

FOR IMMEDIATE RELEASE

Hitachi Unveils Lumada Internet of Things Core Platform

Providing an Open and Adaptable Software Architecture, Lumada Accelerates IoT Solution Creation for a Range of Industry Applications; Simplifies Co-Creation with Partners and Customers

Tokyo, May 10, 2016 –Hitachi Insight Group, the new global group responsible for driving Hitachi’s global unified Internet of Things (IoT) business and strategy, today introduced Lumada, an IoT core platform. Integrating proven commercial technologies from across Hitachi’s portfolio, Lumada is a comprehensive, enterprise-grade IoT core platform with an open and adaptable architecture that simplifies IoT solution creation and customization. It incorporates expansive expertise in operational technology (OT) and information technology (IT), blending powerful and proven data orchestration, streaming analytics, content intelligence, simulation models, and other Hitachi software technologies. Lumada accelerates synthesizing of actionable insights, delivering faster time to value and supporting better decisions that lead to real world outcomes, like increased productivity and safety, streamlined processes, reduced operational costs and carbon footprint, or improved quality of life. The platform will serve as the core foundation on which all of Hitachi’s IoT solutions are built and will enable the creation of IoT business ecosystems.

Digital transformation is a key initiative for many public and private sector organizations looking to optimize processes, implement broader efficiencies and improve interactions with their customers and constituents. As such, the application of IoT solutions that can deliver valuable insight to support transformation is rapidly becoming a strategic imperative in almost every industry and market sector. However, building IoT solutions that provide real value can be difficult – especially without the right underlying architecture or the deep understanding to properly simulate and digitalize operational entities and processes. IoT platforms are necessary, but often introduce new layers of complexity and rigidity to IoT solutions, making them difficult to modify and incapable of holistically supporting all the elements of digital business and market ecosystems at scale.

Lumada was specifically designed to address the challenges associated with IoT solution creation leveraging Hitachi’s rich OT and IT expertise and technologies. Its

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uniquely open and adaptable architecture makes it broadly applicable for a wider array of industries and use cases, providing an extensible, flexible platform from which Hitachi and its customers and partners can easily tailor solutions or co-create.

“IoT platforms unquestionably have an important role to play in the development and deployment of IoT solutions. However, they can introduce new layers of complexities, which can hinder the implementation and benefits of the solutions themselves,” said Christian Renaud, research director, IoT, at 451 Research. “While it is still very early days in the IoT platform market, the landscape is crowded, making it difficult for new vendors to differentiate themselves. Hitachi’s extensive expertise in OT and IT gives them a unique understanding of the fundamental requirements to build and deploy IoT solutions at scale. This allows Hitachi to help customers get actionable business insight that translates into real business value, faster.”

Lumada provides a comprehensive framework of key IoT solution building blocks, including edge device and connectivity integration, application integration, data integration and orchestration, data repositories, stream and batch data processing, advanced analytics, artificial intelligence, simulation tools, repeatable solution blueprints, and enterprise services.

Integrating Hitachi’s decades of information technology (IT) and operational technology (OT) expertise with proven technologies from across its portfolio, Lumada provides three key qualities that set it apart from other IoT platforms in the market today:

- **Open:** Lumada offers an open, flexible architecture that simplifies integration with complementary technologies from Hitachi’s IoT partner ecosystem and provides an extensible foundation from which to build solutions for a variety of industry applications. It was specifically designed to encourage and support open innovation, co-creation and accelerated solution development with Hitachi’s partners, global system integrators (GSIs) and customers.
- **Adaptable:** Lumada provides a more flexible approach to IoT solution development. Its heterogeneous architecture allows it to support a range of IoT applications and partner technologies to support more highly agile environments that are easier to build-on and extend. This provides

comprehensive support for digital ecosystems across multiple industries.

Lumada's solution cores are packaged as repeatable blueprints that can be tailored to support a variety of industries and applications, such as predictive maintenance, city data exchanges, connected healthcare, intelligent transportation, oil and gas, sustainable energy, and more. The platform allows users to easily select and integrate only the components that best fit their specific use case to simplify customization and further streamline the solution creation process for the fastest time to value.

- **Verified:** Information security and digital ethics are top priorities for Hitachi. Lumada is architected from trusted Hitachi commercial technologies, including Pentaho's advanced data orchestration, visualization and analytics software—deployed in more than 1,600 enterprise customer environments today—and Hitachi Streaming Data Platform (HSDP), used in a range of Hitachi technologies and solutions. Lumada also provides a variety of Hitachi control systems, including manufacturing production systems, algorithms and controllers to support a range of industry applications and content intelligence for advanced metadata management.

Hitachi's robust IoT portfolio includes services and solutions for public safety, City Data Exchange for smart city, renewable and sustainable energy, intelligent transportation, precision agriculture and manufacturing, water treatment and building systems, sustainable mining, and more. Hitachi Insight Group will also work collaboratively with Hitachi's IoT ecosystem partners to co-develop new offerings on the Lumada platform.

Headquartered in Santa Clara, CA, USA, Hitachi Insight Group is responsible for driving Hitachi's unified Internet of Things (IoT) business strategy worldwide. It was formed to deliver on Hitachi's corporate vision for Social Innovation by developing digital solutions that drive better business outcomes and support the development of smarter, safer, healthier, more efficient societies. The group is responsible for research and development (R&D) and go-to-market (GTM) strategies of Hitachi's IoT solutions and services that provide actionable insights to customers in four key market segments: Smart City, Smart Energy, Smart Healthcare and Smart Industrial. The formation of the Hitachi Insight Group was announced in a separate statement issued today.

Hitachi is a premier sponsor at the IoT World Conference and Expo taking place in Santa Clara, CA, May 10-12, where it will have six of its IoT solutions and the Lumada IoT core platform on display. Conference attendees can visit booth #310 for hands-on demonstrations when the exhibit hall opens tomorrow. For more information, visit <https://iotworldevent.com/>.

About Hitachi Insight Group

Hitachi Insight Group is dedicated to driving business and societal transformation through digitalization. Its digital solutions are powered by connected intelligence from the Internet of Things, delivering actionable insights that support better decision-making, exceptional outcomes and smarter, safer, healthier, more efficient societies. Leveraging Hitachi's rich industrial heritage and extensive expertise in both operational and information technologies, Hitachi Insight Group serves public and private sector customers across four market categories: Smart City, Smart Energy, Smart Healthcare and Smart Industry. The group is based in Santa Clara, CA, USA, with operations worldwide. Visit www.hitachiinsightgroup.com for more information.

About Hitachi, Ltd.

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges with our talented team and proven experience in global markets. The company's consolidated revenues for fiscal 2014 (ended March 31, 2015) totaled 9,761 billion yen (\$81.3 billion). Hitachi is focusing more than ever on the Social Innovation Business, which includes power & infrastructure systems, information & telecommunication systems, construction machinery, high functional materials & components, automotive systems, healthcare and others. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

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