In the opinion of **WU Ming**, throughout the blockchain industry which is currently non-monopolized, blockchain technology is developing rapidly with constant updates, which leads to fierce competition among projects of the same type and frequent cooperation among projects of different types. In such chaos, the industry is in an urgent need for standards due to the inefficient system-system and system-application interaction. As pointed out by **HAN Jun**, currently, there are substantial gaps in the standardization of blockchain technology in terms of the technology and practice, including the absence of standardized application guidelines, instructions and assistance, as well as the lack of consensus on the standards.

Fourthly, potential risks still exist in the regulation and security of blockchain technology. In the opinion of **HAN Jun**, despite the rapid development of blockchain, the regulation and security of blockchain can't be ensured overnight. According to **SI Xueming**, China is a late starter in terms of the regulation on blockchain, being faced with difficulties in solving the increasingly serious regulatory problems in the

public chain and alliance chain, and unable to meet the implementation demand of the application due to the high difficulty level and the poor capability in blockchain regulation. In addition, the conflict between regulation and privacy protection is also to be solved. In the opinion of **TAN Wensheng**, the security concerns are also one of the main reasons for the slow development of blockchain. Faced with a growing amount of data involving emergency, security, people's wellbeing and finance, there will be devil to pay in case of any security problem. In the opinion of **LONG Fan**, it would be a permanent and highly-complex issue to regulate and guide the application of the blockchain technology for decentralization.

III. Uphold the “Four Reinforcements” to Empower the Future with Blockchain Technology

Firstly, we shall reinforce the innovative development of blockchain technology. In the opinion of **MEI Jianping**, we shall grasp the development opportunities brought by digitalization, cyberization and intellectualization, promote the innovation in blockchain technology and speed up the in-depth integration of socioeconomic areas including finance, people's wellbeing, medical care and government affairs. According to **SI Xueming**, we shall develop the basic theories and technologies for autonomous and innovative blockchain with great efforts, vigorously explore the structural innovation in the blockchain system and conduct in-depth research into the innovation in application technology,

to integrate blockchain technology better with other technologies to realize real innovation in application. Besides, we shall also accelerate the R&D of the autonomous and controllable blockchain technology and products.

Secondly, we shall reinforce the cultivation of talents for blockchain technology. In the opinion of **WU Ming**, the popularization and education about the knowledge of blockchain is of great importance. We shall introduce the advantages of blockchain decentralization to non-technical individuals, so as to win social acceptance. In addition, more computer talents shall be provided with the early access to the knowledge and technology of blockchain to master the development capability, which brings huge profits to the development of blockchain ecosystem and the application in enterprises. According to **SI Xueming**, we shall reinforce the cultivation of talents for blockchain technology and integrate individual blockchain research groups in Shanghai into a team. According to **CAO Jiaming**, we shall firstly reinforce the training in blockchain technology with training records well maintained, and then establish an access mechanism for talents of blockchain technology.

Thirdly, we shall reinforce the security regulation over blockchain technology. In the opinion of **SI Xueming**, we shall propose systematic solutions with the external security and the structure of the blockchain system taken into consideration. In terms of privacy protection in the public chain, we shall provide technical protection for

sensitive information including the transaction data, address and identity, and enable the accounting nodes to validate the legitimacy of transactions. In terms of regulation, we shall explore a friendly basic framework for the regulation over the alliance chain, to implement the regulation without the invasion of privacy. According to **TAN Wensheng**, we shall reinforce data sharing and utilization, realize the co-utilization with the government through the key technologies to support co-sharing among different departments for different affairs and ultimately enable whole-process local regulation.

Fourthly, we shall reinforce the construction of the standard system for blockchain technology. In the opinion of **WU Ming**, we shall reinforce the research into the standardization of blockchain, have louder international voice and rule-making power, and encourage more excellent blockchain enterprises in China to take part in the formulation of international standards. In the opinion of **HAN Jun**, the top-level of the standard system shall be in line with the international and overseas standards for blockchain. We shall speed up the development and validation of the standards for key blockchain technologies, promote the transformation of mature experience and accelerate the implementation of the standard system. In addition, we shall encourage social communities including associations and alliances to formulate individual standards satisfying the market and innovation demands, promote the transformation of the group standards into national standards and industry standards, and select key industries as models for application

demonstration to promote the positive development of the blockchain industry. Furthermore, we shall be a more active participant in international standardization, promote the transformation of our domestic best practices and standards into international standards, raise our voice in the formation of the international standards, enhance the strength of and develop national and international organizations for standardization to establish a standardized cooperation mechanism, and encourage the cooperative formulation of international standards to increase the international influence of Chinese blockchain standards.

Summarized by Fan Xing