

Apex.AI Joins Automotive Special Interest Group SOAFEE to Help Shape the Software-Defined Future of the Automotive Industry

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Apex.AI

As a SOAFEE member, Apex.AI will provide code, access to platform automation tools, and maintenance of ROS middleware, along with its expertise in software-defined vehicle architecture

PALO ALTO, CA — November 08, 2022, Apex.AI, a company developing safety-certified software for mobility and autonomous applications, today announced it has joined Scalable Open Architecture for Embedded Edge (SOAFEE), a collaborative industry group with a mission to solve the challenges of developing software-defined vehicles. In particular, SOAFEE is focused on delivering open-source, cloud-native software and standards for mixed-criticality automotive applications.

Mixed-criticality automotive applications occur when a single chip runs two pieces of software that operate distinct systems with different levels of safety. For example, when one chip is used for both radio browsing and electric steering controls, it is considered to be performing mixed-criticality functions. Joining SOAFEE as a working group member with voting rights, Apex.AI will bring to the collaboration its expertise in functional safety certification for open-source projects including ROS 2, and zero-copy (Eclipse iceoryx). The company will also provide code that integrates better with sensors, access to platform automation tools, and maintenance of ROS middleware, along with contributing valuable experience in efficiently building modern, complex safety-critical systems.

“The automotive industry today faces a significant number of challenges as it seeks to transform to a truly software-defined future,” said Stefan Duda, Vice President of Product, Apex.AI. “Industry experts anticipate that over 80% of the innovation in vehicles will be driven by software. Helping create and implement that software effectively is one of our guiding principles. SOAFEE has brought together the brightest minds in the industry with a mission that perfectly matches our strengths and strategic focus on software-defined vehicles. By contributing our safety and software expertise to SOAFEE, we are confident we can help deliver a cloud-native architecture that sets automakers on a course for success.”

Participation in the group ensures that Apex.AI and its products play a meaningful role in co-designing future software-defined vehicle architecture, which is necessary if cars are to deliver on the promise of becoming computers on wheels. Apex.AI’s flagship product, Apex.OS, is the first and only TÜV NORD safety-certified end-to-end operating system for mobility vehicles. Apex.Middleware is the first-ever middleware for mobility systems integrating the three relevant communication protocols into one product: zero-copy data transport, DDS and the SOME/IP protocol. Both Apex.OS and Apex.Middleware are implementing cloud connectivity as well as the runtime environment to orchestrate automotive applications in mixed-critical systems.

SOAFEE is an industry-led special interest group composed of automakers, including Toyota's Woven Planet and Volkswagen's Cariad; semiconductor suppliers; open source and independent software vendors; and cloud technology leaders. The membership provides Apex.AI with opportunities to collaborate with two key industry players and SOAFEE leaders, Arm and AWS, whose microprocessor and cloud platforms are widely used in automotive applications. Ensuring that all industry players have the opportunity to provide input in a collaborative environment is an essential step to identifying the best path forward.

Apex.AI provides the first operating system that connects across the entire vehicle. The company is working with 15 of the largest automakers and is backed by Toyota Ventures; Volvo Group; Jaguar Land Rover's venture capital arm, InMotion Ventures; Daimler Truck; Continental; ZF; Airbus and more.

About Apex.AI

Apex.AI is a global company headquartered in Palo Alto, CA developing breakthrough safe, certified, developer-friendly, and scalable software for mobility systems. The company's flagship product is Apex.OS, a robust and reliable meta-operating system that enables faster and easier software development for vehicles and safer autonomous driving solutions. Their software development kit targets two main customer groups, the OEM developers who need to implement complex AI software integrated with the entire vehicle, and the autonomous driving developers who can now implement safety-critical applications with ease and reliability. ROS2 and Apex.OS can multiplex multiple independent tasks (called nodes) onto a smaller set of executor threads, thereby reducing context switching overhead. In addition, Apex.OS allows developers to run entire chains and graphs in a predefined order, which reduces interaction with the middleware and ensures that the nodes run in a predictable order. To access the Apex.AI media kit please visit <https://www.apex.ai/media-kit>.

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