



July 9, 2020

Dear all,

PCI Holdings, Inc.
Business Planning Office

Notice of Capital and Business Alliance with TieSet Inc.
State-of-the-art AI R&D startup based in Silicon Valley

We would like to inform you that on July 9, 2020, we have entered into a capital and business alliance agreement with TieSet Inc. (Japan Office in Minato-Ku, Tokyo, CEO: Kiyoshi Nakayama, hereinafter “TieSet”), a research and development startup developing cutting-edge artificial intelligence (AI) technologies in Silicon Valley of California, USA.

1 . Reason for Business Alliance

With the motto “Contribute to a *safe, secure, and prosperous society* through IT,” PCI Group is expanding its business with the aim of improving group performance and expanding the scale of the company. In particular, we consider M&A and IoT/IoE solutions as pillars of our growth strategy and are striving to provide and develop our own solutions based on embedded control and communication technologies.

TieSet Japan was founded on May 13, 2020 with the main purpose of expanding advanced AI technologies developed in the US to the Japanese market by Dr. Kiyoshi Nakayama who has been an active research scientist in Silicon Valley and holds a Ph.D. degree in computer science from the University of California, Irvine. Prior to the establishment of TieSet Japan, he has founded “TieSet, Inc” (Santa Clara, California, USA) in April 2020 with its R&D base in Silicon Valley aiming to conduct research and development of cutting-edge distributed AI technologies such as Federated Learning, and is leading an advanced R&D team of doctoral students and researchers from top US universities. While being an R&D startup originating in Silicon Valley, they have started business development activities in Japan. TieSet's technologies have the potential to overcome the limitation of conventional AI technologies and dramatically expand the areas of AI utilization, including medical, healthcare, mobility, energy, robotics, and smart cities.

For our customers, the needs for innovative solutions using AI technologies are increasing in order to utilize the data generated by the spread of IoT/IoE. Under this background, multiple operating companies of PCI Group would like to make joint proposals with TieSet for the purpose of providing solutions optimized to customer needs. Based on this capital and business alliance, PCI Group will strengthen the development of AI technology-based solutions that address customer data utilization issues in IoT/IoE and grow as one of the pillars of future business.

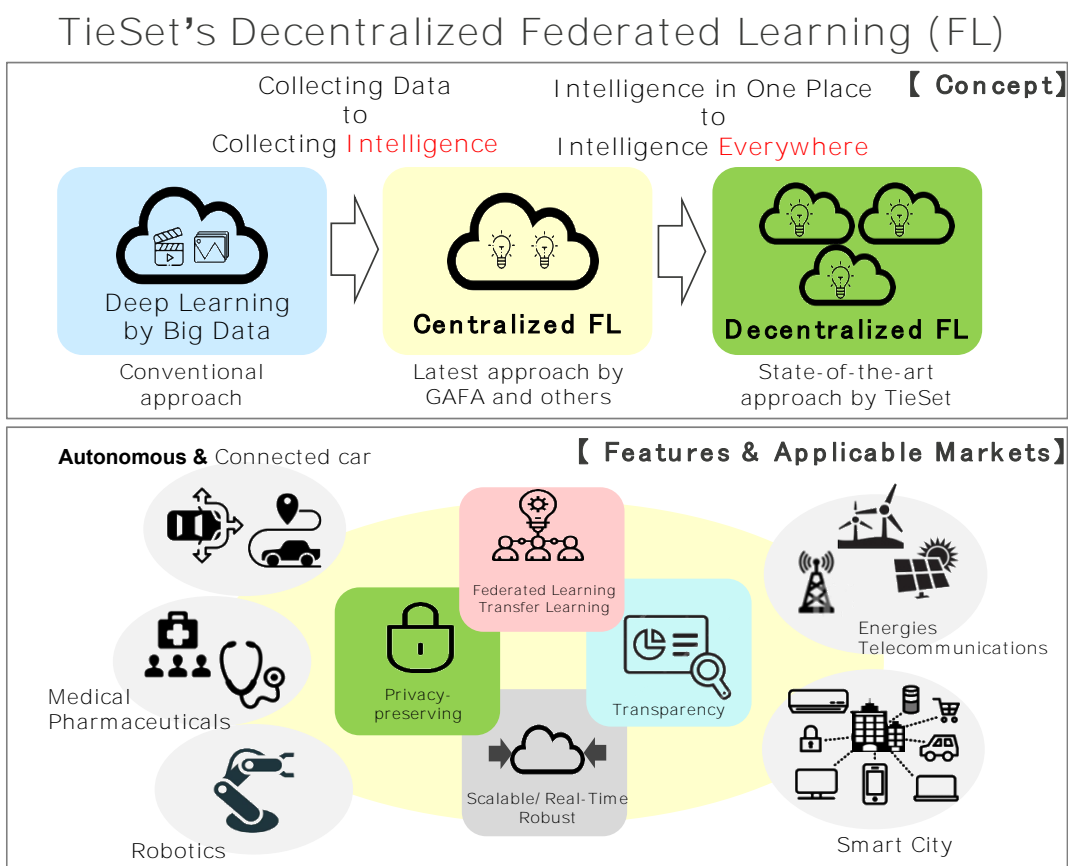
2. World that TieSet envisions

AI technologies are evolving and being developed at a dizzying speed every day. In the third AI boom that has continued from the 2000s to the present, big data has brought Deep Learning technologies to the next level so that machines automatically extract features from those data. With the advent and significant development of deep learning technologies, AI is being put to practical use one after another in fields such as image recognition and natural language processing.

In general, AI performs better as the data used for learning is more diverse and larger in amount, but AI using big data faces serious problems. For example, collecting data comes with privacy concerns. Others include excessive computing and network resources, and latency (delay time) reduction. As a solution to these problems, distributed AI technologies that do not require big data have been intensively developed these days.

TieSet's philosophy is "Transitioning from Big Data to Collective Intelligence" by which they envision a world of AI permeated not only people's daily life but also medical, healthcare, mobility, energy, robotics, smart cities, and other fields by further revolutionizing distributed learning technologies.

TieSet has a research and development base in Silicon Valley and has top-notch researchers and engineers from renowned universities and research institutes in the world. By further evolving state-of-the-art AI technologies such as federated learning, reinforcement learning, and transfer learning, they aim to establish the world's most advanced AI technologies and disseminate the highest quality products that truly add value to people's actual social lives in the post-big data era.



(Source: Material from TieSet, Inc.)

3. Details of Capital and Business Alliance

(1) Details of business alliance

- ① Joint proposal for AI development projects
- ② Joint promotion of AI utilization projects
- ③ Promotion of application development based on the AI framework manufactured by TieSet
- ④ Human resource development through personnel exchange

(2) Details of capital alliance

We have invested in TieSet by purchasing new shares issued for a third-party allotment.

4. Partner overview

(1) Company	TieSet, Inc.
(2) Address (Japan)	2-16-1 Shinbashi, Minato-Ku, Tokyo
(3) About CEO	Kiyoshi Nakayama, Ph.D. He has a Ph.D. degree in Computer Science from the University of California, Irvine. After obtaining his Ph.D., he has held various positions including research scientist at Fujitsu Laboratories of America based in Silicon Valley as well as at NEC Laboratories America, which is also known to have had famous AI researchers of Vladimir Vapnik and Yann LeCun. He has engaged in research and development of core AI technologies in the areas of social infrastructure, energy management, and cutting-edge computer vision systems, and developed the world's first fully decentralized federated learning framework based on blockchain. He has a wide range of network beyond research activities not only in Silicon Valley but also around the world. In 2017, he obtained permanent residence in the United States in the E17 category (an outstanding researcher) and currently lives in Silicon Valley, California, USA.
(4) Business	Planning, development, operation, maintenance, sales, distribution, management of computer systems, programs, applications that utilize AI and entrustment of them. Providing services using computer systems, programs, applications that utilize AI. All businesses incidental to the above items.
(5) Capital	17,500 Thousand JPY
(6) Founding Date	May 13, 2020

5. Comments from Representatives of Both Companies

(1) Comments from Kiyoshi Nakayama, Founder & CEO of TieSet Inc.

Our vision is to disseminate innovative technologies that create value to the society through research and development in the interdisciplinary area of the world's most advanced AI and distributed system technologies.

In particular, we at TieSet are focused on distributed learning technologies such as Federated Learning, which is attracting a lot of attention not only in Silicon Valley but worldwide, and aim to realize a paradigm shift from the big data era to the age of wisdom by developing a scalable, traceable, asynchronous, and

decentralized AI platform applicable to various fields, and thus creating, distributing, and organizing intelligence scattered around the world. As a result, it will be possible to develop truly sustainable and innovative technologies in areas where it has been difficult to realize advanced AI technologies.

TieSet has entered into a capital and business alliance agreement with the PCI Group, and both companies will proceed with businesses with high synergies. The PCI group is leading the research and development in the field of distributed AI cooperative systems and has received a prestigious award for excellence at the development contest sponsored by Intel. We look forward to working with the PCI group to create cutting-edge AI technologies that will be utilized not only in Japan but also around the world.

(2) Comment from Toyomi Amano, Founder & Chairman of PCI Holdings

AI-related areas are truly hot business fields with a lot of startup companies appearing one after another. While there are many product vendors that apply AI technologies, TieSet is a company with the solid foundational technologies and talented researchers of AI that does not allow others to follow, and thus showing a strong presence.

Expanding and deepening the application area of AI technologies will be essential for the development of all industries. The technologies of TieSet led by Dr. Nakayama will greatly advance society through the power of research and development, which will be inevitable to realize the motto of PCI group of “Contribute to a *safe, secure, and prosperous society* through IT.”

From a medium to long-term perspective, I am very excited that the potential of TieSet and the applicability of their AI technologies can contribute to continuous scale expansion and performance improvement of PCI group.

We will support the growth of TieSet in accordance with the “Potential Up of Venture” policy, and continue to grow, contribute to the development of society, and take on challenges based on the spirit of PCI, which is “Positively”, “Change” and “Innovate”.

That's all!

<Inquiries regarding this release>

PCI Holdings, Inc.

Group Strategy and IR Section (ir@pci-h.co.jp)

PCI Group will actively challenge new service areas by applying IoT technologies cultivated through various R&D activities and our rich experience in embedded system development towards the realization of a *safe, secure, and prosperous society*.