U.S. Taiwan High Tech Forum

How Semiconductors, Electric Vehicles, Blockchain, WEB3.0, shape the future of infrastructure

Virtual Conference

Nov 4 & Nov 11, 2022

2022

Organizer: NATEA North America Taiwanese Engineering & Science Association Silicon Valley Chapter · DIGITIMES Media · Marketing · Consulting

Cohost NSTC 國家科學及技術委員會 National Science and Technology Council

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NATEA
North America Taiwanese Engineering & Science Association Silicon Valley Chapter

As we approach a new decade starting in 2020, we are experiencing one of the most “challenging” years in modern 21st century – trade tensions caused global supply chain shortage, and meantime starting to embrace the new opportunities from the unlimited innovations of blockchain technologies.

The trade war escalation between the U.S. and China has created export rules for advanced technology and disrupted the global electronics ecosystem. Semiconductors is perhaps the most visible high-tech industry that has experience this tussle in this modern time trade tension. The United States has tremendous leverage in chip design and intellectual property while China has immense influence in the supply chain and electronics manufacturing. High-tech companies whose products relay on semiconductor chips are forced to “re-think” their strategy in order to dealt with the new hardware and software technology restrictions and “nationalist first” approach in product developments.

The COVID-19 pandemic has had profound implications had drastically impacted our lives and the way we work and social interaction. Although the pandemic has severely impacted many economies, it has also forced many industries to “digitally transform” almost over-night. Blockchain is one of the nascent industries that has not been disrupted by technology but this pandemic has forced us to take a closer look into new ways of dealing with the emerging ecosystem of financial applications and protocols built on blockchain technology, such as the decentralized finance and other applications.

The theme of this year U.S. Taiwan High-Tech Forum (UTHF) is **“How Semiconductors, Electric Vehicles, Blockchain, WEB3.0, shape the future of infrastructure”** with a distinguished list of accomplished industry executives and promising startup founders who will share insights on innovations in Semiconductor, Supply Chain, and how advances in Blockchain are transforming the entire ecosystems.

In its 25th year now, this is also the 3nd time that UTHF will be conducted “virtually” for safety precaution and enjoy the conference where-ever one may be.

Chien-Min Liao, Ph.D., Conference Chair

Joseph Chen, Ph.D., Program Co-Chair

Semiconductor, Electric Vehicle, and Supply Chain

TIME (PDT)	PROGRAM
4:30pm - 4:45pm	**Opening Remarks**
4:45pm - 5:25pm	**Keynote Speaker** **“Moore’s Law’s Journey into Angstrom (Å) Era – In Moore’s Law We Trust”** Chia-Hong Jan, Sr. Fellow, INTEL
5:25pm - 6:00pm	**Invited Speaker** **“Semiconductors and the CHIPS act: What Happens Next?”** Eric Breckenfeld, Director of Tech Policy, SIA
6:00pm - 6:35pm	**Invited Speaker** **“The Advantage of Taiwanese Companies in EV Supply Chain”** Steve Huang, Sr. VP, PEGATRON
6:35pm - 7:10pm	**Invited Speaker** **“G2 and Beyond: ICT Supply Chain and Geopolitics”** Colley Hwang, President, DIGITIMES
7:10 pm	**Closing Remarks**

Semiconductor

Talk

"Moore's Law's Journey into Angstrom (Å) Era – In Moore's Law We Trust"

Abstract

Moore's Law has guided the development of semiconductor industry for more than 60 years. Moore's Law is not just a law of economy. The benefits of performance and power reduction are critical to propel the IT industry moving forward to the doorstep of Angstrom (Å) Era.

This talk will examine the challenges and roadmaps of the key technical areas, including innovative device architectures, lithography capabilities, disruptive materials, and novel 3D packaging solutions for the extension of Moore's Law, and to conclude that the outlook has never been as promising as now.

Long Live the Moore's Law……

Chia-Hong Jan

Sr. Fellow, Intel

Dr. Chia-Hong Jan is an Intel Senior Fellow and IEEE Fellow.

He has held various technical and leadership roles at Intel since 0.8 um node. He has been the program manager of Intel 65nm, 45nm, 32nm, 22nm, 14nm and 7nm SoC silicon technologies used in data center, desktop, laptop,tablet,smartphone, field-programmable gate arrays and wireless products.

Dr. Jan holds a bachelor's degree in Chemical Engineering and an MBA degree from National Taiwan University, both with Phi-Tau-Phi honor. He also earned a master's degree and Ph.D. in Materials Science from University of Wisconsin-Madison. Jan holds more than 120 U.S. patents.

Semiconductor

Talk

“Semiconductors and the CHIPS act: What Happens Next?”

Abstract

Semiconductor has become so powerful and so fundamental. The awareness of semiconductor’s importance incurs countries to vie for leadership and secured supply chain of semiconductor. This competition breaks the current global semiconductor supply chain and makes it geopolitical. The players in the semiconductor supply chain and the down steam systems realize that they must cross segment boundaries to make themselves more valuable. In the automotive industry, the non-transparent nature of the tier1-tier2-tier3 supply chain has caused the problem of IC shortage and the loss in revenue. It is time to consider alternative solution. MIH is an independent open platform initiated by Foxconn. It not only can provide an alternative solution to the automotive industry but also help Taiwan to utilize her strength in semiconductor and ICT industry.

Eric Breckenfeld

Director of Tech Policy, SIA

Dr. Eric Breckenfeld is the director of technology policy at the Semiconductor Industry Association (SIA), where he directs SIA’s R&D and workforce development efforts. Prior to joining SIA, Eric provided technical support to DARPA in the areas of electronic materials and device physics, robotics and autonomy, and hardware/supply chain security. Before joining Booz Allen Hamilton, Eric was an AAAS Science and Technology Policy Fellow with the White House’s National Nanotechnology Initiative and before that a National Research Council Fellow at the Naval Research Laboratory.

Eric received his Ph.D. in Materials Science and Engineering from the University of Illinois Urbana-Champaign.

Semiconductor

Talk

"The Advantage of Taiwanese Companies in EV Supply Chain"

Abstract

Global EV sales reached 6.75 million units in 2021, and is strongly believed to exceed traditional fuel vehicle sales by 2027. EV industry also stimulates the technology advancement of autonomous cars. EV industry also aid the supply chain transformation of hundred-year car industry from Hierarchic to Ring-type. This new type of supply chain is in favor of Taiwan ICT companies. Many more than those familiar Taiwan's companies are ready for this new electric vehicle business opportunities. They prepare well on three major technology trends for long years These three pivot technologies are (1) Modularization concept with modular platform and all-in-one modules, (2) Intelligent driven by ADAS and smart cockpit, (3) Electric and electronic architecture changes with prevailing OTA functions.

Steve (Chung Yu) Huang

Special Assistant of Chairman & Senior Vice President, Pegatron

Dr. Steve Huang is Special Assistant of Chairman & Senior Vice President of Pegatron Corp., where he focuses on developing 5G, AI, AR/VR, electric vehicles, and cloud/edge computing technologies in 5C product lines, Computing, Consumer, Communication, Car, healthCare since 2016. He received a Ph.D. degree in Satellite and Communication Engineering and an M.S. degree in Electrical Engineering from University of Southern California, USA, and a B.S. degree in Electrical Engineering from National Taiwan University. He kicked off his career as Member of Technical Staff in ComSat Labs, Maryland, USA. As associate vice president of Asustek Computer in 1999, he has established Broadband BU, collaborating with top 10 multinational corporation in telecommunications industry. With a wealth of leadership experience, he has served as General Manager of BU6, Pegatron Corp. (spun off from Asustek) in 2008.

Semiconductor

Talk

"G2 and Beyond: ICT Supply Chain and Geopolitics"

Abstract

Semiconductor has become so powerful and so fundamental. The awareness of semiconductor's importance incurs countries to vie for leadership and secured supply chain of semiconductor. This competition breaks the current global semiconductor supply chain and makes it geopolitical. The players in the semiconductor supply chain and the down steam systems realize that they must cross segment boundaries to make themselves more valuable. In the automotive industry, the non-transparent nature of the tier1-tier2-tier3 supply chain has caused the problem of IC shortage and the loss in revenue. It is time to consider alternative solution. MIH is an independent open platform initiated by Foxconn. It not only can provide an alternative solution to the automotive industry but also help Taiwan to utilize her strength in semiconductor and ICT industry.

Colley Hwang

President, Digitimes

Colley Hwang is the founder of DIGITIMES with extensive entrepreneurial experience across industries. He has been an industry analyst for more than 30 years, and first handedly witnessed the industry's transformation from PC, to mobile communications, and the IoT today. Hwang has also lectured at many international conferences and leading educational institutions. Hwang is currently an independent director of the China Airlines Board of Directors and a director of Monte Jade Science & Technology Association (Taiwan).

Web3.0, Blockchain, and Cryptography

TIME (PST)	PROGRAM
4:30pm - 4:45pm	**Opening Remarks**
4:45pm - 5:20pm	**Keynote Speaker** **“Engineering Semiconductors for the Future of Privacy”** Alon Webman, Co-founder and CEO, CHAIN REACTION
5:20pm - 5:55pm	**Invited Speaker** **“Web3 in a Bear Market”** Clara Tsao, Founder, FILECOIN FOUNDATION
5:55pm - 6:30pm	**Invited Speaker** **“The Evolution of Bitcoin Mining: Three Trends”** Troy Cross, Fellow, BITCOIN POLICY INSTITUTE
6:30pm - 7:10pm	**Industry Panel: What Blockchain Means for Nations?** • Moderator: James Lee • Alex Liu • Troy Cross
7:10 pm	**Closing Remarks**

Semiconductor

Talk

"Compute Infrastructure for the Next Generation of Blockchain and Privacy"

Abstract

Chain Reaction is designing the engineering of the future – with disruptive blockchain and privacy technologies. Our products accelerate compute performance with cutting edge low-power, high-speed hardware, enabling companies to adopt and scale solutions to the world's most complex problems. We partner with cloud, data centers, and large-scale enterprises (including oil and gas, big-pharma, and financial institutions) to transform compute infrastructure, and power the next generation of secure, scalable, green computing. Our first product disrupts blockchain by dramatically accelerating compute. Our privacy solution enables real-time operations on encrypted data, making possible vast new services. Tackling the most important problems in hardware and software, our solutions will impact blockchain, privacy, and Web3 on a global level. We are excited to announce collaborations with industry leaders when we launch our first product later this year.

Alon Webman

Co-founder and CEO, Chain Reaction

Alon Webman founded Chain Reaction in 2019. Before becoming CEO, Alon held senior leadership roles across R&D and business development. He has been working at the cutting-edge of data center system and product design for over 25 years. Alon was a co-founder of Mellanox Technologies, where he was VP R&D, managing product lines, chip design, firmware, and software for enterprise level cloud technology. Alon holds a BSc in Electrical Engineering from the Technion – Israel Institute of Technology.

Semiconductor

Talk

“Web3 in a Bear Market”

Abstract

Semiconductor has become so powerful and so fundamental. The awareness of semiconductor’s importance incurs countries to vie for leadership and secured supply chain of semiconductor. This competition breaks the current global semiconductor supply chain and makes it geopolitical. The players in the semiconductor supply chain and the down steam systems realize that they must cross segment boundaries to make themselves more valuable. In the automotive industry, the non-transparent nature of the tier1-tier2-tier3 supply chain has caused the problem of IC shortage and the loss in revenue. It is time to consider alternative solution. MIH is an independent open platform initiated by Foxconn. It not only can provide an alternative solution to the automotive industry but also help Taiwan to utilize her strength in semiconductor and ICT industry.

Clara Tsao

Founding Officer and Director, Filecoin Foundation

Clara Tsao is the founding director of the Filecoin Foundation and the Filecoin Foundation for the Decentralized Web. She is also co-founder and on the board of the Trust & Safety Professional Association and the Trust & Safety Foundation. Clara previously was the Senior Advisor for Emerging Technology (IoT and Blockchain) at the Department of Homeland Security and a Chief Technology Officer focused on countering foreign influence, election security, and homegrown extremism. She has spent a decade working in the technology industry across global teams at Microsoft, Apple, Sony PlayStation, AT&T, and also as a Google and Mozilla Technology Policy Fellow. Clara is also the Board Chair and President of the White House Presidential Innovation Fellows Foundation and a Senior Advisor at Tech Against Terrorism.

Semiconductor

Talk

"The Evolution of Bitcoin Mining: Three Trends"

Abstract

The recent history of mining has been shaped by a sharp runup in bitcoin's price, a ban on mining in China, and a constrained supply of ASICs. We are moving into an era in which these supply constraints have eased, while at the same time regulators and investors are eying ESG metrics. In this new low-margin, ESG-sensitive environment, three trends will accelerate. First, more miners will fully integrate with grids as large, flexible loads. Second, miners will increasingly use flared and vented methane to reach the equivalent of carbon-neutrality. Third, miners will find new ways to monetize their waste heat.

Troy Cross

Fellow, Bitcoin Policy Institute
Professor of Philosophy and Humanities at Reed College

Troy Cross is a Professor of Philosophy and Humanities at Reed College in Portland, Oregon, USA. He has formerly taught philosophy at Yale University and Oxford University, specializing in metaphysics and epistemology.

Troy has long been interested in bitcoin, and began mining himself in 2011. He is now a Fellow at the Bitcoin Policy Institute, a non-profit educational organization advising media, policymakers, and the public.

Along with fellow philosopher Andrew Bailey (Yale-NUS) Troy has devised a new and simple method of holding bitcoin that is carbon-neutral. This led to relations with companies and groups across the bitcoin industry that align with the vision of bitcoin serving as a tool to accelerate the energy transition.

Industry Panel talk:

"What Blockchain Means for Nations?"

Alex Liu
CEO at MaiCoin, Ltd.

Troy Cross
Fellow, BITCOIN POLICY INSTITUTE

Please see page 12

Moderators

Ming-Yen Kao

Tien-Ning Hsu

Peggy Pan

James Lee (Panel Moderator)

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Please refer to page 22

DIGITIMES

An indispensable source of information about the global tech supply chain.

DIGITIMES, established in 1998, is a unique information source for readers who need to know about the supply side of the semiconductor, electronics, computer and communications industries. Daily Chinese and English coverage of Taiwan's IT companies and news from China and other regions provide a lifeline to industry professionals, channel players, investment analysts and media around the world. www.digitimes.com/index.asp

The National Science and Technology Council (NSTC), originally established as the National Science Council (NSC), Executive Yuan on February 1, 1959, is the cross-government agency dedicated to scientific and technological development. In an age dominated by the knowledge economy, S&T innovation has become the key driver of economic growth and national progress. As such, the NSC was reorganized and became MOST on March 3, 2014, with a new organizational structure aiming to promote academia-industry partnerships, encourage innovation, and incubate startups.

On July 27, 2022, MOST incorporated the Office of Science and Technology and restructured to become the NSTC. The government formed this new agency to line up with international best practices in planning and executing national science and technology policy. The NSTC will continue to be responsible for MOST’s original four missions: promoting national science and technology development, supporting academic research, developing science parks, and incubating startups. The NSTC will take these missions a step further by facilitating forward-looking science and technology projects and connecting basic research, applications, and the private sector. In addition, the NSTC will also coordinate and integrate cross-government and cross-disciplinary science and technology policies while optimizing the allocation of related monetary resources.

The NSTC will take the lead in building up Taiwan's key scientific and technological capabilities that will be necessary over the next decade. In terms of mapping out such development, Taiwan will utilize its strengths in semiconductors to bolster other strategic industries such as space technology, precision health, quantum computing, cybersecurity and smart technologies.

InnoVEX returns on May 30 - June 2, 2023 and we will move to new venue - TaiNEX 2 in Taipei.

We welcome global tech startups, corporations, and organizations established to promote or foster startups to join us next year!

After a long term of COVID-19 pandemic restrictions, InnoVEX had restore physical exhibition this year. We look forward to seeking for further cooperation and connection with you throughout InnoVEX events next year!

The exhibitor registration opens now, please register at your earliest convenience. Follow for more details:

1. How to register and the regulations of InnoVEX 2023
2. Download InnoVEX 2023 Brochure

The Taiwan Semiconductor Industry Association (TSIA) was founded in 1996 to promote the cooperation and further development of the Taiwan semiconductor industry. With more than 130 corporate and associate members across semiconductor R&D, design, wafer manufacturing, packaging, testing, equipment and materials, TSIA aims to help the semiconductor industry in Taiwan remain on a competitive edge and to broaden business scope for its member companies.

TEDxWoodside is a community where people see, learn and interact with unique ideas worth spreading. We are based in the heart of silicon valley, deeply bound with our roots but also facing the world. We would like to build a platform to provide our community members with new perspectives on long-existing problems and change the world to a better place.
This year, the theme is "Regeneration:" we are recovering from the pandemic, and it is time to look into the future. Specific topics include well-being: work-life balance, vision & imagination. Let's connect if you are interested in the community. Feel free to email us for detail information: tedxwoodside@gmail.com

IEEE Young Professionals is an Affinity Group of the world's largest IEEE section, here at the Silicon Valley. Our team of officers, assisted by our board and other volunteers work in putting together awesome events that cater to the Young Professionals of the Silicon Valley, with events such as technical symposiums, professional development talks, workshops, start-up pitching events etc. We are a great way to expand your professional network, or if you are new to the area you can meet new people. IEEE SCV YP is part of the global IEEE YP network whose members are interested in elevating their professional image, expanding their global network, connecting with peers locally and giving back to their community. Keep track of our events at: https://site.ieee.org/scv-yp/

Past UTHF Conferences

2022	How Semiconductors, Electric Vehicles, Blockchain, WEB3.0, shape the future of infrastructure
2021	Blockchain, Semiconductor and its intersection in the Future of Finance, Work and Network Infrastructure
2020	Impact of Trade and Pandemic on High-Tech Industry and Future Landscape
2019	The Combination of 5G, AI and Massive IoT
2018	How Digital TWIN Technology will Further Digital Transformation
2017	The Future After Digital Transformation, AI & IoT
2016	Accelerating Digital Transformation with Real-World IoT Solutions
2015	Enabling Internet of Things
2014	The Ecosystems of Cloud Computing
2013	Cloud Computing and Taiwan
2012	Mobile, Social and Cloud
2011	Ubiquitous Sensors in the Intelligent Connected World
2010	Emerging Technologies for the Next Decade
2009	Clean Energy: High-Tech to Clean Tech
2008	Regulation in Medical Devices Development
2007	Trends of Wireless World
2006	The World with RFID
2005	E-Security: The Next Wave of Security Technology and Market Trend Technology and Market Trend
2004	New Digital World
2003	Next Wireless Innovation: Radio Frequency Integrated Circuits
2002	MEMS and Network Security
2001	High-Speed / High-Performance Computing Network
2000	Biotechnologies
1999	High-Speed LAN Technologies
1998	Green Technologies

Chien-Min Liao, Ph.D.
Vice President of NATEA-SV, 2022
Sr. Manager at Applied Materials
Conference chair

Joseph Chen, Ph.D.
President of NATEA-SV, 2022
Sr. Director at Chain Reaction
Conference co-chair

Che-li Sun, Ph.D
Director, Science & Technology Division
TECO at San Francisco

Ethan Su
Vice President
DIGITIMES

Rex Chen, Ph.D.
President of NATEA-SV, 2021
Director of Strategic Business Development at LitePoint
Event advisor

Acknowledgments

We graciously appreciate the following individuals below for their time and support in helping to put together UTHF 2022. Thank you so much!

Alice Kuo
Secretary General of NATEA-SV, 2022
Head of Growth at Worca
Moderator advisor

Bruce Chou, Ph.D.
BoD of NATEA-SV, 2022
Member of Technical Staff /
Program Manager at Applied Materials
Event marketing coordination

Designer • Grace Hsieh
Senior UX Designer at Paige.ai

Website / Program Booklet • Iris Lin
Technical Project Manager at AppLovin

Editor • Jennifer Lin
UC Berkeley PhD Student (MCB)

Ken Hung
BoD of NATEA-SV, 2022
Staff Software Engineer at Ambarella Inc
IT and Newsletter release

Mark Tseng, Ph.D.
BoD of NATEA-SV, 2022
Sr. Manager at Samsung
Event marketing, FB Marketing

DIGITIMES

Elsa Hsu, Jewel Chen

Science & Technology Division, TECO

Chih-Ping Wang

Intel

Ivy Chiu

Semiconductor Industry Association

Meghan Biery

IEEE Young Professionals

Wenbo Yin

TSIA

Celia Shih

TED x Woodside

Ming-Yen Kao

InnoVex

Sharlene Hung

Meet Startup

Chi Ko

Silicon Valley Influence Foundation

Katie Hsieh

NATEA-SV BoD & Advisors

Jesse Shieh

Larry Lin

Ping Wang

Yao-Hung Yang

Taiwan Trade Center (TAITRA)

Industrial Technology Research Institute

NATEA
North America Taiwanese Engineering & Science Association Silicon Valley Chapter

NATEA (North America Taiwanese Engineering & Science Association) is a non-profit founded in 1991 by a group of scientists and engineers in Silicon Valley with the mission to promote science and technology research, development and leadership training opportunities. Since its founding, NATEA has grown to 14 regional chapters in North America and over 3500 members.

In recent years, NATEA is going through a transformational phase with a new look-and-feel website (www.natea.org) and growth in our membership is fueled by an aggressive outreach campaign with next generation young talents who are pursuing science and engineering careers as well as strong community building and bonding with other like-minded non-profit organizations.

Throughout the year, we host seminars and tech talks as well as major events including events such as our annual US Taiwan High-Tech Forum (www.uthf.net) and US Taiwan Startup Forum (www.utstartup.net)

As a science and technology non-profit, it is our mission to promote these high-tech innovations and advancement in the U.S., Taiwan and globally. To support this effort, we have also assembled an world-class industry advisors to support our communities in the advancement of these initiatives.

In addition, we plan to advance our mission with focus in these sectors
1. Community Playground that is accessible to all
2. Cross-Border Connection of technology exchange between U.S. and Taiwan
3. Career Developments for the next generation leaders and entrepreneurs in corporate and start-ups

We believe that the success of NATEA strong resides in our endowment and especially our sponsors for your generous financial support and enable us to bring greater good to our communities and high-tech industries that we are part of and serve.

DIGITIMES

An indispensable source of information about the global tech supply chain.

DIGITIMES, founded in 1998, takes readers to the core of the global tech supply chain, offering daily coverage of the latest developments in both Chinese and English.

Hundreds of thousands of readers, including IT professionals, managers, analysts, researchers, investors and journalists, rely on DIGITIMES and its English version, recently reshaped as DIGITIMES Asia (2021), to better understand the tech supply chain. Subscribers to its premium services include most of the major tech firms and investors around the world. DIGITIMES also devotes specific coverage to the innovation sector, highlighting latest development of corporate venturing and startups around Asia and helping readers identify potential unicorns.

Apart from news services, DIGITIMES also offers research services. The DIGITIMES Research team focuses on monitoring key trends of global market, and provides market intelligence and analysis with supply side perspectives. DIGITIMES Research is now expanding its fields of research in response to the rise of Asia supply chain with reports like Asia Supply Chain 100, featuring the long-term tracking of 100 key players in region.

Asia is the heartbeat of the global supply chain.
DIGITIMES Asia, well placed at the heart of this global driving force, is a unique source of information and an ideal strategic partner for anyone competing for a place in the tech world.

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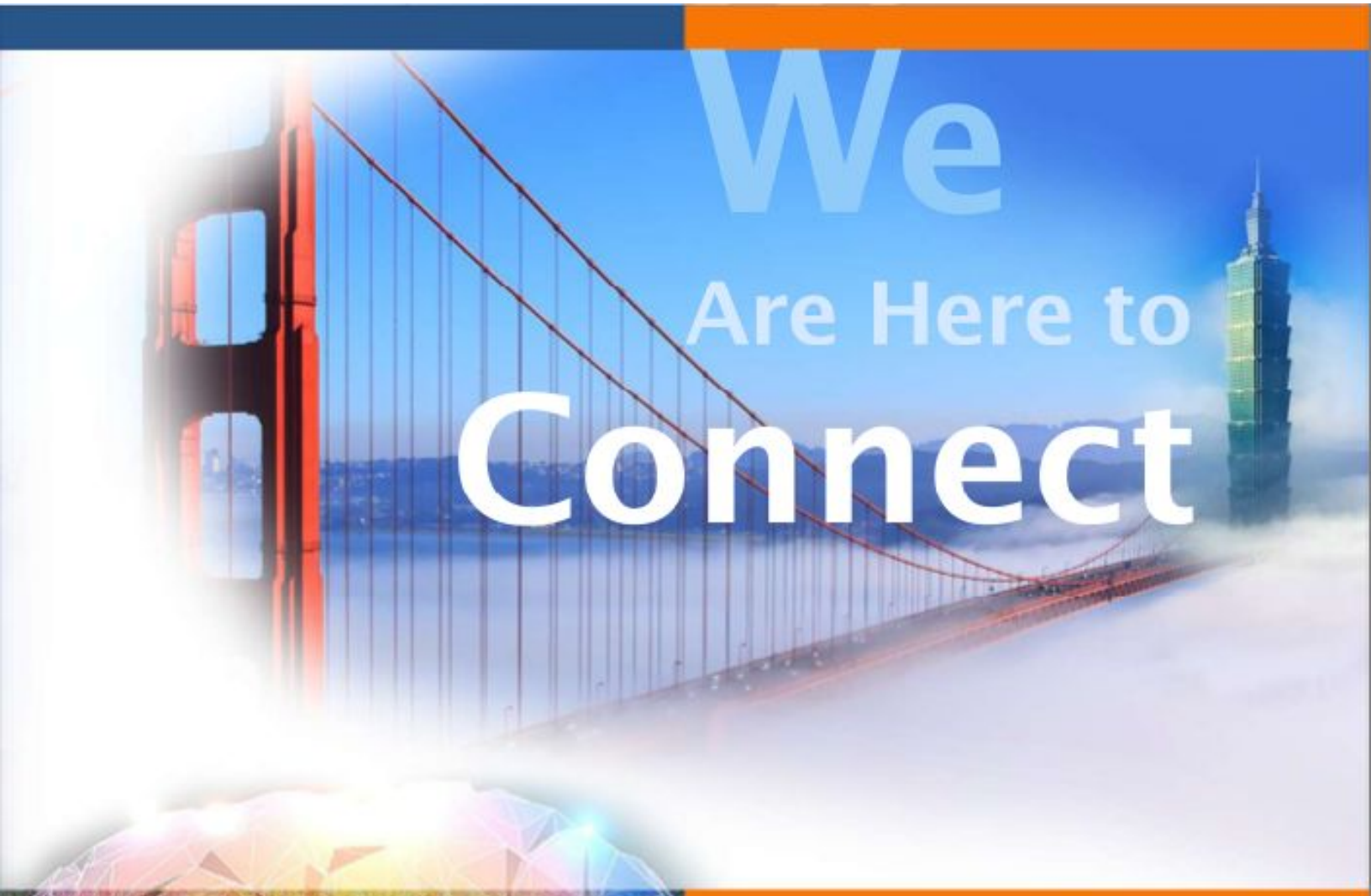

Science & Technology Division
Taipei Economic & Cultural Office in San Francisco

駐舊金山台北經濟文化辦事處科技組

5201 Great America Parkway
Suite 200
Santa Clara, CA 95054
Tel: (408) 986-8686
Fax: (408) 986-8066