

Socionext, ZiFiSense and Techsor Team Up and Start Development of SoC for LPWA IC Tag “ZETag”

ZETA Alliance Members Collaborate to Deliver Low Cost,
Low Power Consumption Disposable IoT Tags

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Socionext, a global SoC solution provider, ZiFiSense, a founder of LPWA (Low Power Wide Area Network) standard ZETA, and Techsor, a representative company of ZETA Alliance in Japan, announced that the companies jointly start development of SoC for ZETag, a next generation, low cost, low power consumption IC tag. The companies plan to complete a prototype chip in 2020 and start volume production in 2021.

The new ZETag SoC incorporates the LPWA ZETA-G protocol proposed by ZiFiSense with Socionext’s design expertise in RF and MCU to implement the functionalities that currently require two silicon dies into one SoC, resulting in significant cost, area and power savings and improved performance.



MOU signed by Socionext, ZiFiSense and Techsor in Shin-Yokohama, on June 18, 2020

[\(view larger image\)](#)

Low Cost, Low Power and High Performance ZETag with single SoC

According to a research firm IDtEX Research, total 15.5 Billion IC tags were shipped worldwide in 2018 and the market is estimated to reach 12 Billion US dollars in 2020.

Most of the IC tags currently in use are passive tags, which do not have a power supply. However, active IC tags, which have a built-in power supply and are capable of transmitting signals from

For Press Inquiry

BlueBadger Ltd
Annie Shinn
Tel: +44-(0)1959-580308
E-mail: annie@bluebadger.eu

Socionext Europe GmbH
Mark Ellins
+49-6103-3745-382
mark.ellins@socionext.com

themselves, are expected to become popular for more advanced applications. However, existing active tags cost around several tens of dollars, and transmission distance is less than 100 meters. Lowering price and performance improvement are the key challenges for active IC tags to be utilized for wider applications.

The ZETag is a next-generation IC tag which incorporates ZETA-G LPWA protocol proposed by ZiFiSense, and its transmission can reach several kilometers. Socionext's proprietary RF and low-power MCU technologies will allow the functionalities of the tags, which currently require two separate chips, RF and MCU, to be implemented into a single SoC. It will reduce the cost to the extent that the tags can be used as disposable. At the same time, smaller size, lower power consumption and improved performance eliminate the restrictions of conventional active tags, making significant contribution to the realization of smart logistics and to the dramatic expansion of the use. The companies plan to complete a prototype chip in 2020 and start volume production in 2021.

The ZETags will push the boundary of IoT sensor usage, covering broader applications from durable goods to consumables. Proposed applications include asset management for industrial sectors, end-to-end visualization of products and containers in logistics, control of hazardous waste, and storage and disposal of medical supplies and waste. The ZETags are also expected to be utilized in management of building structure, warehouse inventory, and livestock. The relevant IoT solutions would cover the markets of several tens of billion dollars.

"The collaboration enables Socionext to leverage its expertise in advanced SoC technology and high-performance RF and MODEM designs, and incorporate them into ZETA technology to deliver cost effective and low power products," says **Teruaki Hasegawa, Head of Connected Solution Team, Automotive & Industrial Business Group at Socionext**. "The ZETag SoC, which we develop together with ZiFiSense and Techsor, will create new areas of growth in various "smart" sectors including smart cities, smart medicals, smart productions, as well as smart logistics, and help achieve an affordable and rapid digital transformation."

"We believe that ZETags and relevant products represent the LPWAN 2.0, a new generation of low-cost, consumable IoT," says **Zhuoqun Li, PhD, CEO of ZiFiSense**. "I am delighted that we are able to co-develop the ZETag and its applications with Socionext, a leading SoC solution provider, and ZETA Alliance partners around the world to realize the new, disposable IoT. ZiFiSense will introduce the new ZETags, which will be built with the SoC we are developing, into global markets including China."

"I am excited to announce the collaboration of the three companies to develop a new SoC for wide-range RF ZETag," says **Qiang Zhu, CEO of Techsor**. "Today the smart logistics market is growing very rapidly. I am confident that our collaboration will accelerate the adoption of IoT to logistics fields by delivering low-cost, low-power consumption and high-performance products. We will cooperate with the alliance members and deploy the ZETags built with the new SoC to the Japanese market."

About Socionext

Socionext is a global, innovative enterprise that designs, develops and delivers System-on-Chip solutions to customers worldwide. The company is focused on technologies that drive Today's leading-edge applications in consumer, automotive and industrial markets. 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.

About ZifiSense

ZifiSense was established in 2013. It is the industry-leading vendor of low-power IoT solutions. ZifiSense proposes ZETA, a LPWAN communication standard, and is developing the technology targeting at areas such as in-building IoT, logistics IoT and factory IoT.

About Techsor

Techsor is a venture company founded in October 2016 and is a representative distributor of ZETA technology and relevant products in Japan. The company established ZETA Alliance with IT ACCESS, Toppan Printing, QTnet in June 2018. The alliance today consists of 200 companies globally and is jointly promoting the deployment and utilization of ZETA.

Press Inquiry

Socionext Inc.

+81-45-568-1006

<https://www.socionext.com/en/contact/>

ZifiSense

+86-21-80198001

<https://www.zifisense.com/>

Techsor Inc.

+81-3-6803-4317

<https://techsor.co.jp/>

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