Apex.AI

PRESS RELEASE

**Apex.AI Introduces New Identity for Software Development Kit
to Mark the Next Phase of Software-Defined Vehicles**

New product line naming honors the legacies of software pioneers Grace Hopper and Ida Rhodes

PALO ALTO, CA — January 3, 2023, Apex.AI, a company developing safety-certified software for mobility and autonomous applications, today announced the introduction of its newly rebranded product line, which includes a vehicle software development kit (SDK), a middleware solution for automotive implementation and a bundled solution that combines both products to enable software-defined vehicles (SDV).

The Apex.AI Product Line

Apex.Grace

Apex.Grace, previously known as Apex.OS, is the company's flagship product and is an automotive-grade, real-time, reliable software development kit. A software development kit is a bundle of pre-packaged software libraries and development tools that removes the need for developers to write tedious, repeatable code. Apex.Grace provides the capability for automakers and suppliers to bring new functions, such as driver assistance, autonomous driving or telematics, into vehicles faster.

Apex.Grace is based on the open-source robot operating system (ROS). While ROS is the industry's de facto development standard for prototyping for robotics and mobility applications, it does not meet safety and reliability requirements for automotive systems and other safety-critical applications, creating a hurdle for manufacturers. Apex.Grace enables the rapid and efficient transition from ROS-based prototypes to production-ready vehicles and is certified by TÜV Nord to ASIL D, the highest level of automotive functional safety.

Apex.Grace can be used to develop software for all automotive application domains, which includes advanced driver assistance (ADAS), autonomous driving, infotainment, powertrain, telematics and body components. It is the first SDK that spans all vehicle domains, which is an enabler for software-defined vehicles.

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Apex.Grace honors the legacy of [Grace Hopper](), "the queen of code." Hopper was [one of the first women]() to earn a Ph.D. in mathematics from Yale University in 1934. During World War II, she joined the U.S. Navy, where she programmed the Mark I computer. She retired from the U.S. Navy as a rear admiral in 1986.

Apex.Ida

[Apex.Ida](), previously known as Apex.Middleware, provides a complete and integrated solution for both intra- and inter-electronic control unit (ECU) communication, as well as communication to the cloud. Apex.Ida provides real-time data transmission through zero-copy communication for intra-SoC (system on a chip) communication, which enables communication of large amounts of data, such as camera images or lidar data, without creating time- and bandwidth-consuming copies. The copy-less data transfer between processes on the same SoC brings two major advantages: it minimizes latency and it maximizes the amount of data that can be transferred.

Apex.Ida connects all applications ranging from the powertrain to ADAS to autonomous driving by integrating a range of communications protocols within the vehicle. The protocols that Apex.Ida supports in addition to zero-copy communication include: Data Distribution Service (DDS), which is used in robotics; Scalable service-Oriented MiddlewarE over IP (SOME/IP), which is an established automotive data communication solution; and MQTT communication, which is used to communicate to the cloud. Using a unified application programming interface (API) for all protocols, the software determines the best transport mechanism to transfer data in connected and automated vehicles for communication between processes running on one vehicle computer; between several computers running within one control unit; or between multiple computers, sensors, or other devices in a vehicle.

Apex.Ida pays tribute to [Ida Rhodes](), the computer pioneer who earned her undergraduate degree in mathematics at Cornell University in 1923. By the early 1950s, Rhodes co-designed the C-10 programming language for the Census Bureau's UNIVAC I, the first U.S.-manufactured commercial computer. She created and programmed the computers used by the Social Security Administration and her legacy continues to impact the world of coding.

Apex.OS

Apex.OS is a software suite that integrates both the Apex.Grace SDK and Apex.Ida middleware.

"We are honoring the legacies of legendary pioneers like Grace Hopper and Ida Rhodes whose contributions to software have enabled the world to revolutionize countless industries, including mobility," said Jan Becker, Co-founder and CEO, Apex.AI. "The vast majority of future innovation in mobility systems will be implemented in software. As automakers focus on

making software-defined vehicles a reality, the industry needs a solution that reduces development cost and time to market, which is what we designed our SDK to do."

Industry experts anticipate that over 80% of the innovation in vehicles will be driven by software. Current vehicles contain more than 100 ECUs with independently developed software embedded. Automakers are adapting to the software-dominated world with software integrated on fewer high-performance computers but are experiencing challenges transitioning to software-defined vehicles. Apex.AI helps customers transition from hardware-centric products to modern software-centric vehicles and develop software faster at a lower cost and with smaller effort.

By establishing the automotive industry's only safety-certified SDK, Apex.AI provides the necessary tools to simplify the process of engineering tomorrow's software-forward vehicles.

Apex.AI is backed by [Toyota Ventures,](link) [Volvo Group Venture Capital,](link) [Jaguar Land Rover](link)'s [InMotion Ventures,](link) [Airbus Ventures,](link) [Continental AG,](link) [ZF,](link) [AGCO,](link) [HELLA Ventures](link)and [Daimler Truck](link).

About Apex.AI
Apex.AI is a Palo Alto, Berlin, Munich, Stuttgart and Gothenburg-based company that develops secure, certified, developer-friendly, and scalable software for software-defined vehicles and mobility systems. The company's flagship product is Apex.Grace, an automotive-grade, real-time, reliable software development kit. Apex.AI provides automakers, truck manufacturers and suppliers with a software development kit, which helps automotive customers to transition from hardware-centric products to modern software-centric vehicles and develop software faster at a lower cost and with smaller effort.

To access the Apex.AI media kit please visit [our Media kit](link).

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