

Hitachi Social Innovation Forum 2016

— SANTA CLARA —

November 15, 2016

Transforming the Future: IoT Insights & Innovations



HITACHI

Inspire the Next

With Knowledge Partner

FROST & SULLIVAN

Dear Colleague,

It is my pleasure to invite you to join me in Santa Clara, California to imagine and define the future of Hitachi Social Innovation in our lives, our businesses, and our industries. The promise and potential of IoT is pushing the frontier of technology and presenting new ways to lead the world toward innovation that effectively addresses global challenges such as building safer, more secure cities, driving better healthcare outcomes, and applying the insights of Big Data to develop more efficient energy solutions. This social innovation goal is central to Hitachi's vision of the future.

The Hitachi story is one of transformation, as we embrace these opportunities in our own business. Today and always, we will continue to strive to innovate for our customers around the globe and for society as a whole.

I would be honored to have you join me as we share our forward looking thought leadership and insight into the organizational change and strategic steps we are taking to collaborate with and drive new growth for our customers.

We are opening the doors to the Hitachi Global Center for Social Innovation as well, so that you may experience first-hand Hitachi's latest R&D innovations both in the US and from Japan. You will also experience real world IoT –centric innovations in cities, healthcare, energy, and industrial, all based on Hitachi's new core IoT platform, Lumada. We hope witnessing the realization of our vision will serve as a spark of inspiration for both you and your organization.

Join us for an exhilarating day dedicated for fellow visionary thinkers and innovation catalysts who are leveraging IoT to bring game changing solutions to the significant challenges facing our global society.

I hope you will be able to join us and I look forward to meeting you in Santa Clara!

Sincerely,



Ryuichi Otsuki
Chief Executive for the Americas of Hitachi, Ltd. and
CEO of Hitachi Data Systems Corporation

Network with Fellow Visionaries

Hitachi has joined with its knowledge partner, Frost & Sullivan, to convene the innovators who together will shape the future of IoT. You will explore the incredible opportunities for social innovation with visionary and strategic thinkers like you, including Vice Presidents and Directors of:

- Visionary Strategy
- Breakthrough Innovation
- Transformational Technology
- Research & Development
- Engineering
- Product Development
- Information Technologies
- Analytics

This powerhouse event will ignite forward thinking and bring together business leaders from global industries to share their unique perspectives and brainstorm the IoT opportunities being created by the convergence of industries such as:

- Automotive and Transportation
- Energy
- Healthcare
- Industrial
- Smart Cities
- Information Technologies



Hitachi Social Innovation: R&D Symposium

Transforming the Future: IoT Insights & Innovations

8:30am	Club Regent Foyer	Registration and Continental Breakfast at the Fairmont San Jose
9:00am	Club Regent	Welcome and Introduction
9:15am	Club Regent	OPENING REMARKS
9:30am	Club Regent	EXECUTIVE BULLETIN – Global Mega Trends & Technology Drivers for the Future Global Economy
10:00am	Club Regent	EXECUTIVE INSIGHT – Research & Development: Executing on the Vision
10:20am	Club Regent	MOVER & SHAKER PRESENTATION AND DISCUSSION – Artificial Intelligence and IoT: Transforming Business
10:45am	Club Regent Foyer	Networking and Refreshment Break
11:15am	Club Regent	ASK THE EXPERTS PANEL DISCUSSION – Developing Robust Ecosystems for Collaborative Innovation and Co-Creation <i>Featuring an Opening Presentation: Hitachi's Lumada IoT Platform</i>
12:00pm	Pagoda Room	Welcoming Remarks and Food for Thought Networking Luncheon Industry experts host a menu of luncheon discussions on pertinent industry issues. Dine and dish with business leaders driving breakthrough innovation. The list of discussion topics will be available on-site.

1:00pm		CONCURRENT SESSIONS Interactive sessions will be held to capture the power of all participants' voices, insights and experiences via group discussion and exploration of the issue at hand. <i>Participants can choose <u>one</u> of the following:</i>
	Piedmont Sacramento Hillsborough Glen Ellen	<ol style="list-style-type: none"> 1. Smart Cities (public safety, big city analytics, connected transportation) 2. Smart Health (care delivery transformation) 3. Digital Energy (microgrids, energy efficiency solutions) 4. Industrial IoT (predictive maintenance)

2:00pm		EXPERIENTIAL TOUR – Real World Innovation at The Hitachi Global Center for Social Innovation Experience visionary IoT innovation first hand! Join us for a highly engaging and interactive tour of breakthrough solutions brought to life through the collaboration of Hitachi and its customer co-creators. <i>Shuttle Departs Promptly from Hotel Lobby at 2:00pm</i>
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Please note, this part of the event is located at The Hitachi Global Center for Social Innovation.
Signage will be present upon arrival directing you where to go.

2:30pm		Hitachi Global Center for Social Innovation – North America Experiential Tour Begins Transforming the Future: IoT Insights & Innovations! Cycle through a tour showcasing how Hitachi and its customers are driving high-value digital business solutions for key areas such as smart cities, industries, healthcare and businesses. <ul style="list-style-type: none"> • Hitachi Co-Creation Process: NEXPERIENCE SPACE, Cyber PoC • Urban: Public Safety & Connected Car • Natural Resource: Oil and Gas & Mining • Energy: Renewable Energy • Industry: Predictive Maintenance & Optimized Factory • Healthcare: Predictive Medicine • Core Technologies supporting Social Innovation Business: Hitachi Artificial Intelligence, Robotics, Security & Blockchain
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3:30pm		Town Hall Brainstorming, Networking and Refreshments The networking and collective thought leadership continues. Ask a Question/Answer a Question White Boarding enables all participants to pose their challenges as well as to contribute to running commentary on issues and ideas.
4:00pm		EXPERIENTIAL TOUR Resumes
5:15pm		Networking Reception Meet your fellow peers and colleagues and enjoy some conversation & cocktails, as we close out the event!

About the Hitachi Global Center for Social Innovation – North America

Strategically based in Santa Clara, California, the talented team of over 100 highly skilled multi-disciplinary members in the Americas is tackling many challenges to achieve a greener environment, more efficient resources exploration, smart vehicles, healthcare, agriculture, mining and transportation.

The Center is a unique environment designed to facilitate co-innovation between Hitachi and our customers. Together we share visions, generate concepts and quickly develop innovative technology and solutions which are validated through Proof-of-Concept (PoC) prototypes at our customers' sites.



About the Experiential Tour

Experience visionary IoT innovation first hand! Cycle through a fast paced circuit of innovation as it was created and brought to life by strategic thinkers at both Hitachi and their customer organizations. See first hand how companies are owning their Internet of Things futures, and how IoT imagined became real Smart Energy, Smart City, Smart Healthcare and Smart Industry solutions.

Renewable Energy



Optimize distributed energy production for Microgrids

Microgrid x Sensing

Safe & Secure Cities



Secure safety & comfort by using wide area surveillance & high-speed image search to protect communities

Community x Security

Predictive Medicine



Improve health outcomes and reduce costs by using big data analytics on deep and wide patient data

Healthcare x Big Data Analytics

Oil & Gas



Integrated solution to remotely monitor and manage upstream Oil & Gas operations

Upstream Oil & Gas Operations x Hybrid Analytics

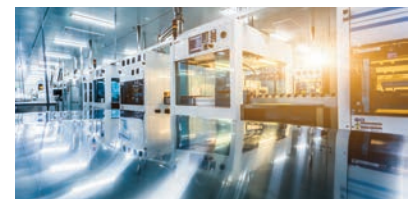
Robotics



Improve service quality by humanoid robot and robotics IT platform

Lifestyle x Robotics IT Platform

Optimized Factory



Improve factory operations via artificial sensing intelligence, seamless connectivity and distributed data processing across factory (OT) and cloud (IT)

Manufacturing x Digital Intelligence

Tuesday, November 15, 2016

GENERAL SESSION AND EXPERIENTIAL TOUR

8:30am Registration and Continental Breakfast at the Fairmont San Jose

9:00am **Welcome and Introduction**
Dorman Followwill
Senior Partner
Frost & Sullivan

9:15am **OPENING REMARKS**
Hiroaki Nakanishi
Chairman
Hitachi, Ltd.

9:30am **EXECUTIVE BULLETIN** – Global Mega Trends & Technology Drivers for the Future Global Economy
Dorman Followwill
Partner and Director
Frost & Sullivan

In this context-setting presentation, we take a whirlwind tour of the crucial Global Mega Trends and Technology Drivers that are the core drivers of the IoT and digital revolution transforming countries, businesses, cities, families and personal lives throughout the world. In our rapidly changing global economy, the greatest challenge facing business executives is how to best understand and leverage the core drivers of transformation and to stay ahead of change in order to succeed both professionally and personally.

Key Take-Aways:

- A framework of specific, data-driven Mega Trends and Technology Drivers at a global level, to understand what forces are transforming the future
- Insight into the latest IoT innovations and platforms within your business that sit within an overall Global context of Connectivity & Convergence, Smart Cities, Health Wellness and Well Being, and Mobility trends, and how these global trends and core technologies will drive a new wave of Social Innovation globally
- Best Practice Case Studies from around the world of companies unleashing innovative platforms, technologies, products and services targeted at countries, cities, businesses, families, and individuals to bridge from our world of 2016 to the world of 2025 and beyond

10:00am **EXECUTIVE INSIGHT** – Research & Development: Executing on the Vision
Dr. Norihiro Suzuki
Vice President and Executive Officer, Chief Technology Officer, and General Manager of Research & Development Group
Hitachi, Ltd.

Hitachi's vision is to provide innovative solutions to the various challenges faced by customers and society. The Research team at Hitachi includes over 2,600 professionals worldwide committed to delivering innovations that answer society's challenges through three innovation models: customer-driven, technology-driven and vision-driven innovations. Dr. Suzuki will describe how through collaborative creation with customers, issues both apparent and non-intuitive are identified and addressed using Hitachi's original NEXPERIENCE methodologies and tools, solution cores are developed based on leading technology enablers such as security, robotics, sensing and artificial intelligence, and how these solution cores are incorporated into the Lumada platform to ensure timely delivery of new innovative services for customers.

10:20am **MOVER & SHAKER PRESENTATION AND DISCUSSION** – Artificial Intelligence and IoT: Transforming Business
Dr. Kazuo Yano
Corporate Chief Scientist, Research & Development Group
Hitachi, Ltd.

Although AI (Artificial Intelligence) technology, such as deep learning, has attracted much attention in the media, we have not heard the profiting story from AI. What is missing between the available technologies and the businesses outcome? We have developed post-deep-learning AI technology that directly drives business outcome, which has already been applied to 57 cases in 14 domains. This talk covers the real use cases in finance, industry, retail, logistics, transportation, etc. to prospect the changes we face in the future business.

10:45am Networking and Refreshment Break

11:15am **ASK THE EXPERTS PANEL DISCUSSION** – Developing Robust Ecosystems for Collaborative Innovation and Co-Creation
Featuring an Opening Presentation: Hitachi's Lumada IoT Platform

MODERATOR:

Dr. George Saikalis

*Senior Vice President and
Chief Technology Officer – R&D
Hitachi America, Ltd.*

PANELISTS INCLUDE:

Dr. Umeshwar Dayal

*Senior Vice President and Senior
Fellow – Big Data Lab R&D
Hitachi America, Ltd.*

Kevin Eggleston

*General Manager – Americas
Hitachi Insight Group*

Rich Rogers

*Senior Vice President,
IoT Products & Technologies
Hitachi Insight Group*

Mark Simoncelli

*Global Vice President
Frost & Sullivan*

Ken Wood

*Vice President
Pentaho Labs,
a Hitachi Group Company*

Today, Hitachi IoT “robust ecosystem” is based on its unique Lumada platform. Lumada is Hitachi’s core platform that is designed to accelerate the creation, enhancement and deployment of data-driven IoT solutions. Foundational technologies in Lumada have already been proven in deployed solutions. At the heart of Lumada is Intelligent Software that provides data intelligence and artificial intelligence, which is essential for extracting information and value out of data from many sources, leading to recommendations and actions. Lumada is built on a solid foundation of the unique expertise and experience of Hitachi in both Operational Technology (OT) and Information Technology (IT). This expertise is packaged in Verified Blueprints in Lumada to enable faster IoT solution creation with less complexity, uncertainty and risk. Lumada is extensible across many industries and use cases, enabling broader deployment of IoT technologies and ensuring the agility and flexibility needed to future proof solutions.

Key Take-Aways:

- How to find the right innovation partner for IoT-driven digital solutions in today’s rapidly changing markets
- What is the Lumada Platform: a single platform targeting multiple solutions - Open, Adaptable, Verified and Secure
- Driving customer co-innovation for value creation
- Leveraging global IT X OT industrial expertise to drive IoT Innovation

12:00pm **Welcoming Remarks and Food for Thought Networking Luncheon**

Ryuichi Otsuki

*Chief Executive for the Americas, Hitachi, Ltd.
Chief Executive Officer, Hitachi Data Systems*

Industry experts will also host a menu of luncheon discussions on pertinent industry issues. Dine and dish with business leaders driving breakthrough innovation. The list of discussion topics will be available on-site.

1:00pm

CONCURRENT SESSIONS

Interactive sessions will be held to capture the power of all participants' voices, insights and experiences via group discussion and exploration of the issue at hand.

Participants can choose one of the following:

1. Smart Cities (public safety, big city analytics, connected transportation)

CO-FACILITATORS:

Mark Jules

Vice President, Public Safety
& Visualization Solutions
Hitachi Data Systems

Phil Townsend

Senior Vice President Global
Solutions & Innovation
Hitachi Consulting

Roberta Gamble

Partner
Frost & Sullivan

In this session we will discuss how Smart Cities -broadly defined as planned cities that incorporate information and communication technology to enhance quality, performance, and comprehensive management of urban services – will play a critical role in our collective sustainable future. By leveraging the power of IoT and advanced Big-Data solutions, these “next-generation” cities that coexist with the environment and improve quality of life for communities, creating a safer, more secure and resilient urban lifestyle.

The discussion topics will include IoT-enabled better transportation systems, new technology that can predict when and where crime can happen, visualization that can better connect urban systems to create superior urban infrastructure, and how to leverage sensor data from the Internet of Things, and other state-of-the-art technologies to help elevate our global society to meet the needs of the rapidly growing cities of the future.

Key Take-Aways:

- More to surveillance than meets the eye: the power of single platforms for public safety
- Building safer, smarter cities through integrated intelligence and visualization tools
- Developing better transportation systems through interconnected systems
- How one city is pioneering data exchange for citizens and businesses

2. Smart Health (care delivery transformation)

CO-FACILITATORS:

Bill Burns

President & General Manager,
Innovation & Information
Division
Hitachi Healthcare Americas

Abhay Mehta

Vice President, Fellow and
Chief Strategist, Healthcare,
Big Data Lab, R&D
Hitachi America, Ltd.

Dr. Richard Goldstein

Chief Executive Officer
RGI Informatics

Dorman Followwill

Senior Partner
Frost & Sullivan

With continued spiraling US healthcare costs and increased demand for more efficient, effective patient outcomes, Hitachi is developing a unified IT/OT strategy to provide real solutions to this major segment of the US economy by exploring the new opportunities in advanced healthcare informatics and analytics and leveraging its acclaimed cancer treatment technologies. This session will discuss the issues confronting “smart health” – particularly the current state where our healthcare analytics capabilities far exceed our ability to interact and utilize this deeper knowledge to have a bigger impact on healthcare outcomes.

Key Take-Aways:

- The latest trends in data-driven Smart Health – the movement from wearable technologies to ingestible technologies
- How poor data accuracy defies IoT in healthcare, and what needs to be done to fix it
- Healthcare and IoT - data incrementalism is the new roadmap for future success

3. Digital Energy (microgrids, energy efficiency solutions)

CO-FACILITATORS:

Chandrasekar Venkatraman
Principal Research Scientist
Global Center for Social Innovation

Robert Lively
IT Manager
Hitachi Energy and Environmental Efficiency
Hitachi Consulting

Farah Saeed
Senior Principal Consultant
Frost & Sullivan

In this session we will explore the new digital solutions that are transforming the energy value chain – enabling increased resiliency, lower energy costs and cleaner energy in a rapidly changing market that is managing multiple issues and challenges. Among the solutions to be discussed and analysed:

Energy Optimizer - Cloud-based solution that enables optimization of distributed energy generation and trading using IoT and Big Data analytics.

Energy and Environmental Efficiency (EEC) – End-to-end solutions that include: optimization of lighting, HVAC equipment and environmental health and safety for businesses; measurement and verification, maintenance, and program management services.

Microgrids – extensive energy experience enables Hitachi to design and deliver resilient and reliable microgrids that reduce power outages due to weather, aging grid infrastructure, and cyber-attack related incidents.

Key Take-Aways:

- Optimizing the generation and trading of organizations' distributed energy resources
- Lowering the overall costs of energy consumption through "smart solutions"
- Finding better ways to meet sustainability and resiliency goals

4. Industrial IoT (predictive maintenance)

CO-FACILITATORS:

Dr. Chetan Gupta
Chief Data Scientist and Architect
Hitachi America, Ltd.

Gaurav Bora
Senior Director, IoT Products and Technologies
Hitachi Insight Group

Krishna Srinivasan
Global President
Frost & Sullivan

In this session, powerful voices in Industrial IoT will discuss how Hitachi is building solutions to help enterprises increase operational efficiency across various verticals.

Hitachi has developed a suite of technologies with data-driven technologies to address Predictive Maintenance use cases. These technologies provide insights that enable the maintenance staff to take the right actions at the right times, which can help in avoiding unexpected failures, decreasing maintenance costs and increasing equipment availability.

Key Take-Aways:

- Learn how Hitachi is bringing OT (operational technology) and IT (information technology) together to help organizations optimize efficiency and reduce downtime.
- Leveraging IoT solutions to integrate advanced analytics and help organizations maximize operational intelligence
- What will the future of IoT-driven industrial processes look like?

- 2:00pm** **EXPERIENTIAL TOUR – Real World Innovation at The Hitachi Global Center for Social Innovation**
Experience visionary IoT innovation first hand! Join us for a highly engaging and interactive tour of breakthrough solutions brought to life through the collaboration of Hitachi and its customer co-creators.
Shuttle Departs Promptly from Hotel Lobby at 2:00pm
- 2:30pm** **Hitachi Global Center for Social Innovation – North America Experiential Tour Begins**
Transforming the Future: IoT Insights & Innovations! Cycle through a tour showcasing how Hitachi and its customers are driving high-value digital business solutions for key areas such as smart cities, industries, healthcare and businesses.
- A. Hitachi Co-Creation Process: NEXPERIENCE SPACE, Cyber PoC**
- Hitachi's unique design and collaboration tools, as well as future vision for working with customers.
- B. Urban: Public Safety & Connected Car**
- Enhanced public safety and transportation through video image analytics, as well as monitoring and optimization of urban transportation fleet management.
- C. Natural Resource: Oil and Gas & Mining**
- Integrated solutions to remotely monitor and manage upstream Oil & Gas operations, improve operational efficiency by using predictive maintenance, and production analysis for enhanced mining techniques.
- D. Energy: Renewable Energy**
- Optimized distributed energy production for Microgrids and other sustainable energy solutions.
- E. Industry: Predictive Maintenance & Optimized Factory**
- Improved factory operations via artificial sensing intelligence, seamless connectivity and distributed data processing across factory (OT) and cloud (IT).
- F. Healthcare: Predictive Medicine**
- Improved health outcomes and reduce costs by using big data analytics on deep and wide patient data.
- G. Core Technologies supporting Social Innovation Business: Hitachi Artificial Intelligence, Robotics, Security & Blockchain**
- Demonstrations on how Hitachi's latest breakthrough technologies are taking on the challenges of an unpredictable Era.
- 3:30pm** **Town Hall Brainstorming, Networking and Refreshments**
The networking and collective thought leadership continues. *Ask a Question/Answer a Question White Boarding* enables all participants to pose their challenges as well as to contribute to running commentary on issues and ideas.
- 4:00pm** **EXPERIENTIAL TOUR Resumes**
- 5:15pm** **Networking Reception**
Meet your fellow peers and colleagues and enjoy some conversation & cocktails, as we close out the event!
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THE FUTURE IS OPEN TO SUGGESTIONS



Hitachi Social Innovation

Hitachi Social Innovation Forum 2016

— SANTA CLARA —

Transforming the Future: IoT Insights & Innovations

November 15, 2016 | The Fairmont Hotel & Hitachi Global Center for Social Innovation – North America | Santa Clara, California

Morning sessions and luncheon will be held at:

Fairmont San Jose

170 S. Market Street
San Jose, CA 95113
Phone: 408.998.1900
www.fairmont.com/san-jose

We suggest you arrive Monday, November 14th. We will be reserving a limited number of discounted rooms at the event property, held until October 24th at the rate of \$269 per night. Please contact the property directly for availability, and to book your accommodations. Be sure to mention you will be participating in the Hitachi/ Frost & Sullivan event.

The Fairmont San Jose provides valet parking for visitors. Your parking will be validated on site. If you will be parking on hotel property, but not staying at the hotel, please ask for a parking voucher at the event registration desk on site. If you will be parking on hotel property and are staying at the hotel, you do not need a voucher for your parking to be compensated.

Afternoon sessions will be held at:

The Hitachi Global Center for Social Innovation – North America




3315 Scott Blvd, 4th Floor
Santa Clara, CA 95054
Phone: 408.334.0428
www.hitachi-america.us/rd

Registration Information

Registration Fee: \$295

Includes general session, meals, and Experiential Tour of The Hitachi Global Center for Social Innovation – North America

3 WAYS TO REGISTER:

-  **ONLINE:** www.insight-iot.com
-  **EMAIL:** events.us@frost.com
-  **PHONE:** 1.877.GO FROST (1.877.463. 7678)

Registration at this Symposium is subject to review and approval of your application by Frost & Sullivan. Frost & Sullivan reserves the right to decline your attendance if your company is deemed a vendor to the market, as participation at this Symposium is restricted to end user practitioners.

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