Karamba Security and Alpine Electronics Announce Production Agreement for Self-Protected Invehicle Infotainment Systems

BLOOMFIELD HILLS, Mich. and HOD HASHARON, Israel, July 11th, 2019 –<u>Karamba Security</u>, a world leader in automotive and enterprise edge cybersecurity, today announced the signing of a production agreement for its leading <u>Carwall</u>[®] runtime integrity software, in <u>Alpine</u> infotainment systems.

The platform provides ECU self-protection against remote code execution (RCE), helping to protect vehicles from cyberattacks.

Protection against cyberattacks is critical in order to safeguard customer safety in the connected and autonomous vehicle era. Such exploits of in-memory vulnerabilities can jeopardize customer safety by controlling a vehicle's speed and direction. Karamba's runtime integrity technology provides self-protection against remote code execution, using Control Flow Integrity (CFI).

"This is the first time a production of commercial, embedded, self-protection software is available for automotive ECUs and vehicles," said Ami Dotan, Karamba co-founder and CEO.

Dotan added that the partnership with Alpine's product team allowed Karamba to overcome production hurdles (such as automated implementation without delaying time to market) and implement the same security software on Alpine's various systems.

Karamba's patented Embedded Runtime Integrity is a state-of-the-art attack detection and prevention software that leverages Control Flow Integrity (CFI) and continuously maintains vendor settings. With Karamba's technology installed, the infotainment software system detects, prevents, and reports attempted cyberattacks.

On July 3rd a paper published by leading OEMs such as Audi, BMW, Daimler, Fiat-Chrysler, and Volkswagen, indicated the Control Flow Integrity (CFI) as a recommended technology to protect safety systems against cyberattacks. Karamba Carwall is the industry-leading CFI solution, thanks to its seamless implementation and negligible performance impact of less than 5 percent CPU overhead.

"Protecting our customers against cyberattacks is a key mission for Alpine," said Yasuhiro Ikeuchi, president of Alpine Europe. "We were looking for a solution that can be seamlessly applied to our product without delaying time to market, with negligible performance impact, while providing strong security measures. We have found those qualities in Karamba Security Carwall[®] and we are excited to team up with this high growth company."

With this production deployment, Karamba is demonstrating a proven ability to automatically prevent exploits of in-memory vulnerabilities in connected machines, without any need for software or hardware changes. This solution makes embedded security a reality in the connected vehicles revolution.

About Karamba Security

Karamba Security provides industry-leading embedded cybersecurity solutions for connected systems.

Product manufacturers in automotive, Industry 4.0, IoT, and enterprise edge rely on Karamba's automated runtime integrity software to self-protect their products against remote code execution (RCE) cyberattacks with negligible performance impact.

After 32 successful engagements with 17 automotive OEMs and tier 1s, product providers trust Karamba's award-winning solutions to increase their brand competitiveness and protect their customers against cyberthreats.

More information is available at www.karambasecurity.com and follow us on Twitter @KarambaSecurity.

About Alpine Electronics

Alpine Electronics is an automotive electronics manufacturer that provides consumers and leading auto makers with audio, video, navigation and driver assistance products. The company specializes in system integration solutions with innovative vehicle entertainment and information technologies. Alpine's R&D and manufacturing facilities in Japan, China, Europe and North America ensure that all products address the real world requirements of drivers in each market. The company is committed to developing safe, comfortable and eco-friendly automotive electronics products. www.alpine.com.

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