Date: May 8, 2019

**Re: My opinion on ICON Digital Networks Technology and Business Model**

To whom it may concern,

I am a faculty member at the University of Nevada Las Vegas (UNLV) Computer Science department. I have recently come to know the business undertaken by ICON Digital Networks and would like to express my opinion on its project scope and the technology pertaining to blockchain. I have been working in the fields of blockchain, network protocol design and implementation, and network security, throughout my industrial and academic research career in the last 20 years. I have published over 100 papers in peer-reviewed conferences or journals and have 7 patents granted or pending. My research has been sponsored by Microsoft Research, US Air Force, Naval Air Warfare Center, Oak Ridge National Laboratory, National Security Technology, and National Science Foundation.

The goal of blockchain is providing a trusted data storage without relying on a central organization. This enables trusted financial transactions, data transparency, accountability, and auditability. With the smart contract feature on blockchain, business processes can be automated, and significant cost can be saved. In the past several years, I have been conducting research on blockchain technology extensively. For example, I developed a method called Binary Blockchain where transactions are split and merged in binary fashion and Proof-of-Work consensus is done in parallel, thereby solving the infamous scalability problem. I am providing consulting services on blockchain to several companies including, Blockchains.com, Axel, CityLedger, NodeLaunch, BitGo, Tagfer, CampusCoin, Electrical Power Research Institute (EPRI), etc. I frequently offer public lectures on blockchain to the regional IT industry and help them adopt blockchain technology to their business. Currently I am teaching a graduate level course on blockchain, "CS 789 Special Topics in Computer Science – Fundamentals of Blockchain Technology" and guiding four graduate students on blockchain privacy, healthcare data management on blockchain, secure IoT data management on Ethereum and HyperLedger blockchain, etc.

I have reviewed the projects being undertaken by ICON digital networks and found many advantages. ICON is building an LED advertising network and managing shows by A-list artists. Blockchain is ideally suited for this kind of application. The show tickets can be listed, sold, traded on blockchain efficiently, eliminating middlemen and saving costs. Advertising content and contracts can be managed efficiently on blockchain. With the native cryptocurrency of ICON, Time Coin and Space Coin, the transactions can be automatically executed in a more trustworthy fashion and without worrying about the payment processes, escrow services, foreign exchange conversion, expensive bank transfers, or legal consequences. In fact, the idea of using blockchain for advertising is not new, and multiple companies are entering this market. The new Brave browser has built-in cryptocurrency wallet and rewards the users with their coins (BAT) for watching advertisements. GazeCoin allows its users to experience VR and AR videos and monetizing the content through blockchain. AdToken is another ERC-20 coin that works on Ethereum blockchain that offers audit services on its adChain. QChain allows buying and selling advertisement units on blockchain, adEx offers audit capability on Ethereum blockchain, ClearCoin removes ad fraud using blockchain. With this trend, the Interactive Advertising Bureau (IAB) has recently formed the Blockchain Working Group and is strongly promoting blockchain technology among its member companies.

However, managing advertisements on Blockchain is very early at this stage, and no major player has taken the market. Most of the projects are experimental with low user traffic and without any major funding. Therefore, a major investment in ICON will secure the leadership in this promising domain. Furthermore, unlike other competing companies, ICON has huge advantages of, 1) LED billboard-based offline advertisement, 2) direct ad content acquisition from the major advertisers, 3) direct show ticket management. They have a significant synergy effect with Blockchain that no other companies can match. With its own advertising infrastructure, ICON can easily extend its content to web browsers and mobile devices and build its own comprehensive advertising eco-system, and reward users appropriately within its eco-system that comprises offline advertising, online advertising, show tickets, and merchandise.

With these advantages, I am very positive with the future of ICON Digital Networks. Its business model and technology are strong, timely, and expansive rapidly. I will be glad to offer my expertise to ICON to help realizing its full potential.

Sincerely,

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