1. **News Release**

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**Renesas Electronics’ R-Car Virtualization Software Package Paves Way for Integrated Cockpit and Connected Car Devices with Hypervisor for R-Car System-on-Chip**

**Düsseldorf, June 28, 2018 -** Renesas Electronics Corporation (TSE: 6723), a premier supplier of advanced semiconductor solutions, today announced the "R-Car virtualization support package" that enables easier development of hypervisors for the R-Car automotive system-on-chip (SoC). The R-Car virtualization support package includes, at no charge, both the R-Car hypervisor development guide document and sample software for use as reference in such development for software vendors who develop the embedded hypervisors that are required for integrated cockpits and connected car applications. A hypervisor is a virtualization operating system (OS) that allows multiple guest OSs, such as Linux, Android™, and various real-time OSs (RTOS), to run completely independently on a single chip. Renesas announced the [R-Car hypervisor](https://www.renesas.com/en-hq/about/press-center/news/2017/news20170404.html) in April of 2017 and the new R-Car virtualization Support Package was developed to help software vendors accelerate their development of R-Car hypervisors.

As more and more R-Car hypervisors become available from software vendors, OEM and Tier 1 companies will have a wider choice of hypervisor options and will be able to select an optimal hypervisor for the combination of the guest OS to be run, and for the system of meter cluster and cloud services used. This will increase the flexibility of integrated cockpit system and connected car development and make development faster.

The third-generation R-Car SoCs were designed assuming that they would be used with a hypervisor. The Arm® CPU cores, graphics cores, video/audio IP and other functions include virtualization functions and, originally, for software vendors to make use of these functions, they would have had to understand both the R-Car hardware manuals and the R-Car virtualization functions and start by looking into how to implement a hypervisor. Now, by following development guides in the R-Car virtualization support package, not only can software vendors easily take advantage of these functions, they will be able to take full advantage of the advanced features of R-Car. Also, by providing sample software that can be used as a reference, this package supports rapid development.

"Green Hills Software has a proven track record of providing software virtualization solutions for OEMs already in mass production for various automobile model years,” said Matthew Slager, Vice President of Asia-Pacific Operations at Green Hills Software. “The INTEGRITY Real-Time Operating System with Multivisor secure virtualization built on Renesas’ R-Car SoC through cooperative efforts with Renesas is already highly regarded by OEMs and Tier1s, and we hope to continue working with Renesas to create a flexible platform that supports Linux and Android that can meet even the most stringent OEM requirements for future advanced automobiles.”

A demonstration video of the INTEGRITY® Multivisor™ for R-Car H3 can be seen [here](https://www.renesas.com/en-us/promotions/solutions/event/devcon2017/sp-15.html).

“COQOS Hypervisor SDK is based on OpenSynergy's highly efficient Type-1 hypervisor that takes full advantage of the hardware virtualization functions provided by the Renesas’ R-Car SoC and extends this with key features, such as shared display,” said Stefaan Sonck Thiebaut, CEO of OpenSynergy GmbH. “COQOS Hypervisor SDK comes out of the box with complete use cases, including a cockpit controller use case supporting ASIL-B safety requirements. This solution is going in mass production by 2019.”

By growing its ecosystem with partner companies, including hypervisor vendors, Renesas plans to further expand its lineup of the virtualization package, a combination of a hypervisor and guest OS, and aims to lead the deployment of virtualization into vehicles to contribute to the realization of a safe and secure automotive society.

**Availability**

The R-Car Virtualization Support Package is scheduled to be available from July 2018.

(Availability is subject to change without notice).

**About Renesas Electronics Corporation**

Renesas Electronics Corporation ([TSE: 6723](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.jpx.co.jp_english_&d=DwMFAg&c=9wxE0DgWbPxd1HCzjwN8Eaww1--ViDajIU4RXCxgSXE&r=mWLUx0QVt25BWK-MZ29zLPLQHyv8UpUkXzcgXaA3aWQ&m=DYdTH9hu-7LaulV1SVM6YKpZz_t6AqnyxumFHk-LqFg&s=UlMPBZIH1yicvEPu6e6QHB45plYIXPqV-0XV5KGZZl0&e=)) delivers trusted embedded design innovation with complete semiconductor solutions that enable billions of connected, intelligent devices to enhance the way people work and live—securely and safely. A [global](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.renesas.com_en-2Dhq_about_company_profile_global.html&d=DwMFAg&c=9wxE0DgWbPxd1HCzjwN8Eaww1--ViDajIU4RXCxgSXE&r=mWLUx0QVt25BWK-MZ29zLPLQHyv8UpUkXzcgXaA3aWQ&m=DYdTH9hu-7LaulV1SVM6YKpZz_t6AqnyxumFHk-LqFg&s=QqlGBR6MYbo1eiGXo2ZMywSeWE80hPtBOrhrwz73p94&e=) leader in microcontrollers, analog, power and SoC products and integrated platforms, Renesas provides the expertise, quality, and comprehensive solutions for a broad range of Automotive, Industrial, Home Electronics, Office Automation and Information Communication Technology applications to help shape a limitless future. Learn more at [renesas.com](https://urldefense.proofpoint.com/v2/url?u=http-3A__www.renesas.com_&d=DwMFAg&c=9wxE0DgWbPxd1HCzjwN8Eaww1--ViDajIU4RXCxgSXE&r=mWLUx0QVt25BWK-MZ29zLPLQHyv8UpUkXzcgXaA3aWQ&m=DYdTH9hu-7LaulV1SVM6YKpZz_t6AqnyxumFHk-LqFg&s=K6LsuehJosLLwcPcYTcAHq30edFyKPiV7ZQDlE_PO1A&e=).

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