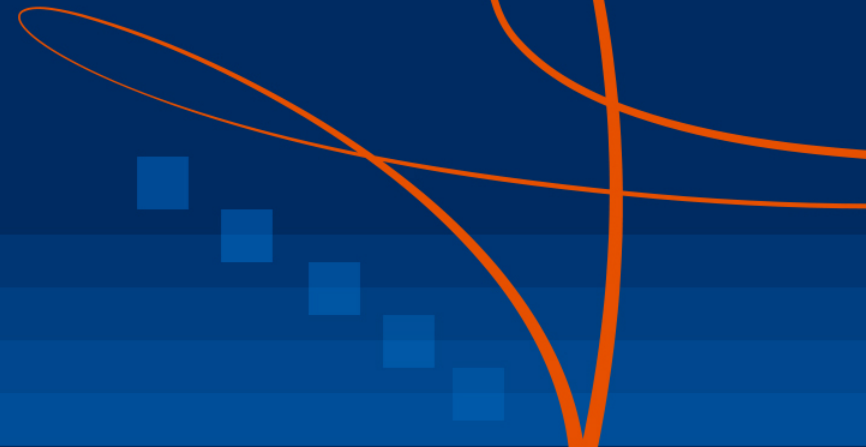October 29, 2015

US-Asia Technology Management Center Seminar:

International Partnerships for Advanced Intelligent Systems

A New Model for Corporate Venture Capital (?)

KATO Harumi

Innovative Venture Fund

My Background

- Started my career with NEC as a software/systems engineer.

- Studied in Sloan School at MIT.

- Back in NEC HQ, mostly worked as a corporate strategy staff.

- Transferred to US Subsidiary, NECUSA, as GM, CSBD. (1994)

- Engaged in the establishment of NEC's "CVC" and run Venture Liaison Group in NECUSA. (1997)

- Involved in various VB/VC related activities, such as Intel 64 Fund.

- Became a Venture Partner of a VC. (2001) Then, General Partner.

- Returned to Japan.(2013)

- Now. Partner of Innovative Venture Fund. Also, a Project Researcher in the University of Tokyo. Also, engaged in an incubation program sponsored by Japanese Government Agency.

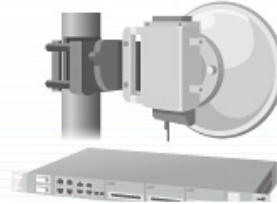# NEC Capital Solutions Ltd.

NEC

Social Infrastructures
Satellite, Fire protection command system, Electricity storage system

Tele-communication Devices
Microwave communication system, Submarine cable

Computers
PC, Server, Supercomputer

Services and Solutions
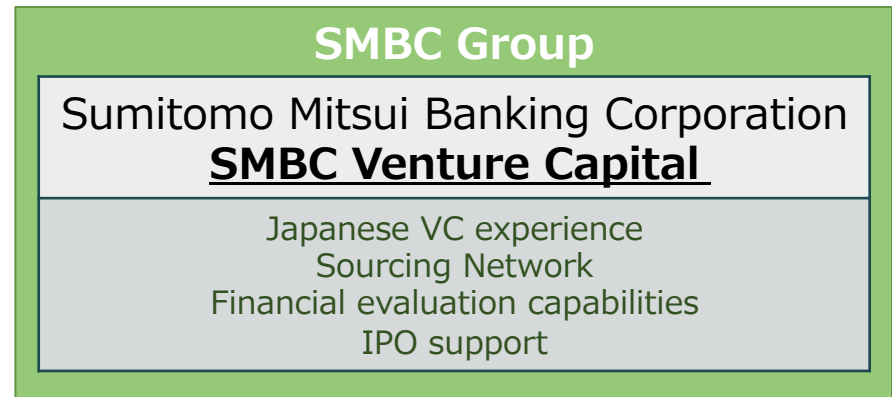Electronic health record system, Administration system, Biometrics

NEC Capital solutions (Financing subsidiary)

Leasing, Installment Sales, Business loans, M&A Advisory, VC

\Orchestrating a brighter world **NEC**

Innovative Venture Fund

An independent venture capital fund, (technically, not a CVC), focusing on enhance innovation/entrepreneurship capabilities in the area of ICT and other high-tech sector in Japan

NEC Group

NEC Capital Solutions
NEC Corporation

Silicon Valley VC experience
Business management experience
Technology evaluation capabilities

SMBC Group

Sumitomo Mitsui Banking Corporation
SMBC Venture Capital

Japanese VC experience
Sourcing Network
Financial evaluation capabilities
IPO support

Innovative Venture Investment Limited Partnership

Organization for Small & Medium Enterprises and Regional Innovation

Hands-on supports as public institutions
such as management consultation, debt guarantees, etc**.**

Orchestrating a brighter world NEC

"Technology-driven businesses" is an area where we focused on.

<< Solution Businesses >>

Child-raising Support

Regenerative Medicine

Medical Device

Health-care

Energy

Photovoltaics

BEMS/HEMS

Battery

Wind Power Generation

Animation/ Film contents

Plant Factory

Next Generation Mobility

Aviation Industry
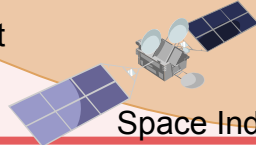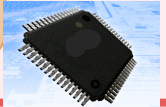
< Creative sector >>

<< Cutting Edge Industries >>

Robot

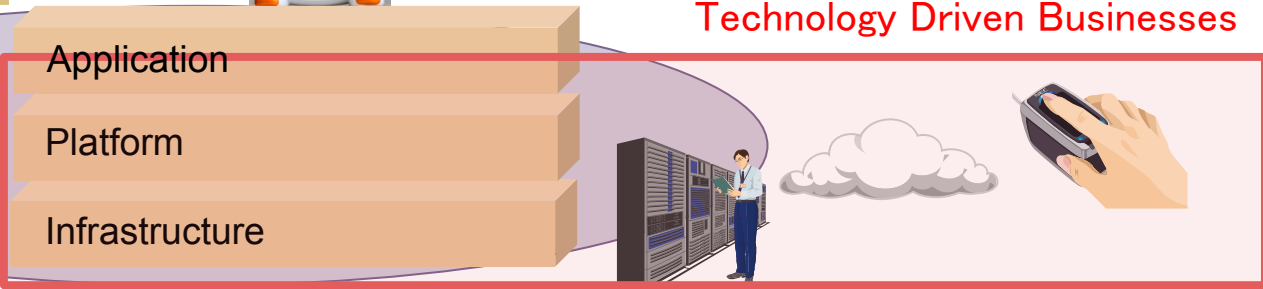Material Industry

Tourism

Space Industry

Fashion Industry

<< IT Industry >>

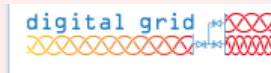Technology Driven Businesses

Application

Platform

Infrastructure

Orchestrating a brighter world **NEC**

Portfolio Company

<u>Early stage focus. Mainly investing in Japanese startups.</u>

<< Solution Businesses >>

Health-care

Energy

digital grid

Medical Device

On-chip
Biotechnologies

ATONARP
World's first olfaction processor...

Imagineering, Inc.

<< Cutting Edge Industries >>

<< Creative sector >>

CONNECTEC JAPAN

SiTime

OT Outstanding Technology

DynaOptics

Technology Driven Businesses

<< IT Industry >>

Application

Platform

Infrastructure

Inventit

Groovenauts

midokura

C1X CLASS ONE EXCHANGE

Alpaca

TIME

KAAZING

Orchestrating a brighter world NEC

Various connections with NEC

NEC
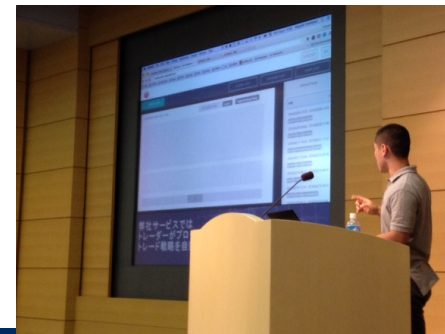
IVF

Entrepreneurship Education Program
- ✓ Accepting trainees from NEC
- ✓ Keynote lecture

Introducing portfolio companies to NEC for business opportunity
- ✓ Individual introductions/roadshow
- ✓ Special event; NEC Venture Day!

Technology Evaluation
Business Development

\Orchestrating a brighter world   **NEC**

Revisiting CVC

Typical CVC

- CVC organization set up by a corporation (as a subsidiary).
- Mostly funded by the corporation.
- Involvement of the corporation in the investment decision.

  e.g. Key GP sent from the corporation and/or Representative from the corporation in the Investment Committee.
- Strategic goals (finding new business opportunities, finding attractive startups for the purpose of forming strategic partnerships, M&A, etc.) in addition to financial gains.

Orchestrating a brighter world NEC

Revisiting CVC

NEC's "CVC" trial from 1997

- NEC Contributed significant fund portion with SMBC funding. Formed in the Silicon Valley.
- NEC set the VC policy, such as investment domain, stage, etc. and hired experience venture capitalists (GPs)
- The GPS made investment decisions without NEC's intervention.
- NEC established an internal organization (i.e. Venture Liaison Office) and made arrangement to have staffing from business lines. Main goal was strategic one.

IVF

- Initiative coming from NEC Capital Solutions Limited and SMBC. NEC joined as a LP later.
- Fund itself was formed in Japan and positioned to be an independent VC.
- VC design was made considering NEC situation to some extent. NEC contributed technology resources.
- Hiring ex-NEC people who accumulated business and VC experience.

\Orchestrating a brighter world   NEC

Introduction of 2 portfolio companies

KAAZING

- IoT Communication platform based on the HTML5 WebSocket Gateway
- Positioning:
  - Advanced technology developed in the Silicon Valley
  - Introducing this advance technology to Japan, potentially with an alliance with NEC

Alpaca
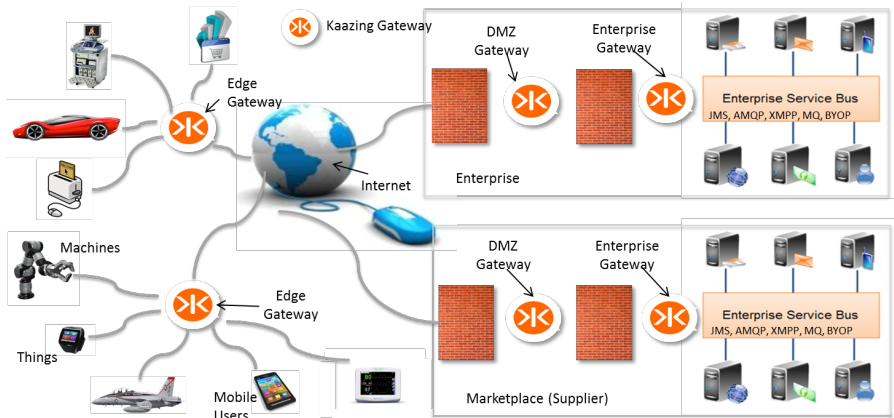
- Deep learning platform for fintech
- Positioning:
  - A capable Japanese team in an advanced sector
  - Helping them truly becoming a Silicon Valley based company. (a new paradigm for Japanese startup.)

Orchestrating a brighter world   NEC

Portfolio Company 1/2

Company Name	Business Summary
Mido Holdings Ltd. (Est. Nov. 2011)	Network virtualization (Software Defined Networking) solutions ■ market size: 3.6trillion yen@2018
CONNECTEC JAPAN Corporation (Est. Nov. 2009)	A next-generation semiconductor packaging technology ■ market size: 100 billion yen@2015
Inventit Inc. (Est. Jun. 2007)	Advanced solutions in M2M (Machine-to-Machine) and MDM (Mobile Device Management) ■ market size: 930 billion yen@2017
Groovenauts, Inc. (Est. Jul. 2011)	Gaming cloud service using advanced distributed processing technology ■ market size: 700 billion yen@2017
SiTime Corporation (Est. Dec. 2003) *(Oct. 2014, acquired by MegaChips)*	Manufacture and sales of MEMS oscillators ■ market size: 500 billion yen@2017
Outstanding Technology Co., Ltd. (Est. Jun. 2007)	Development and manufacture of LED light communications ■ market size : 450 billion yen@2018
On-Chip Biotechnologies Co., Ltd. (Est. Apr. 2005)	Development, manufacture and sales of cell sorters that utilizes micro fluid chips ■ market size : 200 billion yen@2017

\Orchestrating a brighter world NEC

Portfolio Company 2/2

Company Name	Business Summary
Atonarp Inc.(Est. Oct. 2009)	R&D and sales of real-time analysis equipments for the trace chemical substance ■ market size : 500 billion yen@2020
Imagineering, Inc. (Est. Feb. 2003)	Microwave plasma assist combustion system development for automotive ■ market size : 6.5 trillion yen@2018
Kaazing Corporation (Est. May. 2007)	IoT communication platform based on the HTML5 WebSocket Gateway ■ market size : 350 billion yen@2018
Digital Grid Co. Ltd (Est. Nov. 2013)	Development of next-generation power grid "Digital Grid" ■ market size : 170 billion yen (Japan)@2018
The Intelligent Willpower Corporation (Est. Apr. 2011)	Virtual data center service with high-end information security ■ market size : 800 billion yen (Japan)@2018
AlpacaDB Inc. (Est. Feb. 2015)	Deep learning platform service ■ market size : 1.8 trillion yen@2019
DynaOptics Ltd. (Est. Apr. 2012)	Optical thin zoom lens development ■ market size : 500 billion yen@2018
C1X Inc. (Est. Feb. 2014)	Realtime ad platform in digital advertising ■ market size： 1 trillion yen@2016

Orchestrating a brighter world   NEC

US-Asia TMC Seminar
October 29, 2015
John Fallows, President & CTO

Background for John Fallows

- 23+ years in the Industry.

- BA, MA Computer Science, Cambridge University, UK.

- **1992:** Software Architect, JSJ Systems.

- **1993:** Institute of Electrical Engineers Award.

- **1996-1998:** Research Scientist, British Telecommunications. Member of team standardizing CORBA (Common Object Request Broker Architecture).

- **1998-2006:** Consulting Member Technical Staff, Oracle Corporation. Architect of Ajax Web framework used by Oracle Applications. Contributor to JSR 127 which standardized Java Server Faces (JSF) 1.0.

- **2006:** Co-author, Pro JSF & Ajax, Apress. Creator of open source Weblets project, later incorporated to JSF 2.0.

- **2007:** Pioneered WebSocket, enabling full-duplex, bidirectional Web communication. Contributor to both W3C and IETF standards bodies.

- **2009 (December):** Chrome ships as first HTML5 browser with support for JavaScript WebSocket API.

- **2011 (December):** IETF approves WebSocket network protocol standard, RFC 6455.

Company Overview for Kaazing

- **Founded:** 2007

- **Headquarters:** San Jose, California

- **Other Operations:** New York, London, Tokyo, Bucharest

- **Investors:** NEA, CNTP, NEC, TIBCO

- **Market:** Inter-Cloud, Mobile & IoT
(Web Communications Infrastructure)

- **Product:** Kaazing IoT Gateway (Software),
KWIC (Kaazing Websocket Inter Cloud Connect)

- **Customers:** 100+ Including world's most recognized brands

- Go to Market: Partner centric approach plus Direct
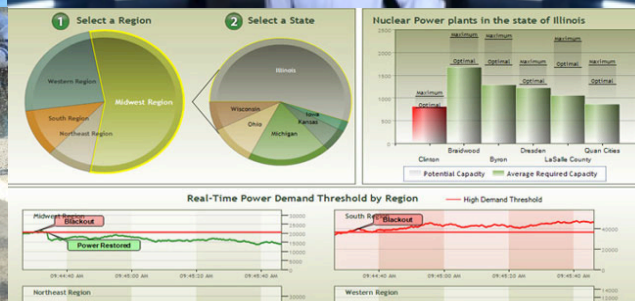
- **Revenue Model: Recurring Annual Subscription**

20 RED HOT, PRE - IPO COMPANIES IN 2014 B2B TECH

From Alibaba.com to Zendesk, IDG Connect Editorial Director **Martin Veitch** trawls through the best that haven't yet floated.

IDG CONNECT

21st November 2013

Gartner

Featured
Innovative Vendor
Web Computing

The Definitive Guide to
**HTML5
WebSocket**

Lead 411
2013 HOT COMPANY
Silicon Valley

What is KAAZING ?

Real-time Event Broadcast

- RaceView™ is NASCAR's second screen mobile application to engage fans, increase revenue, and strengthen its brand

- ***Kaazing IoT Gateway*** enables delivery of race car telemetry data in real time:

    - ✓ to 100,000+ mobile fans

    - ✓ at massive scale
      (2 billion+ messages/race)

    - ✓ including live 3D virtual video,
      live in-car audio, driver statistics,
      leaderboard, etc.

    - ✓ making RaceView™ *eight seconds faster*
      than a Live TV broadcast!
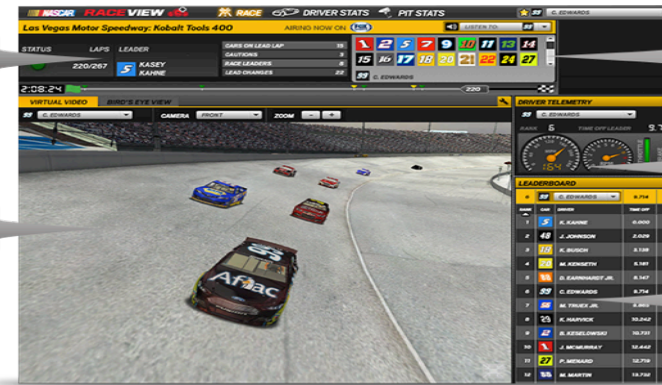
# Real-Time App-to-App Communication (via KWIC)
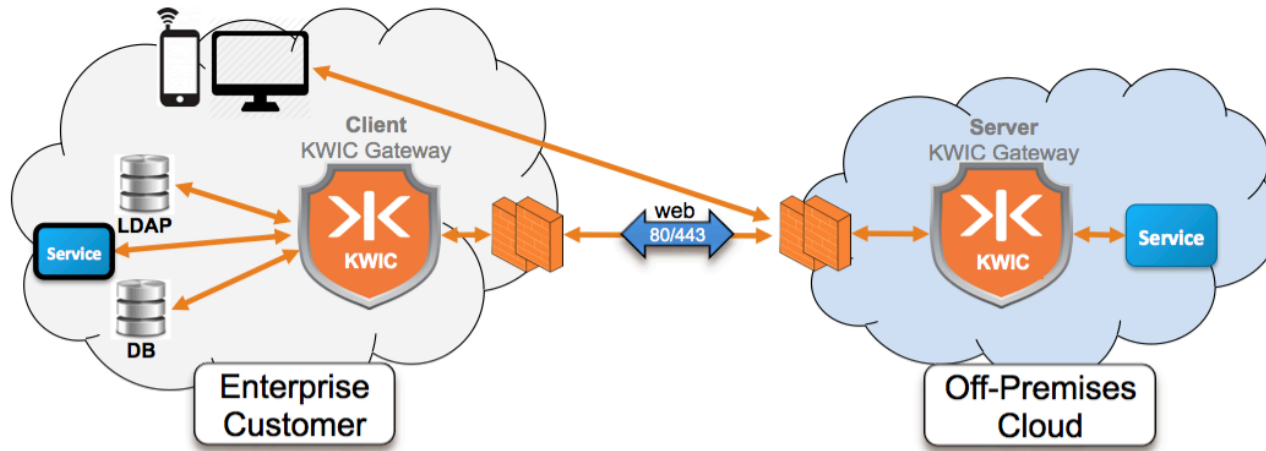
Enterprises increasingly need to deploy in the Cloud

security sensitive data and systems often stay located on-premises

modern cloud-deployed architecture still needs to access on-premises systems through firewall

▪ *Kaazing WebSocket Intercloud Connect (KWIC)*

- provides a secure access path connecting the cloud to on-premises systems
  suitable for cloud-to-cloud deployments too

- does not require firewall changes to open ports
  does not require a VPN to be installed
  does not require constant polling to the Cloud
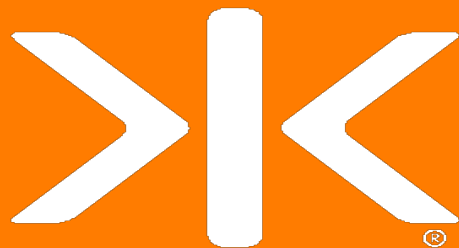
KAAZING

Alpaca

BE A HUMAN BEING

Yoshi Yokokawa / CEO / yoshi@alpacadb.com /

http://alpaca.ai

YOSHI YOKOKAWA

2004 - 2005 Lehman Brothers
Alternative Investment & Pension Funds

2005 - 2008 Lehman Brothers
Securitised Products Structuring & Marketing

2008 - 2010 Nomura Securities
Financial Products Structuring & Marketing

2010 - 2013 Prop Day Trader
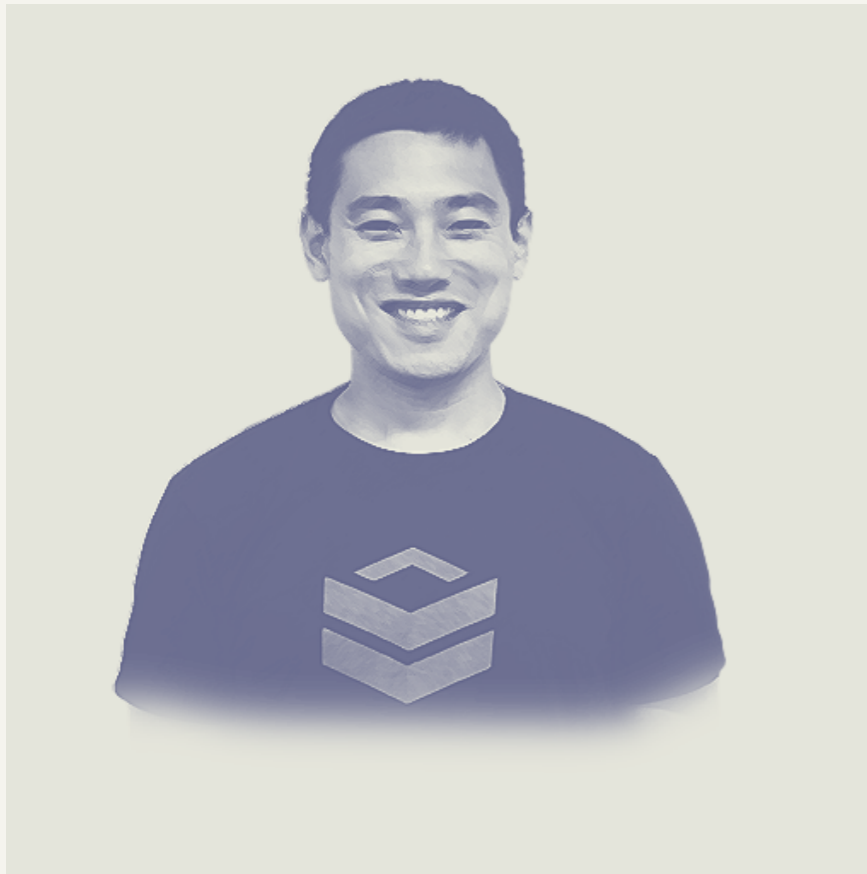
2012 - 2013 Software Development
Company
Co-Founder of Software Devlopment
Company

2013 - NOW Alpaca ([@AlpacaHQ](#))
Co-Founder & CEO of Venture Backed
Technology Startup

"BE A HUMAN BEING"

BE A HUMAN BEING

Today, we see that Artificial Intelligence is advancing to supplement our activities sometimes forcing us to compete against machines in specific areas. In these areas, in terms of speed, efficiency, and scalability, we as humans cannot win. In order for us to choose what we do wisely, it is very important to think about what inherent qualities we have that remains unchallenged by machines.

We are living in a societal system, where we have many constraints. Therefore, pursuit of "Be a Human Being" is not an easy thing to do. If we can live with plenty of awareness of our own individual capability without the constraints, we may feel free to go for what we are passionate about and in so doing, maybe be more human. What and how we do things at Alpaca is the manifestation of our mantra, "Be a Human Being."
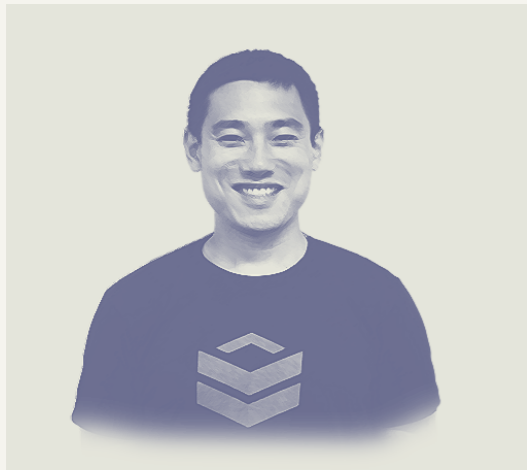
ENABLING ANYONE BUILD TRADING ALGORITHMS BY HIGHLIGHTING CHART PATTERNS
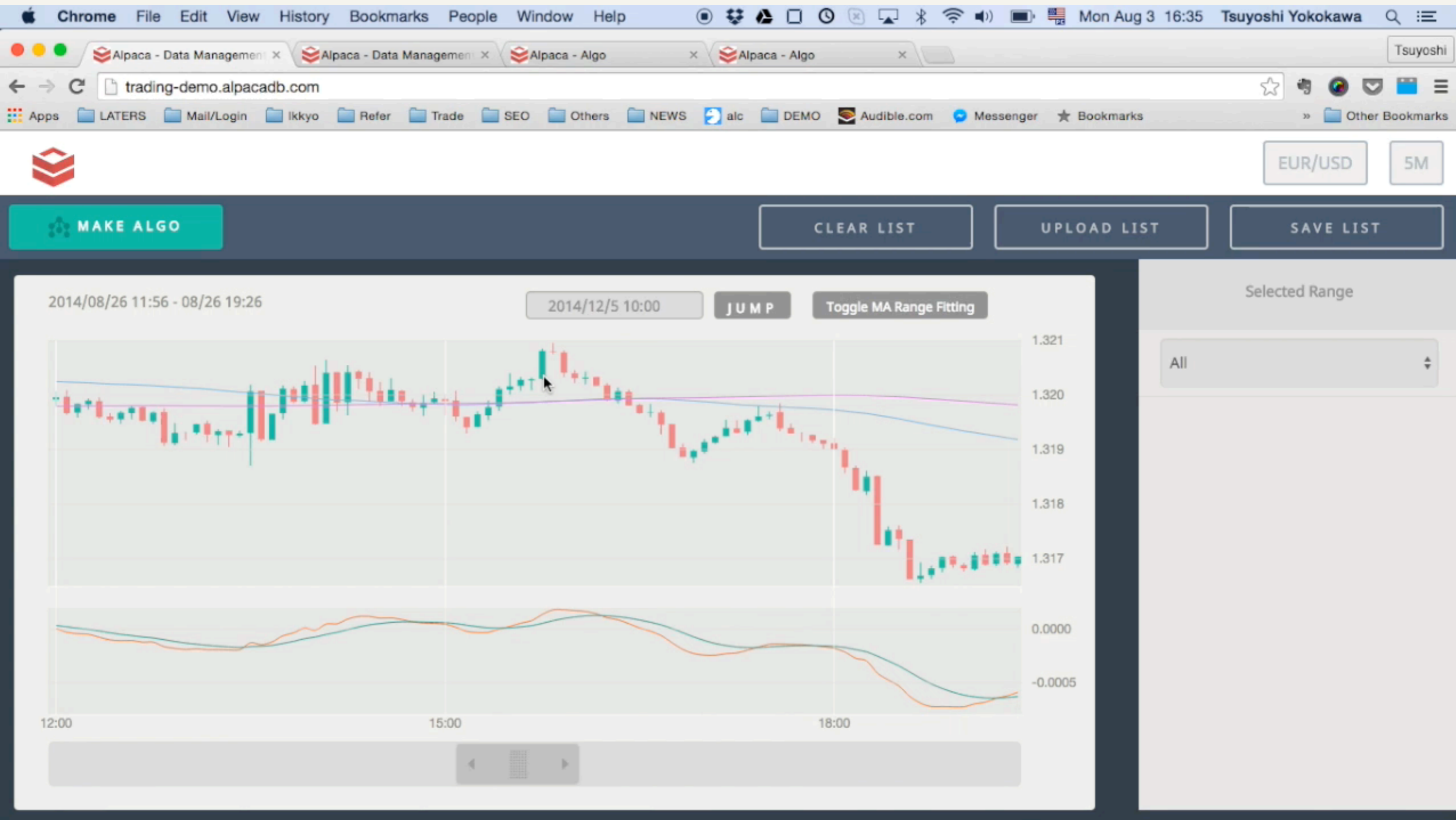
USA + JAPAN + NOMAD

YOSHI YOKOKAWA
Chief Executive Officer

YUKI HAYASHI
Chief Engineering Officer

HITOSHI HARADA
Chief Technology Officer

TOMOYA KITAYAMA
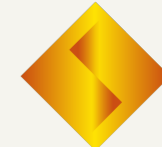Head of R&D Japan

ICKO OHSATO
Operations

JUNYA NORIMATSU
Machine Learning Researcher

MARCEL AKIYAMA
Product Designer

6

PROS
Bigger Market
Various Values

CONS
Various Values

CAPITALICO - http://capitalico.co

Yoshi Yokokawa / CEO / yoshi@alpacadb.com / http://alpaca.ai

7