SVJP
Silicon Valley Japan Platform

2022 SVJP ANNUAL RETREAT

RITZ-CARLTON HALF MOON BAY

SVJP
Silicon Valley Japan Platform

INDEX

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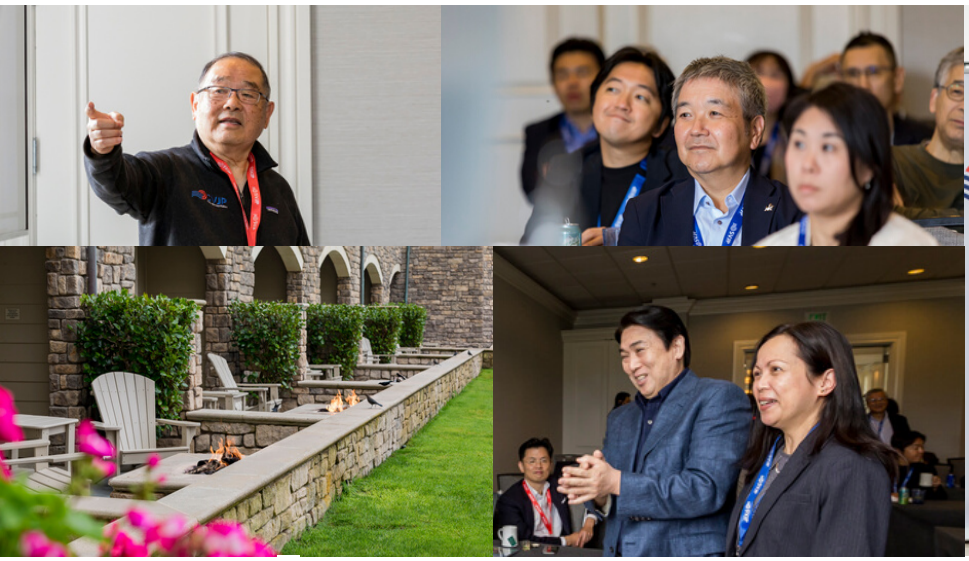
2022 SVJP Annual Retreat



THURSDAY
October 6

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FRIDAY

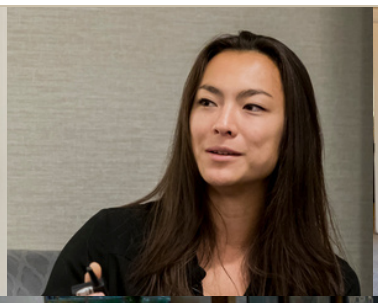






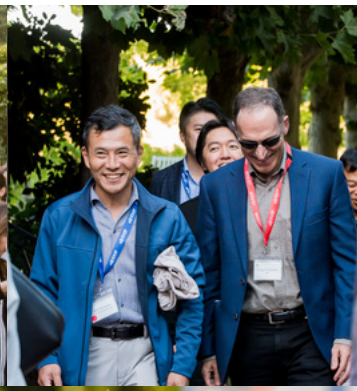
OCTOBER 7

2022



Filoli Gardens







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SATURDAY

OCTOBER 8

2022



















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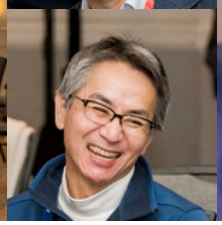
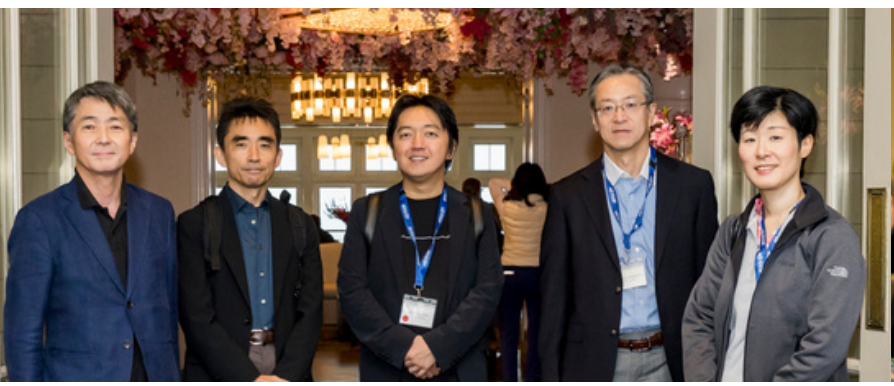
SUNDAY
October 9





*Photographer: Diana Barbatti

October 6

[Opening Session]

Behind the SVJP: Inspiration & Organization

In his talk, Dan Okimoto traced his personal and professional attachments to the United States and Japan, as well as his motivation in launching the Silicon Valley Japan Platform (SVJP) back to the unusual circumstances of his birth at Santa Anita (Racetrack) Assembly & Relocation Center and to the first three years of his life spent as an inmate at the Wartime Internment Camp in Poston, Arizona.

In Poston, Okimoto was surrounded by immigrants from Japan and their second-generation children. He was deeply impressed by the courage, resilience, and decency of the *issei* farmers, who had lost everything that they had labored so hard to earn over the years—land, farm machinery, homes, businesses, cars, and financial savings. He was also struck by the determination of their *nisei* children, who were suddenly uprooted from schools and forced to continue their junior high school and high school classes inside ten internment camps without the benefit of up-to-date textbooks, expansive libraries, and educational materials.

At Princeton, Okimoto began a lifetime of study on modern Japan—history, language, literature, culture, economy, and politics. College provided an early foundation for an academic career specializing in Japanese politics at Stanford University, where he has taught since 1975. Nearly a half-century. Being the epicenter of the semiconductor and digital revolutions, Stanford has served as a laboratory for Okimoto's engagement with, and understanding of, entrepreneurship and innovation in Silicon Valley. As a member of the Stanford faculty, Dan Okimoto has had a long-standing commitment to connect Japan, his ancestral homeland, with the innovative forces at work in Silicon Valley.

[Session 1]

U.S. & Japan Cybersecurity Culture

Speakers:
Matt Honea, Head of Security, SmartNews
Mihoko Matsubara, Chief Cybersecurity Strategist, NEC Corp.

In this fireside chat, Matt Honea and Mihoko Matsubara discuss the importance of cybersecurity in the U.S. and Japan. As the cyber landscape rapidly evolves, increasing investments and working collaboratively to raise awareness and improve resources are instrumental to our cyber protection.

What Are You Trying to Protect, and How Are You Protecting It?

Honea opened the discussion with an analogy to explain what cybersecurity is and why it is crucial to continue updating security measures. He compared cybersecurity to trying to protect a house, stating that we use physical items such as locks, alarms, & cameras to secure the environment. Potential threats to the house can be assessed by looking at the location, neighbors, and crime rate in the area. A simple question was asked, “If you are protecting the house now, are you going to protect it in the same way 20 years from now?” The overarching point is that the majority of the physical and geographical features of the house will evolve. In a similar way, evolving and upgrading cybersecurity processes is a key element to maintaining a secure system.

Building on Honea’s points, Matsubara spoke about the importance of employing a multi-layered defense approach and preparing for various malicious attack scenarios. Additionally, recording everything is a critical piece in identifying the culprit.

When it comes to security, the concept is simple: We can be smart in the questions that are asked based on what we are trying to protect and how we are protecting it.

The Importance of Investment

Last year, 30 billion dollars was invested into cybersecurity companies across the globe according to Honea. Compared to various security sectors, cloud security received the most investment. Everything is moving in the direction of the cloud. It is an extremely complex system, which makes it the biggest attack surface for companies today. When it comes to security, investment becomes imperative for protection.

Raising the Bar of Security Culture & Awareness in Japan and the U.S.

Matsubara stated that one of the first steps for a country raising the bar on security culture & awareness is to understand the strengths and weaknesses of its cybersecurity defenses. Despite the fact that most people think Japan is lagging behind in cybersecurity procedures, the Japanese are good at establishing basic security measures. To support her belief, Matsubara provided some data from Proofpoint – a California-based security company. In most of the advanced western countries, including the US and the UK, approximately 60% to 80% of the companies and organizations have suffered from a cyberattack in the past year. In Japan, however, only around 50% of the companies and organizations have had a cyberattack in the past year. Although Japan may have less occurrences of cyberattacks, its overall investment in cybersecurity is two digits less than the US. This lack of investment could potentially prevent Japan from keeping up with the ever-changing cybersecurity advancements.

On the flip side, Honea discussed the benefits of the US government investing in their own technology, which has led to fairly sophisticated cybersecurity defenses. The Federal Government is set to spend 10 billion dollars next year on their cybersecurity defense. Directing part of this budget to stimulate growth in the industry would build the environment for more and more successful companies to follow advancing technology trends. Honea also brought up an essential point regarding the prevalence of cybersecurity degrees in the US education system: “If a country has the ability to offer a learning environment for new people to come up with cybersecurity talent, then it creates an ecosystem that starts to thrive.”

Providing Resources

Towards the end of the fireside chat, Matsubara shared that executives need specific people to bridge the technical teams and the business executive teams. Clear communication is extremely important in order for the executives to prioritize issues and correctly allocate resources to cybersecurity.

Honea pointed out that In an emergency, if there is a fire, we call the fire department and if there is a crime, the police are called. If there is a cybersecurity breach, there is no clear authoritative source. Honea mentioned a couple resources the US has to offer. The US government will perform an assessment for companies in the critical industry sector and if a company has a cyber insurance policy, the insurance company will provide help. Not many know of these channels. This is an area we can improve through legislation that increases education on cybersecurity and the handling of breaches.

October 7

[Session 2] How Silicon Valley Uses Digital Technology

In Session 2, Jon Shalowitz, President of SVJP, talks with seven founders & executives of technology startups in various fields. Hearing directly from the entrepreneurs and startups was highly requested by the SVJP community, as our members wanted to learn about their journey and passion for digital technology. An essential element of this session was to learn not only how the startups created their technology, but also how their technology is implemented. Each speaker presented for approximately 10 minutes about their company mission, background and product.

Webacy

Speaker: **Maika Isogawa,** Founder & CEO, Webacy

Webacy is a platform focused on securing blockchain-based digital assets for the unexpected. Maika Isogawa is an engineer by trade and worked for several companies in cybersecurity and fintech before starting Webacy. She was listed as a Forbes 30 under 30 and shared a “fun fact”: She is a former professional acrobat who performed with Cirque Du Soleil.

Overview of Crypto and Web3

As an introduction, Isogawa mentioned three key points of blockchain.

1. Blockchain is decentralized technology that is immutable – There is no single central entity that decides everything. It is distributed, meaning there are multiple different nodes or operators with different network systems. It is immutable; what has been written in history is public and cannot be modified after its creation.
2. There are a variety of industries or verticals within Web3 and blockchain. For example, an NFT company could be purely community-based, technology-based, or venture-capital-based.
3. Communication has changed. We can see this in the movement from Web2 to Web3, where communication has shifted to not only new centralized platforms, but also decentralized platforms where the community members are actively receiving the benefits of their participation.

Types of Vulnerabilities in Web3

After discussing these three key points, Isogawa talked about the different vulnerabilities in Web3. In the first half of 2022, more than $2 billion of crypto value was lost due to hacks, scams, and other vulnerabilities. She went on to inform the audience that “Just yesterday, more than $2 billion of BNB (Binance’s native token) was stolen; so the loss of crypto value from vulnerabilities basically doubled overnight. That is kind of terrifying.” Crypto prices have dropped anywhere from 40-60% depending on the day and an estimated 20% of all crypto is lost forever due to loss of access or death.

These vulnerabilities fall into two main categories:
Category 1: Human error such as people forgetting passwords, being hacked, phished, etc. (95% of the vulnerabilities lie in this category).
Category 2: Infrastructure vulnerabilities such as Bridge draining, malicious actors in decentralized communities, data breaches, etc. This is from where most of the value is drawn.

What is Webacy?

Webacy's vision is to build a safer Web3 for all. They provide various products aimed at building safety and security, such as a backup wallet for loss of access or a panic button in case of a hack. Their products are completely decentralized, non-custodial, and follow a no-access policy, meaning they do not ask for passwords or private keys. Webacy offers a new system to use for customers' own private use, but their technology also integrates well into B2B businesses. Isogawa ended her talk by sharing how Webacy is currently in the seed stage and looking forward to their continued growth.

UiPath

Speaker: **Param Kahlon,** Chief Product Officer, UiPath

UiPath is a leader in robotic process automation (RPA) software. UiPath went public in April 2021 and currently has over $1 billion in annual recurring revenue. Their business is well distributed globally with their 10,000 customers.

Influencers on UiPath's Innovation

Much of UiPath's innovation was driven by their early customers' needs surrounding labor shortages. In this sense, Japan was a key market for UiPath from the beginning. The demographic shift happening around the world was more pronounced in Japan and impacted the Japanese economy and businesses first.

The Creation of a Digital Workforce

UiPath addressed labor shortages by creating a digital workforce that could mimic human actions and complete workflows and business processes. Kahlon provided an example by explaining the process taken to pay an invoice. Vendors send invoices for the work they have performed, a worker reads the invoices, extracts the necessary information, and inputs it into an accounts payable application for payment. It is a predictable pattern of work that can train a robot to perform these steps. UiPath's technology makes it very easy for any business employee to, in a low-code fashion, command the robot to complete the task. This core UiPath technology is called robotics process automation (RPA). Since the development of this automation system, UiPath has scaled it to various use cases. UiPath also uses straight-through processing to help re-route emails to the correct expert and respond promptly.

Journey with Japanese Customers

In 2018, Kahlon joined UiPath, and at the time, they had approximately $40 million in annual recurring revenue. Japan was UiPath's largest country in terms of revenue. In fact, Sumitomo Mitsui Banking Corporation wrote in its annual report about the value they derived from UiPath's technology. With UiPath, they saved over 3 million hours of human work. What UiPath automates not only impacts the saving of human capacity, but also impacts employee and customer satisfaction. For example, suppose a customer sets a 30-minute appointment with a financial advisor at SMBC. To prepare for the meeting, the advisor has to go to six different core banking platforms to pull up the customer's account information, print it, and review it. During this entire process, the advisor ends up spending 30-minutes preparing for a 30-minute meeting. After applying UiPath's technology to the system, however, a robot streamlines the process by confirming the appointment, suggesting cross-selling opportunities based on the customer's recent balance and transactions, and delivering the information to the advisor in a structured format. As a result, the advisor only spends five minutes preparing for the appointment. This not only saves time, but also fulfills employee satisfaction by adding value to the work they do. Much of the initial work towards improving their technology to make it scalable and secure came from working with their customers in Japan. Kahlon ended his discussion by stressing the continued importance of the Japanese market for UiPath.

Vouch

Speaker: **Sam Hodges,** Co-Founder & CEO, Vouch

Vouch is a technology-driven insurance platform that focuses on providing comprehensive commercial insurance solutions to emerging and high-growth companies. It was founded in 2018, serves thousands of startups and growth-stage companies and has raised more than $160 million in equity capital from leading investors.

Setting Themselves Apart From the Rest

What sets Vouch apart is their direct-to-business approach. They don't sell through independent agents or brokers. This means that Vouch utilizes their deep partnerships with companies such as Silicon Valley Bank, Y Combinator, Brex, Carta and other partners to build direct relationships with their clients.

Technology is another vital aspect of Vouch's success, and it can be categorized into three areas. The first area of technology focuses on the front end by simplifying the application and coding experience. For example, in under eight minutes, a prospective client can come to Vouch, permission data to them that allows Vouch to underwrite and rate across up to 13 lines of coverage. Vouch will find the correct limits, bind the policy and have it ready to start the next day. The second area of technology is managing all the complexities on the backend, such as document management and servicing of policies, in order to streamline the process. The third and final area of technology is using an analytics platform to ensure that Vouch understands the risks of the businesses they underwrite.

Serving the Innovation Economy Globally

In its early stages, Vouch primarily served early-stage startups. Now, Vouch serves a variety of companies, such as growth-stage companies and businesses in the life sciences, health and Web3 space. The addition of Web3 companies is relatively new for Vouch, and Hodges views this as a starting point to expand. Each year, technology and life science companies spend around $100 billion on commercial insurance globally. By laddering up their distribution, product and technology capabilities, over time Vouch will be able to service an increasing share of that market not only in the US, but in international markets as well.

Where Vouch Stands Today

To build a substantial and durable commercial insurance business, Vouch is focused on continuing their deep integration with partners and investing in their data and technology capabilities. Vouch has built its own proprietary policy administration system, which allows them to scale effectively and efficiently. On the insurance side, Vouch continues to broaden the capabilities they have with respect to their insurance products they offer and the systems and tools they use to underwrite and rate them.

Jon Shalowitz closed the session by asking Hodges about Vouch's plan to expand globally and his thoughts on the Japan market. Hodges mentioned that they are several years away from having the ability to launch a business directly in Japan, but they have had interesting partnership explorations with some large Japanese insurance groups. Vouch is strengthening their capabilities in areas where Japan has built market leadership, such as the health and life sciences sector, so Japan could be an interesting market for Vouch in the future.

Cloudbrink

Speaker: **Prakash Mana,** Founder & CEO, Cloudbrink

Cloudbrink is revolutionizing the way enterprises deliver services to end users. Cloudbrink's Software Defined Mobility (SDM) platform brings the in-office experience of connectivity, access, and security to the home and remote worker. Prakash Mana has built and grown two of the top five secure remote access products currently in the industry.

Transitioning to an In-Person Work Environment

Prakash Mana started by saying that when he speaks to Global CIOs, it is very clear the future of work relies on both people and technology innovation. Companies need to find new ways to engage with their employees and deliver an in-office experience for those who are working everywhere and anywhere. Since Covid and the rise of remote work, enterprises that are only familiar with an in-person work environment have been faced with a need for massive transformation. Productivity and employee satisfaction are becoming a big deal. Cloudbrink is focused on delivering that in-office experience and maintaining high productivity for remote workers.

Challenges of Working From Home

Working from "home" no longer only means working in one location; it can also mean working in surrounding cities or even in other countries. This aspect comes with three main challenges:
1. Companies have no control over the broadband connection
2. The broadband connection is shared with other members in the household and in the neighborhood, which affects connectivity.
3. How does a company take an existing structure and convert it into a true SaaS service that can be consumed anywhere and everywhere?

Building the In-Office Experience at Home

Mana pointed out that many companies are not approaching these challenges in the correct way. To provide an in-office experience at home, there are three elements companies should focus on: fast connectivity, access, and security. Cloudbrink compresses these three elements into an application, and once downloaded to the user's mobile phone, it becomes an intelligent SD-WAN router, deny-all firewall, and from then on, everything the user does will have a dark network's level of security. From an end-user point of view, employees receive an in-office experience and from an enterprise point of view, a higher level of security is delivered and the same level of in-office productivity is achieved.

Jon Shalowitz closed out the session with the same question on how Cloudbrink sees the Japan market in terms of expansion. Mana responded by pointing out that Japan is about 18 months ahead of the rest of the world in terms of hybrid work due to the implementation of flexible "telework" measures during the Tokyo Olympics. Because Japan is further ahead than the rest of the world when it comes to remote work, it remains a highly strategic market for Cloudbrink.

AiFi

Speaker: **Ying Zheng,** Co-Founder and President, AiFi

In this session, we learn how AiFi aims to completely revolutionize shopping and the payment process through their AI-powered platform for autonomous shopping.

Skipping the Lines

Ying Zheng started the session by asking the guests to raise their hand if they enjoyed waiting in checkout lines. A demonstration of the AiFi platform was shown through a video of a customer starting their shopping experience by scanning the application on their phone at a turnstile or kiosk as they entered the store. The AI system tracked the items the customer placed in their shopping bag and automatically generated a receipt as they exited the store without the need to wait in a checkout line.

Improving Profits by 2X-3X:

AiFi aims to improve company profits in two ways. First, by increasing overall revenue. AiFi achieves this by improving the shopping convenience for customers through autonomous check out, implementing longer hours of operation up to 24 hours, 7 days per week, and reducing stock outages. Secondly, the ability to run shops more efficiently would lead to reduced costs. Customer shopping behavior data can be collected to offer more personalized shopping through the sale of products precisely matched to location and customer demographics.

By fully digitizing an offline store just like an ecommerce platform, shops are expected to increase their profits by 2-3X. Zheng provided an example from an NFL store in a stadium where customers typically wait in long lines during their short, limited breaks throughout the game to purchase merchandise. With the AiFi platform, shoppers walk in, grab their merchandise, and return to their seats in a few minutes.

Growing Global Footprint

AiFi has collaborated with over 18 retailers throughout the world. They are currenting working with three of the top six European retailers and three of the top 10 U.S. retailers. In total, these retailers are making $500B in combined revenue, which is twice Amazon's size.

Over 80 stores are using AiFi's platform primarily in the U.S. and Europe, China, Australia, and Japan. AiFi launched the first autonomous store in Japan with the Cainz Corporation, a home improvement chain, and they have opened over 50 stores with the Zabka Group, a convenience store retail giant in Poland, making them the largest chain of autonomous stores in Europe. The largest store supported by AiFi's platform is 7,000 square feet from the UK's fifth largest supermarket chain, Aldi.

Microsoft has selected AiFi as one of their top six strategic partners because they've never seen another company penetrate into a retail chain more deeply and scalably. With their technology improving year after year, AiFi will gradually expand their autonomous store footprint.

Generating Data Through Computer Simulations

Zheng compared AiFi's approach to Tesla's when it comes to generating data. While many autonomous driving companies focus on sensor fusion, Tesla produces data through the use of cameras. AiFi takes a similar approach, which is powered through their computer vision technology. AiFi uses an infinite amount of computer generated-data complemented with their real data to simulate shopping habits. Different 3D conditions are replicated, such as various shopping behaviors, varying numbers of customers, different lighting conditions, and assorted product materials, to provide data to train their AI.

Jon Shalowitz, President of the SVJP, closed the session by asking if AiFi's platform allowed retail pop-up locations in places where it was previously impossible. Zheng responded positively, providing examples of stores in stadiums, residential neighborhoods and office spaces where traditional convenience stores and supermarkets have found it difficult to open, which are now up and running with the help of AiFi's advanced AI platform.

Eargo

Speaker: **Christian Gormsen,** CEO, Eargo

In this session, Christian Gormsen sat down with the SVJP to share how Eargo is changing the way the world thinks about hearing health by simplifying and improving the consumer experience. Through their top reviewed, medical grade hearing aids, users are able to hear life differently.

Unmet Need

After spending most of his career in the technology hearing aid and audio space, Gormsen joined Eargo because he felt there was a large unmet need. Hearing loss is a natural condition tied to aging, yet studies show it may contribute to cognitive decline including dementia. Gormsen shared that the most important input to our brains in terms of staying fresh is through our auditory system. In the U.S., there are more than 45 million people with some form of hearing loss. The hearing aid industry is heavily regulated and restricted with audio care administered through clinics that take a lengthy appointment process to access. Only 25% of those with hearing loss are doing something about it. That means 75% of people who would benefit from addressing their hearing loss are not doing anything about it. Why? Because care is difficult to access and navigate, is expensive, and there is a stigma attached to wearing hearing aids.

Addressing the Need

The solution at Eargo addresses mild to moderate hearing loss, which makes up 94% of the prevalence. Eargo designed hearing aids that integrate modern technology and an updated business model to set them apart from traditional hearing aids. They are virtually invisible, comfortable and non-occlusive, but still satisfy all medical regulations. In addition, they are rechargeable and enabled with bluetooth, less expensive, and vertically integrated with their direct-to-consumer model.

Staying Competitive

When Eargo launched in 2017, they realized that to compete in the device space, continuous innovation was imperative. They executed an annual cadence of new product introductions. With every iteration, the improvement of performance, fit and comfort has been emphasized. This year they launched Eargo 6.

The traditional path to receiving hearing aids is a lengthy process through clinic appointments, referrals, and distribution dependent on doctors. Eargo's online model is simple, convenient and empowers the users to take control themselves through their direct interactions. They provide online hearing screenings and offer personalized, live remote support through their call centers and video centers. By providing automated interactions with customers and partnering with hearing professionals, sales consultants, and retail outlets, Eargo is building awareness by bringing people together on the journey of hearing loss.

CAN

Speaker: **Ahmad Alghazi,** Founder & CEO, CAN

Session 2 concluded with an overview of CAN, a startup manufacturing smart canes with the mission of advancing human mobility. Ahmad Alghazi shared how CAN's end-to-end solutions help people stay independent longer and make the caring process more efficient.

Personal Foundations

Alghazi began the session by candidly sharing the personal circumstances that marked his entrance into the tech and mobility field. His grandmother experienced a hard fall which led to a severe drop in independence and escalating mobility needs- first a cane, to a walker, and ultimately a wheelchair. Witnessing these difficulties, Alghazi looked for solutions to help with her expanding care needs, including building a robotic device to assist with sitting, standing, and walking that would earn him a victory on Stars of Science, a Qataran reality TV show.

Mobility For All

Through these experiences, he discovered the huge breadth of elderly and mobility issues in the U.S. and how innovative technology can be used to fill the gap in care. CAN focuses on three main categories of mobility needs users:

1. Seniors- those who have imbalance due to old age. A $50 billion problem/year.
2. Chronic conditions- those who have constant and often progressive conditions,for example, Parkinsons or osteoarthritis.
3. Recovery- those who have experienced a procedure or accident that requires rehabilitative support.

Three Layered Solution

Alghazi asserted that the cane has been used for centuries, yet has remained under-innovated, changing little from its initial conception. CAN's modernized take on the cane: Can Go, is a smartcane which incorporates a "3 layered solution" to mobility issues.

1. Removing stigma: CAN partners with human-centered design expert Don Norman to create a product that is stylish and destigmatizing
2. Safety: Can Go's features center on safety, including a flashlight, two way voice calling, GPS, and health reports
3. Personalized mobility training: Can Go's application offers classes and trainings to fit individual underlying needs, such as tai chi classes for balance and stability

Eastern Expansion

Moderator Jon Shalowitz concluded the session with the key question of expansion: Does CAN intend to move towards the Japanese market? Alghazi's answer was a resounding yes. With Japan's declining birth rate and aging population, CAN sees Japan as an extremely important market that they plan to enter with the support of the right partner.

October 7

ServiceNow Site Visit

Welcome Remarks- Chris Bedi, CDIO

The Site Visit to ServiceNow, one of SVJP's new Charter U.S. Corporate Members, began with Welcome Remarks by CDIO Chris Bedi. Bedi welcomed the visiting SVJP Retreat participants and noted the shared values of SVJP and ServiceNow: making work work better for everyone. Bedi set the tone for the visit by recognizing the diverse range of industries and experts present in the room, and invited visitors to actively participate in the session for an ultimate learning opportunity.

ServiceNow Origin Story and Platform- Dave Wright, CIO

Dave Wright, ServiceNow CIO, described ServiceNow's history and how it maintained its core values throughout its expansion. ServiceNow began as a small team of engineers led by ex-Peregrine Systems CTO Fred Luddy, who would go on to become the first ServiceNow CEO. As the company grew, founder Fred Luddy would step down for other CEOs to take the reins. With each executive transition, ServiceNow was careful to hire the right CEO to fit the company's current stage of development. Every CEO had a different focus that was needed to get ServiceNow to the next phase of growth. Throughout these transitions, ServiceNow's core values have remained consistent: allowing for innovation while honing execution; delivering customer success; embracing diverse teams; staying humble and motivated; winning as a team; and enjoying the journey.

ServiceNow has also stayed true to its roots from a technology perspective. Its cloud platform foundation and configuration maintains many of the same features and goals that were developed at the very start of the company. At its core, ServiceNow creates a unified workflow that is more natural to how teams interact. With ServiceNow's platform, teams can stay connected and informed on deliverables even as they move through different departments. This streamlines processes and connects all the workflows that hold up the company. In the last few years, ServiceNow has been building off these fundamentals with intelligence-centered enhancements, such as machine learning and robotic process automation. In every step of optimization, ServiceNow ensures the structure of their product remains as simple and accessible to users and employees as possible.

Wright picked out some examples of customers and what they have accomplished with ServiceNow: Retailers such as H&M and REI have used change management processes to open new physical stores; gas and electric companies use the platform to manage all the events from their gas and electric pipelines; banks use its services to manage risk and compliance; food vendors are able to coordinate their food supply chains. ServiceNow is able to support a variety of industries due to the fact that there is a commonality in what each company needs to function, and ServiceNow can build an area of the platform to meet these requirements.

Lastly, Wright described two of the key steps of creating an optimized consumer experience. The first core concept is “hyperpersonalization.” Through hyperpersonalization, users are provided with exactly what they want, when and how they want it. The second step is “hyperautomation.” Hyperautomation, such as Amazon’s purchase format, allows consumers to have a very simplified experience. Wright predicts this hyperautomation will continue to expand as AI transforms and enhances automatic processes.

Company Vision and Direction- Chris Bedi, CDIO

As CDIO, one of Chris Bedi’s main responsibilities is meeting and managing ServiceNow’s consumers, which include 85% of the Fortune 500 companies. Bedi shared the key digital transformation trends he has found through his customer interactions. The first trend is technology excellence. Overall, companies are focused on being excellent at technology in order to accelerate the pace they are able to provide iterations to their customers. The second trend is customer experience. Customers demand a more digital experience, and companies are racing to meet this demand. Thirdly is operations excellence. In every industry, manual processes are present, but leaders are intent on making these processes faster, more efficient, and more automated. The final trend is talent management. Being able to find, retain, and develop talent is one of the biggest challenges throughout all sectors. This includes making sure every employee in the company receives more technical and AI training.

Bedi dove deeper into the concept of digital transformation by defining it with 3 key features: velocity, intelligence, and experience. Velocity relates to increasing the speed of processes and deliveries, which provides an essential competitive advantage in any industry. Intelligence allows the leveraging of company data into AI driven insights that can go on to drive action. Lastly, experience means giving your consumers, employees and partners an incredible experience. Bedi emphasized that these 3 features are the main framework of digital transformation, while cost and revenue are simply a byproduct.

Bedi asserts that the best way to achieve digital transformation is to make digital transformation measurable. ServiceNow created its own four stage model of measurement. The first section is manual: the phone calls, manual reporting, and fragmented data in a company process. The second step is automated: automated routine tasks, basic efficiency KPIs, and online portals. The third section is transformed: individualized mobile first experiences, transparent and automated processes, and real-time predictive analytics. The final phase is digital: a completely machine managed process, self-learning machine intelligence, and individualized platform actions with proactive executing work.

Once a company has a framework of measurement for digital transformation, it can track and manage its progress by concentrating on specific goals of value. The first foundational layer of value is the operational progress goals such as “60% faster employee onboarding” or “200,000 HR cases self-serviced.” These are the goals which employee teams can focus on to track their success. The middle layer are functional missions, for example “86% self-service for all HR requests.” Department heads can be held accountable for reaching these functional goals. At the highest level are revenue, customer satisfaction, and employee satisfaction goals such as “$72M employee productivity gain through automation investments.” These enterprising goals are managed at the executive level. By defining the value of digital transformation at each level, every part of the company will be aiming for effective digital integration.

By making top–down goals, holding leaders accountable, and highly defining what digital transformation means to your company, effective digital transformation is possible. Bedi encouraged leaders to especially reflect on what percentage of their companies' processes are self-serviceable. Getting to 50% has a material impact on their gross margin, productivity, and customer satisfaction. As an example of the effectiveness of measurable, value-driven digital transformation, Bedi shared ServiceNow's own success. ServiceNow maintains some of the highest growth and operating margins in its industry, with over half a billion dollars in economic benefit from digital transformation progress and a customer self-service resolution of 77%.

Project Limitless- Jim McCready, General Manager, ServiceNow Japan

Next, McCready introduced "Project Limitless," ServiceNow's investment strategy into Japan. Japan represents ServiceNow's #2 market opportunity globally in terms of potential. Japan is also at a tipping point for digital transformation, with public and private interest generating strong momentum. However, Japan was ranked last in digital competitiveness amidst the other analyzed countries. When this information was presented to the executive suite at the start of ServiceNow's entry into Japan, it was met with massive interest and determination to go "all-in" in Japan. A television ad was immediately created, which brought customers and partners who were impressed by ServiceNow's wholehearted commitment to Japan.

Project Limitless describes ServiceNow's goals aiming to better serve Japan. This includes boosting their brand recognition in Japan with advertising and events, localizing their product and library of 300+ solution related contents. In addition, Project Limitless supports customer re-skilling through programs and services and continues to build an ecosystem of executive partners, as seen in their Global Advisory Council.

Japan is a blank canvas for ServiceNow, with tremendous potential and at a crucial time in digital development. McCready concluded his talk by stating ServiceNow's clear mission in Japan: to put Japan at the top of the digital competitive list where it belongs, which in turn would make their customers successful, make their partners successful, and create immense potential for Japan as a whole society.

CEO Dashboard- Vijay Kotu, SVP of Data and Analytics

In the final section of the ServiceNow site tour, Vijay Kotu demonstrated one of ServiceNow's key onsite features: their CEO dashboard. The wall-length interactive dashboard displayed the workflow data used by ServiceNow executives to manage processes as they move through different departments. In each workflow, executives can zoom in to see metrics on speed, productivity, and risk to understand where bottlenecks are happening and what recommended actions should be taken. However, ServiceNow's platform and dashboard are not only useful for executives examining high-level metrics. Each level of management and each department is also able to see and manage the key workflows and data that are most effective for them to focus on and understand. This can also be applied outside the company by selecting the most important workflows to zoom in on and send to the board of directors. Viewing the CEO digital dashboard allowed retreat participants to visualize exactly how ServiceNow's products can be utilized as a powerful team management and analytical tool.

October 8

[Session 3] Global Value Chains in a Changing World

Speakers:
Karn Budhiraj, VP Supply Chain, Tesla
Takayuki Morita, President & CEO, NEC Corporation
Naveed Sherwani, Chairman, President & CEO, RapidSilicon

Moderator:
Greg Caltabiano, Operating Partner, HGGC

This panel examined the way that rising tensions with China are affecting global value chains. Global value chains include supply chains, as well as markets, technology partners, access to pools of engineers, and research centers that contribute to a company's product.

From Leveraging Interdependence with China to Viewing Interdependence as a Risk

Greg Caltabiano began by providing the geopolitical context for panelist presentations. Since the 90s, companies successfully leveraged the rise of China. As a result, global value chains became incredibly intertwined with the Chinese economy. From 2016, concerns about the riskiness of this interdependence began to grow within the West and Japan. Over the past 18 months, such concerns intensified and spread to Europe, thanks to the following:

1. Heightened sense that China is serious about and capable of taking Taiwan by force
2. Continued U.S. tariffs on China– a rare area of bipartisan accord in Congress
3. Covid, and China's reaction of shutting down entire cities critical to global supply chains
4. China's announcement of its "Made in China 2025 program"
5. Extreme export, IP & transfer controls introduced by the U.S. and others

NEC: Shifting Away From Just-in-time to "Just-in-case"

NEC prioritized cost optimization through JIT (Just-in-time) systems and other practices that squeezed out redundancies to enhance efficiency. Now the priority is on business continuity, resilience and adaptivity through "just-in-case" planning. There must always be a second source of supplies and a second or third location. This is the biggest change from the past.

Focusing on contingencies adds ST costs but is cost-effective in the LT. Digital technology can be employed to manage the additional complexity and optimize configurations. Less centralized value chains translate into decreased global efficiency and a higher cost of living. But, this may be the most efficient model for the future.

Tesla: Localization Strategies to Mitigate Risks

Comments from Karn Budhiraj have been redacted.

RapidSilicon: Supply Chain Disruptions Mean Higher Prices of Semiconductors

Naveed Sherwani emphasized that the story of semiconductors is one of incredible cost-cutting over time by making the manufacturing process more complex. For the past 60 years, the cost of a semiconductor has been cut in half approximately every two years. This has made products containing semiconductors affordable to people all around the world. But, the increasingly complex process led to a decrease in the number of vendors interested in making each component part. Today we have a process with 200 steps and only 2 vendors per step. It is not easy to replace a vendor because of the extreme complexity of what they do.

Sherwani also noted that the semiconductor industry developed to where it is today through international collaboration. Cobalt comes from three countries in Africa, while other elements come from Ukraine and elsewhere. If we undo this international collaboration and disrupt the China-centric portion of the supply chains, we cannot keep reducing costs. The price of semiconductors and the products that contain them will increase.

Sherwani predicted that disruption in the form of a shock– such as China's taking back of Taiwan– would not be catastrophic. However, it would come at an incredible cost and slow down production. He predicted that it would take half a decade to a decade to duplicate locations and expand manufacturing capacity at those locations. In the global value chain, disruptions involving the hardware factories are magnitudes more complex to manage than any others, such as disruptions in the design process. Ukraine has many design engineers but they were able to be relatively mobile and move to the safer west of Ukraine and resume work from there.

From Lowering Costs to Increasing Resilience

Reducing dependence on China in global value chains is extremely difficult. It will require time and be expensive in the ST. Companies will have to embrace ST inefficiencies to gain LT resilience.

[Session 4]

Web3/Cryptocurrencies/NFTs: Tools for a Decentralized Future

Speaker:
Harper Reed, CEO, General Galactic Corporation

Moderator:
James Higa, Founder & Managing Director, Offline Ventures

In their free-flowing discussion, James Higa and Harper Reed provided a vision of where Web3 could go. Web3, currently a work in progress, is a decentralized online ecosystem built on blockchain. They argued that innovations stemming from Web3 will be more profound than Web2 breakthroughs such as e-commerce and social media. In Web3, the combination of a distributed, content-based file system, new programming language, and token-based verification will lead to many novel applications that will change the way we interact with our property and each other.

Enriching Identity: Verifying and Computing Not Just Who You Are But What You Own

Reed argued that tokenization will be a game-changer: identity and ownership will allow clients to exercise property rights over their assets in more secure, efficient, and novel ways. Today's client property rights are limited by the aggregate ownership structure used by most financial institutions. The financial institution has control over client assets, and clients must trust that their intermediaries are working in their interest. This is because today's technology necessitates segregated asset custody, which is expensive and cumbersome. Most client assets are held in omnibus accounts of financial institutions. Consequently, clients only have an indirect claim on the aggregate account instead of maintaining direct ownership of their assets. The client's ability to buy, sell, lend, or pledge those assets is limited by the capability of the financial intermediary. As a result, the client's transactions are restricted to their provider's ecosystem. Such an arrangement also complicates bankruptcy proceedings, as evidenced with the Lehman Brothers bankruptcy, where portions remain active 15 years after declaring bankruptcy.

Web3 will allow clients to have more control over their assets. Existing financial service companies will need to respond with lower fees and new services or risk losing clients. While complex transactions like home or vehicle purchases should become much more transparent, Higa and Reed emphasized that the greater change will be felt in everyday transactions, which will be simplified with crypto transactions.

Crypto Ubiquity: Ease of Use Will Drive New Use Cases

Reed sees JR East's Suica Card and its ubiquity as the embodiment of a robust settlement system. Unlike other transit systems where funds are trapped in the transportation system, the Suica card is an access device for a digital wallet. It can settle transactions across a wide range of vendors, and its IC reader capability settles transactions faster than cash or other payment systems. Once systems like Suica are able to transact in stable coins, their access to new customers will grow and they are likely to develop new services.

Higa and Reed predicted that Web3 could provide matching and transaction services superior to the current state of the art. Yet, they do not foresee such services rendering today's financial system obsolete. To achieve widespread adoption, stable coin crypto currencies will need to build bridges with existing payment structures and become part of mainstream payment activity. They believe this could happen within the next five years, with regulatory clarification in areas such as collateralization, capital requirements, and operating licenses. Regulatory compliance that safeguards participant security is also key to widespread adoption, as is a strengthened sense of legitimacy surrounding stable coin crypto currency transactions.

Making Current Notions of Trust Obsolete

Higa and Reed made the argument that Web3 technologies will provide a way to make our current notions of trust obsolete. We currently must trust providers to manage our assets appropriately in their omnibus accounts. But we will soon be able to verify exactly how our assets are being used. Once that verification capability is achieved, the longstanding principle of "trust and verify" will be turned on its head: because we can easily verify actions, there is less need to trust our counterparty to deliver on its promises.

Higa and Reed referred to this new state as one of "trustlessness" and pointed to Sushi.com as an example of where this principle prevails. The decentralized finance platform (defi) provides a variety of financial transactions totalling over $230Bn. Yet, most of the individuals that develop and maintain the platform remain anonymous. Their clients are comfortable with a level of "trustlessness" with the platform because the technology and the transactions are transparent. In addition, clients can easily shift their business to another platform. In this way, trust shifts from something that is developed between counterparties to a community value that increases with new use cases and greater transaction frequency.

Promising Areas for Product Growth

Reed noted that market participants will have more freedom to choose the parties with whom they wish to interact, once direct ownership is maintained and data becomes more accessible. This choice of who to transact with extends beyond the financial intermediary level to the ultimate counterparty. Thus, the scope of interaction may widen even while relationships deepen. For example, the concept of payroll is already undergoing a transformation under Web3, with compensation now possible in cryptocurrencies. The form, duration, and structure of payroll may also evolve so that workers are able to better see how their wages align with their productivity. The payroll function could become more like a capital structure exercise, as workers are able to request compensation in a myriad of instruments that are tailored to the expectations of both employees and employers.

Higa explained that forms of ownership that were previously possible for only the largest projects are now feasible at a much smaller scale. Through NFTs (non-fungible tokens), creators could retain residual participation in the economic interest of their work. While these concepts are currently used in large scale creative works such as motion pictures, the complex accounting becomes transparent and seamless with NFTs. Higa also believes that new industries will generate a virtuous cycle of innovative products and ownership

structures. Creative content could be owned by many different parties, like stock in a public company. For example, minting is a form of distributed ownership that allows multiple instances of digital content to be manifested across multiple locations and times and still have provenance that would tie back to the original creation. Concepts like these will inevitably evolve as the use case, technology, and consumer preferences evolve.

Applications such as customer relationship management (CRM) may also be disrupted by Web3. Identity could be defined and verified not just by property but by experiences, preferences, or any manner of qualifiers that the subject chooses to encode. Facets of identity could be actively managed so that users maintain privacy with some participants and wider disclosure with others. Between the distribution of funds from one source to many (charitable grants) and accumulation of funds from many sources to one (crowdsourcing), new contracts may emerge that are more closely aligned with what people want to do with their property.

Building a Wide Community Will Be Critical to Development

Both Higa and Reed expressed excitement about the scope and scale of change that lies ahead. Regulations and regulatory institutions will be critical to the process. Yet, communities will ultimately lead the way, developing the technology through a process of informed consensus.

[Session 5]

Future of Work: Attracting, Maintaining and Training Talent

Speakers:
Mika Nabeshima, CDIO, Tokio Marine Holdings
Jodi Rabinowitz, Head of Talent and Organizational Development, Zoom
Kristine Kawai, Global Director of DEI Solutions, Amazon

Moderator:
Betty Sue Flowers, Professor Emerita, University of Texas at Austin

The Covid19 pandemic led to a surge in the number of people working from home. This bilateral panel of experts shed light on how this shift, together with technological innovations, has changed the work dynamic within firms and the ways that companies attract and retain talent.

Shift to Working From Home

Remote work options preceded the pandemic for many companies. However, in Japan, peer pressure to show up at the workplace and suspicion that those working from home might be slacking off meant very few actually worked remotely until a state of emergency was declared with the onset of Covid. Employees in the U.S. and Japan quickly came to prefer working from home during the pandemic. No time spent commuting meant better work-life balance. Even if one worked long hours, one had more control over when to do that work. Surprisingly to some, productivity did not suffer.

The Zoom Effect

Greater connection and intimacy. On Zoom, everyone is invited into the homes of colleagues and sees others' family members or pets. And, the accidental– the barking dog or crying child, for example– becomes the background. Moreover, the extent of the pandemic crisis brought a shared vulnerability that made it more acceptable to express emotions and seemed to amplify the depth of caring among employees.

Greater inclusivity in meetings. Studies show that 70% of women are likely to be talked over. In a Zoom meeting, the technology requires that one wait for a person to first stop talking before another can begin. The raised hand and chat features of Zoom also contribute to greater inclusiveness. Those who would not have expressed views verbally can still provide input via chat.

Changed hierarchical dynamics. The chat function has the additional effect of permitting many layers of communication during meetings: individual chats can take place alongside general chats directed at the entire group. Because they are remote, managers can also be closer to the people, meeting more easily with more employees.

Enhanced training opportunities. In the past, global learning and development was costly and often restricted to executive level employees. Now that training can be done around the world without spending resources or time on airline travel, companies can expand training opportunities for junior level employees.

Promoting Diversity and Inclusion

At Tokio Marine, recognizing and celebrating differences and ensuring that employees have their voices heard is key to keeping people engaged. It is also critical to being the employer of choice. Amazon uses technology to build diversification and inclusion into its hiring process. Job bias decoder tools ensure that job descriptions welcome all suitable applicants while a bot screens resumes. The evidence shows that the bot, once trained, recruits more diverse candidates than do humans.

Attracting and Retaining Talent

Driving purpose through the organization. Reminding employees of the organization's purpose and how their work aligns with this purpose helps employees find meaning in their work. And, employees who feel that there is meaning in their work tend to stay rather than look for jobs elsewhere. While Zoom was created for enterprise, the company became the epicenter of keeping the world connected during the pandemic. This mission led to a dramatic increase in hiring and attracted much talent. Tokio Marine drives its purpose through the organization by providing opportunities for those working in areas such as finance to spend time at the site of catastrophes and witness how casualty insurance helps their customers rebuild. Amazon's customer obsession permeates corporate culture and the company has in place many mechanisms that drive this home. For example, everyone "works backwards" from the customer, so product requirements are written in the form of a press release.

Guidelines instead of rules. Rigid return to workplace rules may lead to difficulty in retaining employees. While many tasks can be conducted remotely, other tasks may require in-person meetings. When creativity is the priority for example, the best results may be produced by having everyone physically in the same room, where people are talking over each other.

Heightened priority on mental health care. The number of individuals reporting symptoms of anxiety and depression increased 3-fold in 2020. There is an expectation that managers need to be asking how people are and how they are feeling. And, with more remote work, some workers may need help with boundary management. Companies that do not invest in greater mental health resources for employees will find their workers going elsewhere.

[Session 6]

Accelerating Digital Connections Between the U.S. and Japan

Speaker:
Kono Taro, Minister of Digital Affairs of Japan

Discussant:
Bill Bradley, Managing Director, Allen & Company

Moderator:
Dan Okimoto, Co-Chair, Silicon Valley Japan Platform

In this session, Taro Kono gave a virtual presentation on the Digital Agency's work overseeing Japan's digital transformation. Dan Okimoto, introduced Kono by underscoring the urgency of his task: while Japan is the third largest economy in the world, the country ranks only 28th in the world in digital competitiveness. Bill Bradley engaged in dialogue with Kono following his presentation.

Sweeping Out Analog Technologies and Merging Disparate Computer Systems

Japanese companies such as Sony, Canon, Honda, Nintendo, Panasonic, and Toyota enjoyed global dominance through the 1980s, powered by analog technologies. Government procedures requiring the use of paper, fax machines and floppy discs also became entrenched in this period and have changed little since. Over the next 2 years, the Digital Agency must sort out thousands of regulations and bring government procedures in line with digitalization.

A similarly daunting challenge is faced in dealing with the 1,741 municipalities across Japan that developed disparate computer systems. Under the current situation, any amendment of the tax codes or social security rules requires each municipality to make changes. Moreover, privacy protection rules vary across municipalities, complicating data sharing. The Digital Agency will migrate those local systems onto the government cloud by the end of March 2026 and pass a law to supersede local privacy rules.

Three Areas of Digital Transformation

1. <u>Creating better, more user-friendly government procedures using digital technology.</u>

A national ID card containing a chip is to be the digital foundation of residents' daily lives. The Agency plans to install this ID card onto smart phones so that residents can conduct government business without needing to travel to government offices. In the future, the Agency also plans to merge the ID card with the national health insurance certificate, driver's license and immigration certificates for foreigners. Using the national ID card, overseas Japanese should be able to vote online in the next national election. These cards will also make it easier for the Government to meet the needs of the people at times of national disaster.

2. Leveraging big data for policymaking and business growth.
The Agency seeks to create rules and an environment enabling the government and private sector to analyze and leverage big data collected through digital technology. This would lay the foundation for more effective policy making and support business growth. The Digital Agency will also work together with the Health Ministry and the medical industry to develop systems to extract health data for analysis that, in turn, should lead to healthcare advances. Currently many doctor offices and clinics utilize a digital medical record system but such systems are not yet standardized.

3. Global rule-making.
Next year, Japan will host the G-7 meetings. Since the late PM Abe proposed DFFT (Data Free Flow with Trust) at Davos in 2019, the importance of this concept has been shared at many international conferences. It was endorsed by leaders at the G-20 Osaka Summit and promotion of DFFT is one of the major topics on the agenda for the G-7 Hiroshima Summit. The Digital Agency intends to make a concrete proposal to establish a digital alliance.

The first step in promoting the free flow of information is to bring transparency to regulations, systems and other instruments related to data flows. Everyone needs to know which countries operate on what rules. Then, discussions need to focus on ensuring the free flow of data across borders. Many governments have already established their own data protection rules, but the emphasis placed on privacy vs the easy use of data varies across countries and regions. While it may be difficult to persuade China or other authoritarian regimes to adopt western privacy practices, countries with more similar political and economic systems may be able to unify their practices.

Changes in Educational System Needed to Support Digital Transformation

Helping to build a better educational system fit for the computer age may be one of the most important tasks for the Digital Agency. The educational system needs to produce greater numbers of IT specialists, as the shortage of IT engineers at present hampers the digital transformation. Japan also needs to change the education system so that all students obtain a degree of understanding of digital technology. The number of undergraduate students taking any computer science classes has barely increased since the 20th century. This must change.

Kohei Itoh, President of Keio University, shared the measures that Keio has produced to date in response to the needs articulated by the Digital Agency. The University offers elective non-credit courses taught at the end of the normal academic day by undergraduates capable in AI and programming. Recently, a total of 7,000 students– a quarter of the student population– took those courses. Keio is also now discussing the need to establish a minor in computer science so that students in the humanities and social sciences are able to pursue the field they are passionate about while at the same time receiving practical training. Itoh noted that faculty in literature and philosophy complain about declining numbers of students in those fields. So, adding a computer science minor may stem this outward flow of students from the humanities.

Strategy for Countering Inertia

The Digital Agency has the legal authority to require compliance with its digitalization measures. However, it prefers to focus on a strategy of education and persuasion, seeking to highlight the ways that its work will make life easier for individuals, the private sector and the bureaucracy.

More than 25% of Japan's population is 65 years old or older, so addressing this population is especially important. The Digital Agency has signed up more than 20,000 volunteers to teach older Japanese how to use smartphones and other digital technology. During Covid, more elderly began to realize the benefits of smartphones for staying in communication with families even if physically isolated.

In the bureaucracy, ministries and agencies are accustomed to operating on their own and are reluctant to change their methods. However, the Ministry of Agriculture is moving forward rapidly with its shift to digital technology. So, the Digital Agency will showcase that ministry's progress and encourage other ministries to follow in its footsteps.

On the international stage, the US and Japan are working together to demonstrate the benefits of smoother data flowing across borders for research purposes. Privacy is especially important when peoples' activities are used for data analysis. Approaches such as Privacy Enhancement Technologies (PET) could be effective in convincing Europe to move its system closer to that of the US and Japan.

October 9

[Session 7] **Quantum Technology and Its Global Impact**

Panelists:
Kohei Itoh, President, Keio University
Hideo Mabuchi, Professor of Applied Physics, Stanford University

Moderator:
Kazuhiro Gomi, President & CEO, NTT Research, Inc.

Kazu Gomi introduced the session by noting that quantum computing has been around since the 1980s but today is attracting more attention and funding than ever.

Discovering Quantum Capabilities at Keio

Kohei Itoh gave an overview of quantum computing research at Keio University. Keio hosts an IBM Q Network Hub, which Itoh founded in 2018. The site has access to IBM's quantum computer in New York. While IBM focuses on increasing the power of the quantum computer by introducing a new chip (called a qubit) every 2 months, the Keio side writes software giving the computer tasks to perform.

The project utilizes private financial and human capital from a consortium of eight Japanese companies representing the finance, chemical, electronics and automotive industries. Founding members MUFG, Mizuho, JSR and Mitsubishi Chemical work alongside newer members Sumitomo Trust Bank, Sony, Hitachi, and Toyota. Each company contributes funds as well as personnel, sending their top scientists to serve as part of the Hub staff. Meanwhile, IBM posts scientists to Keio for the project.

The corporate partners introduce a range of problems that might benefit from a quantum approach. For example, in finance, the search for *unintuitive* correlations between stock prices of different companies necessitates working with a massive data set: the stock price of each company must be checked with that of every other on the stock market. The number of combinations in such an analysis would take conventional computers too long to sequentially analyze. However, quantum computers can theoretically perform all of these calculations in the future simultaneously.

Keio's project is still experimental, trying to validate questions in an iterative process of collaboration between those doing basic research and those writing applications. Classical computers remain superior at performing every possible task. However, Itoh argued that progress is being made because the IBM quantum computer's performance is doubling annually. Based on this progress, Itoh believes that the calculation component of quantum computing may prove superior to the current state-of-the-art supercomputers by 2026. Calculation is only one of a number of tasks that must be resolved before quantum computing can ever be employed to tackle real-world issues, however. Transferring data into a quantum computing framework and extracting the output in a usable form are additional challenges that must first be resolved.

Itoh conceded that there may only be a handful of problems for which quantum computing is valid. Fields that mimic quantum (the very building blocks of nature)-- such as DNA folding and atomic level chemical reactions– are those most likely to benefit from quantum analysis. Today's quantum computers are still primitive and the development community for quantum computing still nascent. For example, today's middleware solutions are likely to be "stepping stones" for successor languages that will have greater utility.

Challenges of Quantum Computing

Hideo Mabuchi argued that the fundamental challenges with quantum computing today remain the same as those that were known when quantum computing was envisaged 25 years ago. The concept of a qubit is mathematically elegant but impossible to perfectly replicate in the physical world, just as representations of a perfect circle in the real world are imperfect. In his circle analogy, current quantum computers are more like pizzas than CDs in approaching qubit form; yet, current research assumes a level of precision in the hardware, far beyond what is physically possible to build today. He suggested that research should focus on what can be done with our imperfect representations rather than assume that we will eventually progress to develop a perfect qubit. In this way, Mabuchi argues that the concept of a qubit may be holding back quantum computing today.

Mabuchi also alluded to other unresolved challenges with quantum computing when he pointed out that "an object in motion stays in motion" is not true in the real world. A soccer ball can be stopped by other forces acting on it and quantum computing must also address forces interfering to realize the computational efficiencies hoped for. A further practical challenge is how to take advantage of quantum computing results. In quantum memory, calculations are processed simultaneously but the quantum computer cannot read all of the answers. So, it selects one answer at random. Although Mabuchi conceded that cracking RSA cryptography with Robert Shor's algorithm is one real-use case for quantum computing, he struggled to find another case where the approach seems appropriate.

Because these fundamental challenges remain in quantum computing, Mabuchi argued that investments in *very basic research* could be the most impactful in the long-run. In his view, the field is now running too fast without considering carefully enough which direction to go in. He places the blame for this on marketing strategies of large corporations, behavior of investment firms and a lack of understanding about quantum computing in government agencies.

Mabuchi emphasized that the *ideas* surrounding quantum computing are extremely exciting and have led to a great deal of new knowledge about ways that physics and computer science interconnect. The new attention that quantum computing brought to the field of applied quantum physics contributed to the Nobel Prize being awarded in 2012 and 2022 on related topics. He foresees important new ideas emerging in the future out of this flow of information from physics into computer science but acknowledges that we are still waiting for a central breakthrough.

Building the Right Organization and Goals for Quantum Discovery

The speakers were skeptical of large national initiatives pushed by politicians, where top-down goals focused on increasing computing power. Instead, they argued that progress ahead will be found in an iterative approach, where applications can inform basic research and vice versa. Moreover, they agreed that collaboration across disciplines is important; a cross-section of application scientists, physical scientists, and computer scientists loosely working together is likely to be more fruitful in the long run. And while quantum computer architecture differs completely from that of supercomputers, the underlying material science is shared in common.

Start-up Potential?

Despite the seeming mismatch of quantum computing timelines with those of start-ups, the speakers suggested that there is room for entrepreneurship in the quantum computing field. This is because of the many different avenues of potential exploration and the general sense of optimism about the field. A quantum computing startup is unlikely to generate significant revenue. However, if a start-up begins to make any significant progress, it will likely find itself an attractive target of buyers looking for ways to differentiate themselves in the quantum computing space.

SVJP Members	(By category, company names in alphabetical order - honorifics omitted)	
大村 浩次 Koji Omura	Apaman Co., Ltd.	President & CEO
山口 沙里 Shari Yamaguchi	Apaman Co., Ltd.	fabbit Global Business Division Operations Manager
金谷篤実 Atsumi Kanaya	Mitsui Fudosan Co., Ltd.	Executive Officer General Manager Venture Co-creation Department
小玉 丈 Takeshi Kodama	Mitsui Fudosan Co., Ltd.	Executive Manager Venture Co-creation Department
中野 舜一郎 Shunichiro Nakano	Mitsui Fudosan Co., Ltd.	Principal Venture Co-creation Department
小宮 暁 Satoru Komiya	Tokyo Marine Holdings, Inc.	President & Group CEO
生田目 雅史 Masashi Namatame	Tokyo Marine Holdings, Inc.	Managing Executive Officer, Group Chief Digital Officer
奥田 健裕 Kenyu Okuda	Tokyo Marine Holdings, Inc.	Executive Secretary to Group CEO
前田 善宏 Yoshihiro Maeda	Deloitte Tohmatsu Financial Advisory LLC	Partner / Chief Strategy Officer
伊勢 勝巳 Katsumi Ise	East Japan Railway Company	Executive Vice President, Director General of Innovation Strategy Headquarters
吉田 達也 Tatsuya Yoshida	East Japan Railway Company	Manager, Corporate and Legal Strategies Department (Secretary to EVP)
砂山 直輝 Naoki Sunayama	Japan Post Co., Ltd.	Executive Officer, Digital Business Strategy
青井 浩 Hiroshi Aoi	Marui Group Co., Ltd.	CEO
亀澤 宏規 Hironori Kamezawa	Mitsubishi UFJ Financial Group, Inc.	President & Group CEO
大澤 正和 Masakazu Osawa	Mitsubishi UFJ Financial Group, Inc.	Managing Corporate Executive, Group Head, Digital Service Business Group & CDTO
涌嶋 隆 Takashi Wakushima	Mitsubishi UFJ Financial Group, Inc.	Executive Assistant to the CEO
森田 隆之 Takayuki Morita	NEC Corporation	President and CEO (Representative Director)
西原 基夫 Motoo Nishihara	NEC Corporation	Executive VP, CTO, Member of the Board, President of Global Innovation Unit
樋口 達夫 Tatsuo Higuchi	Otsuka Holdings Co., Ltd.	President and Representative Director, CEO
宇田川 雅令 Masanori Udagawa	Otsuka Holdings Co., Ltd.	Vice President of IT
野口 功一 Koichi Noguchi	PwC Consulting LLC	Chief Strategy/Chief Risk Officer Partner

SVJP Members (cont.)	(By category, company names in alphabetical order - honorifics omitted)	
中川 実 Makoto Nakagawa	Sansei Technologies, Inc.	Chairman of the Board
アイアトン ウィリアム William J. Ireton	Sansei Technologies, Inc.	Corporate Director
須藤 浩 Hiroshi Sudo	Shinkin Central Bank	Deputy President
関口 育男 Ikuo Sekiguchi	Shinkin Central Bank	Director and General Manager of Strategic Planning Division
深見 正敏 Masatoshi Fukami	SPARX Group Co., Ltd.	Representative Director, Executive Deputy President
宮坂 征治 Seiji Miyasaka	SPARX Asset Management Co., Ltd.	Director (US Investments: Mirai Creation Fund)
大山 一也 Kazuya Oyama	Sumitomo Mitsui Trust Bank, Ltd.	Representative Director, President
米山 学朋 Manatomo Yoneyama	Sumitomo Mitsui Trust Bank, Ltd.	Director Managing Executive Officer
室元 隆志 Takashi Muromoto	Suntory Holdings Limited	Executive Officer, Divison COO, Digital Transformation Division
鈴木 一寿 Kazutoshi Suzuki	Suzuyo & Co., Ltd.	Managing Director, Overseas Operations, Corporate Planning, HR and Legal/Compliance
木田 淳哉 Junya Kida	Toyota Research Institute	Resident Board Member
宮澤 弦 Gen Miyazawa	Yahoo Japan Corporation	Director, Senior Managing Corporate Officer

Entrepreneur Members	(Alphabetical order by Last Name - honorifics omitted)	
間下 直晃 Naoaki Mashita	V-cube, Inc.	Chairman & Group CEO (Founder)
松本 恭攝 Yasukane Matsumoto	RAKSUL, Inc.	Founder & CEO
佐俣 奈緒子 Naoko Samata	STORES, Inc.	Director
佐藤 輝英 Teruhide Sato	BEENEXT Capital Management Pte. Ltd	Founder and CEO
谷家 衛 Mamoru Taniya	Asuka Holdings, Inc.	Chairman and CEO
辻 庸介 Yosuke Tsuji	Money Forward, Inc.	Representative Director, President and CEO
上野山 勝也 Katsuya Uenoyama	PKSHA Technology, Inc.	CEO

Entrepreneur Members (cont.)		(Alphabetical order by Last Name - honorifics omitted)
山岸 広太郎 Kotaro Yamagishi	Keio University	Vice President for Finance, Fundraising and Entrepreneurship
山田 進太郎 Shintaro Yamada	Mercari, Inc.	Representative Director, Chief Executive Officer
芳川 裕誠 Hironobu Yoshikawa	Treasure Data	Founder & Executive Chairman

Charter U.S. Corporate Members		(Alphabetical order by Last Name - honorifics omitted)
クリス・ベディ Chris Bedi	ServiceNow	Chief Digital Information Officer
原 智宏 Tomohiro Hara	ServiceNow Japan	Executive Officer & Area Vice President / Head of Solution Consulting
ジェームズ・マクリディ James McCready	ServiceNow Japan	Managing Director
ビプル・シンハ Bipul Sinha	Rubrik	CEO and Co-Founder
エイブ・スミス Abe Smith	Zoom Video Communications	Head of International

Session Speakers		(In order of appearance - honorifics omitted)
マット・ホネア Matt Honea	SmartNews	Head of Security
松原 実穂子 Mihoko Matsubara	NTT Corporation	Chief Cybersecurity Strategist
五十川 舞香 Maika Isogawa	Webacy	CEO
パラム・カロン Param Kahlon	UiPath	Chief Product Officer
サム・ホッジス Sam Hodges	Vouch	Co-Founder and CEO
プラカーシュ・マナ Prakash Mana	Cloudbrink	Founder and CEO
イン・セン Ying Zheng	AiFi, Inc.	Co-Founder & President
クリスチャン・ゴームセン氏 Christian Gormsen	Eargo	President and CEO
アーマッド・アルガジー Ahmad Alghazi	CAN	Founder and CEO

Session Speakers (cont.)		(In order of appearance - honorifics omitted)
カーン・ブディラージ Karn Budhiraj	Tesla	Vice President, Global Supply Management
森田 隆之 Takayuki Morita	NEC Corporation	President and Chief Executive Officer, (Representative Director)
ナヴィード・シェルワニ Naveed Sherwani	RapidSilicon	Chairman, President & CEO
ハーパー・リード Harper Reed	General Galactic Corporation	CEO
クリスティーン・カワイ Kristine Kawai	Amazon	Director of Global DEI Solutions
鍋嶋 美佳 Mika Nabeshima	Tokyo Marine Holdings, Inc.	Group Chief Diversity & Inclusion Officer, Executive Officer & GM, Human Resources Dept.
ジョディ・ラビノウィッツ Jodi Rabinowitz	Zoom Video Communications	Head of Talent and Organizational Development
ビル・ブラッドリー Bill Bradley	Allen & Company Former U.S. Senator	Managing Director
河野 太郎 Taro Kono	Digital Agency, Japan	Digital Minister
伊藤 公平 Kohei Itoh	Keio University	President
馬渕 英雄 Hideo Mabuchi	Stanford University	Professor of Applied Physics

Site Visit Speakers		(Alphabetical Order by Last Name - honorifics omitted)
クリス・ベディ Chris Bedi	ServiceNow	Chief Digital Information Officer
ヴィシー・ゴパラクリシュナン Vishy Gopalakrishnan	ServiceNow	Chief Transformation Officer
原 智宏 Tomohiro Hara	ServiceNow Japan	Executive Officer & Area Vice President / Head of Solution Consulting
ヴィジャイ・コトゥ Vijay Kotu	ServiceNow	SVP of Data and Analytics
ジェームズ・マクリディ James McCready	ServiceNow Japan	Managing Director
デイブ・ライト Dave Wright	ServiceNow	Chief Innovation Officer

Moderators		(Alphabetical Order by Last Name - honorifics omitted)
グレッグ・カルタビアーノ Greg Caltabiano	HGGC	Operating Partner
ベティ・スー・フラワーズ Betty Sue Flowers	University of Texas at Austin	Professor Emerita
五味 和洋 Kazuhiro Gomi	NTT Research, Inc.	President and CEO
比嘉 ジェームス James Higa	Offline Ventures	Founder & Managing Partner
ダニエル・オキモト Daniel Okimoto	SVJP & Stanford University	Co-Chair & Professor Emeritus, Department of Political Science

Guests		(Alphabetical Order by Last Name - honorifics omitted)
マシュー・ガードナー・フラー Matthew Gardner Fuller	Geodesic Capital	Partner
海部 優子 Yuko Kaifu	Japan House Los Angeles	President
ジーン・モウ Jean Mou	Iris Blue Partners, LLC	Operating Partner

SVJP Advisors		(Alphabetical Order by Last Name - honorifics omitted)
ビル・ブラッドリー Bill Bradley	Allen & Company Former U.S. Senator	Managing Director
藤森 義明 Yoshiaki Fujimori	CVC Japan	Senior Executive Advisor
伊藤 公平 Kohei Itoh	Keio University	President
ジョン・ルース John Roos	Geodesic Capital Former US Ambassador to Japan	Founding Partner

SVJP Co-Organizer		(Honorific omitted)
スザンヌ・バサラ Suzanne Basalla	US-Japan Council	President & CEO

SVJP Executive Committee		(Alphabetical Order by Last Name - honorifics omitted)
グレッグ・カルタビアーノ Greg Caltabiano	HGGC	Operating Partner
藤井 ダニエル Daniel Fujii	Trust Capital Co., Ltd.	President and Chief Executive Officer
サイマ・ハサン Saima Hasan	Evolution	Founding Partner
シャージール・ハサン Sharjeel Hasan	Evolution	Founding Partner
比嘉 ジェームス James Higa	Offline Ventures / Philanthropic Ventures Foundation	Founder & Managing Partner / Executive Director
近藤 正晃ジェームス M. James Kondo	International House of Japan/ SVJP	Chairman Board of Directors / Co-Chair
御立 尚資 Takashi Mitachi	Kyoto University Graduate School of Management	Professor
アンドリュー・オガワ Andrew Ogawa	Quest Venture Partners	Managing Partner and Founder
ダニエル・オキモト Daniel Okimoto	SVJP / Stanford University	Co-Chair / Professor Emeritus, Department of Political Science
佐藤 輝英 Teruhide Sato	BEENEXT Capital Management Pte. Ltd.	Founder and CEO
辻 庸介 Yosuke Tsuji	Money Forward, Inc.	Representative Director, President and CEO
山岸 広太郎 Kotaro Yamagishi	Keio University / Keio Innovation Initiative, Inc.	VP for Finance, Fundraising and Entrepreneurship / CEO
芳川 裕誠 Hironobu Yoshikawa	Treasure Data	Founder & Executive Chairman

SVJP Office		(Alphabetical Order by Last Name - honorifics omitted)
足立 祐子 Yuko Adachi	SVJP - Japan Office	Japan Director
ジョン・シャロウィッツ Jon Shalowitz	SVJP - U.S. Office	President

Strategic Members

東京海上ホールディングス株式会社
Tokio Marine Holdings, Inc.

APAMAN U.S.A., Corp.
APAMAN U.S.A., Corp.

三井不動産株式会社
Mitsui Fudosan Co., Ltd.

Corporate Members

ウーブン・プラネット・ホールディングス株式会社
Woven Planet Holdings, Inc.

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Otsuka Holdings Co.,Ltd.

三精テクノロジーズ株式会社
Sansei Technologies, Inc

サントリーホールディングス株式会社
Suntory Holdings Limited

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Zoom Video Communications.

2022
SVJP Annual Retreat

Ritz-Carlton Half Moon Bay