

## Socionext and Partners to Start NEDO-Sponsored Project on Developing "Evolutionary, Low-Power AI Edge LSI"

**Yokohama, October 17, 2018** --- Socionext Inc., ArchiTek Corporation, and Toyota Industries Corporation have signed an agreement to start a research and development project on "Evolutionary, Low-Power AI Edge LSI".

The project is being sponsored by New Energy and Industrial Technology Development Organization (NEDO), a Japanese governmental organization promoting the development and introduction of new energy technologies. It is scheduled to conclude in March 2022 with the goal to commercialize technologies in autonomous driving, surveillance systems, drones, robots, AI-powered home appliances and others.

In order to make full use of the continual expansion of IoT data, it is imperative to establish a technology that performs advanced data processing at the edge of the network rather than handling all the data in the cloud. Furthermore, the increasing power consumption and cost are becoming major challenges with existing edge computing solutions such as GPU or dedicated hardware. The goal of the new project is to address these issues by delivering new AI edge solutions with a new type of compact, low-power LSI device that is capable of flexibly supporting various algorithms integrated with relevant software and systems.

The project consists of the following:

**(1) Virtual Engine Architecture (ArchiTek Corporation)**

To develop a new architecture that achieves compact device, low power consumption and flexibility, all at the same time.

**(2) Real-Time SLAM (Toyota Industries Corporation)**

To establish real-time SLAM (Simultaneous Localization And Mapping) technology for self-driving machines.

**(3) Quantification DNN (Socionext Inc.)**

To address and solve low recognition rate problem with DNN quantization, required for high speed and low power AI processing.

**(4) Edge Environment Optimization (Socionext Inc.)**

To study a method to identify and optimize how to share functions between the cloud and the edge.

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For Press Inquiry

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The project is scheduled to conclude in March 2022. Socionext aims to establish the new "AI edge solution platform" based on the outcome of the project, and apply it to a wide range of applications for expanding the company's business and global market outreach.

NEDO: [www.nedo.go.jp/english](http://www.nedo.go.jp/english)

ArchiTek Corporation: [www.architek.co.jp/](http://www.architek.co.jp/)

Toyota Industries Corporation: [www.toyota-industries.com/](http://www.toyota-industries.com/)

### **Customer Inquiry**

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### **About Socionext Inc.**

Socionext is a global, innovative enterprise that designs, develops and delivers System-on-Chip solutions to customers worldwide. The company is focused on imaging, networking, computing and other dynamic technologies that drive today's leading-edge applications. Socionext combines world-class expertise, experience, and an extensive IP portfolio to provide exceptional solutions and ensure a better quality of experience for customers. Founded in 2015, Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its product development and sales activities. For more information, visit [www.socionext.com](http://www.socionext.com).

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