



## UltraSoC selected by Japan's NSITEXE for automotive development

*Embedded analytics to boost design of future autonomous vehicles*

**CAMBRIDGE, UK; Tokyo, Japan – 30 September 2019**

[UltraSoC](#) today announced that its embedded analytics technologies have been selected by Japanese company NSITEXE, Inc. (hereinafter, NSITEXE, a subsidiary of DENSO Corporation, the global automotive components manufacturer) to monitor performance and improve quality and reliability, particularly in future autonomous vehicle designs.

Hideki Sugimoto, CTO of NSITEXE commented: "To extract more useful information from sensors, processor performance requirements are continuously increasing in a variety of industries. We need to meet these real demands with our and other processors. The insights, monitoring and reporting enabled by UltraSoC's development and debug products will be a powerful tool in driving and accelerating innovations such as connected autonomous vehicles and in the area of electrification."

NSITEXE was established in 2017 as a wholly-owned subsidiary of DENSO, one of the world's largest tier one automotive parts manufacturing companies, with significant development in four key areas of advanced automotive technologies: connected cars; automated drive; shared mobility; and electrification.

UltraSoC's embedded analytics works by placing hardware monitors into the circuitry of a system-on-chip (SoC). These function independently of the main system to monitor events in real-time, under real working conditions. UltraSoC analytics modules interpret the resulting data and give engineering teams actionable system-level insights that can be used to identify design problems, assist with the integration of hardware and software, improve overall system performance in light of real-world operating conditions, and add hardware-based safety and cybersecurity functions.

### **About UltraSoC's automotive embedded analytics technology**

UltraSoC's embedded analytics creates an independent monitoring infrastructure that can operate without interfering with the operation of the main system and, being hardware-based, responds much more quickly than conventional solutions. Unexpected or anomalous CPU transactions can be instantaneously flagged or blocked; faults or malicious attacks in sensor systems can be similarly detected. Developers can also



implement 'black box' type forensic trace capabilities, logging on-chip activity and creating a digitally signed record that can be used to track the progression of a malicious attack, or determine legal liability.

UltraSoC's technology and experience fits perfectly in applications such as automotive that need to ensure safe, secure and reliable operation. Its technology provides rich data and insights that, in addition to performance monitoring, allow automotive system developers to more easily satisfy the functional safety, risk assessment, testing, reporting and traceability requirements of standards such as ISO26262, and facilitate the move to cybersecurity standards such as ISO21434.

In addition to assisting SoC developers with bring-up, debug and performance tuning during the development cycle, UltraSoC's embedded analytics technology can be used to implement safety and security features within a broad range of end products. The company's [recently-announced lockstep solution](#), for example, supports any processor type, and is specifically targeted at safety-critical applications such as those in automotive system design. The UltraSoC Lockstep Manager is a hardware-based, scalable solution which significantly helps functional safety by checking that the processors at the heart of a critical system are operating reliably, safely and securely. Lockstep operation is needed for automotive safety standards such as ISO26262.

For more information on UltraSoC's embedded analytics for automotive applications, [see here](#)

## About UltraSoC

UltraSoC is a pioneering developer of analytics and monitoring technology at the heart of the systems-on-chip (SoCs) that power today's electronic products. The company's embedded analytics technology allows product designers to add advanced cybersecurity, functional safety and performance tuning features; and it helps resolve critical issues such as increasing system complexity and ever-decreasing time-to-market. UltraSoC's technology is delivered as semiconductor IP and software to customers in the consumer electronics, computing and communications industries. For more information visit [www.ultrasoc.com](http://www.ultrasoc.com)

## Contacts

Andy Gothard [andy.gothard@ultrasoc.com](mailto:andy.gothard@ultrasoc.com)  
+44 7768 082 044

David Marsden [david.marsden@ultrasoc.com](mailto:david.marsden@ultrasoc.com)  
+44 7968 407 739

Twitter: @ultrasoc