GLOSSARY OF TECHNICAL TERMS

This glossary of technical terms contains explanations of certain technical terms used in this document. As such, these terms and their meanings may not correspond to standard industry meanings or usage of these terms.

"360-degree AVM"	360-degree around view monitoring, a system that provides real-time images of the vehicle's surroundings to enhance safety
"A2B"	automotive audio bus, which delivers lowest latency digital audio, control and power in a simple design to enable enhanced architectures of audio and voice
"ADAS"	advanced driving assistance systems, electronic technologies used in vehicles to improve safety and driving comfort
"AES" or "Advanced Encryption Standard"	an encryption algorithm that secures data by converting it into an unreadable format, ensuring confidentiality and protection against unauthorized access
"AI"	artificial intelligence
"ACL"	access-control list, a list of permissions associated with a system resource. An ACL specifies which users or system processes are granted access to resources, as well as what operations are allowed on given resources
"AI model"	a computing system that combines various model types, including large language models and algorithmic models, to facilitate task execution
"AIOS"	artificial intelligence operating system, a next-generation automotive-grade in-vehicle operating system for smart cockpit, with AI as its core. It offers a reusable,universal technical base for software and hardware solution and enables intelligent in-vehicle interactions
"APA"	automatic parking assistance, an autonomous car maneuvering system that moves a vehicle from a traffic lane into a parking spot to perform parallel, perpendicular, or angle parking
"API"	application programming interface, a set of rules, protocols, and tools that allow different software applications to communicate and interact with each other
"ASPICE"	automotive software process improvement and capability determination, an internationally recognized standard for assessing software development processes in the automotive industry
"ATE"	automatic test equipment, specialized automated equipment used to test the functionality and performance of electronic components and systems during production

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"AVAS"	acoustic vehicle alerting systems, sound generators used in electric vehicles to alert pedestrians, cyclists, children and other road users that a vehicle is present
"Bluetooth SIG"	Bluetooth Special Interest Group, the standards organization that oversees the development of Bluetooth standards and the licensing of the Bluetooth technologies and trademarks to manufacturers
"BSP"	board support package, low-level software that allows an operating system to interface with hardware components effectively
"CAN"	controller area network, a vehicle bus standard designed to enable efficient communication primarily between electronic control units
"cockpit"	the central control and interaction space in a vehicle where drivers and passengers interact with the vehicle's systems through displays, controls, and interfaces, integrating functionalities such as navigation, entertainment, and safety features
"Cooperative Positioning data"	data generated through the collaboration of multiple positioning systems, such as GPS, vehicle sensors, and communication networks
"CPU"	central processing unit, the primary component of a computing system that processes instructions and performs calculations necessary for running software and managing hardware operations
"DA+"	display audio, one of the two categories of our Standard Domain Controllers. In addition to clusters, it offers AVM, intelligent vehicle control, intelligent voice functionality, SD map navigation, which provides basic information about roads and routes, as well as wireless CarPlay/Android Auto
"DAB"	digital audio broadcasting, a digital radio standard for broadcasting digital audio radio services in many countries around the world, defined, supported, marketed and promoted by the WorldDAB organisation
"terminal to cloud"	the architecture of cooperative functioning between terminal devices such as car machines and mobile phones and cloud servers
"DIP"	dual in-line package, a type of electronic component housing that contains an integrated circuit (IC) or other device
"DLNA"	digital living network alliance, a set of interoperability standards for sharing home digital media among multimedia devices

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"DMIPS"	Dhrystone million instructions per second, a standard measurement of a processor's integer performance
"DMS"	driver monitoring system, a system that tracks the driver's behavior and condition using cameras and sensors to improve safety by detecting fatigue or inattention
"domain controller"	a centralized computing unit in the vehicle that manages specific domains such as cockpit, powertrain, body, and autonomous driving by processing data and controlling related functions
"DVR"	digital video recorder, is an onboard camera that continuously records the view through a vehicle's front windscreen and sometimes rear or other windows
"EMC"	electromagnetic compatibility, the ability of electrical and electronic systems to operate as intended in their electromagnetic environment without causing or experiencing interference
"ERP"	enterprise resource planning, a software platform that integrates an organization's processes — such as finance, supply chain, manufacturing, human resources, and customer relationship management — into a unified system for integrated operation and data sharing
"FOTA"	firmware over-the-air, a wireless technology that allows manufacturers to remotely update a vehicle's firmware
"GNSS"	global navigation satellite system, a satellite navigation is a system that uses satellites to provide autonomous geopositioning
"GP12 Inspection"	a quality control process implemented during the early stages of production, focusing on the inspection of parts to identify and address potential quality issues before mass production
"GPS"	global positioning system, a satellite-based navigation system used to determine precise location and provide real-time directions
"HID"	human interface device
"HMI(s)"	human-machine interaction(s), user interfaces that facilitate interaction between the driver and the vehicle's systems, such as touchscreens, voice commands, and other input methods
"HUD"	head-up display, any transparent display that presents data without requiring users to look away from their usual viewpoints

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"IATF16949"	a global quality management standard for the automotive industry, developed by the International Automotive Task Force (IATF), which focuses on defect prevention, reducing variation, and continuous improvement in the production and supply chain
"integrated cockpit and parking solution"	a combined system that integrates smart cockpit functionalities with automatic parking assistance, utilizing advanced SoC (System-on-Chip) platforms for cost-effective and seamless user experiences
"IoT" or "Internet of Things"	a network of interconnected devices that communicate and exchange data over the internet, enabling real-time monitoring, control, and automation across various systems, including vehicles
"IoV"	internet of vehicles, a network system that enables communication and data exchange between vehicles, infrastructure, and other connected devices through the internet
"IPQC"	in process quality control, checks that are carried out before the manufacturing process is completed
"ISO9001"	an international standard for quality management systems (QMS) that outlines requirements for organizations to provide products and services and improve their performance
"IVI"	in-vehicle infotainment products, one of the two categories of our Standard Domain Controllers. It combines information and entertainment for drivers and passengers and provides a wide range of features, including online navigation, multimedia playback, smart phone connectivity, and vehicle information displays, enhancing both driving experience and passenger comfort
"large model"	a sophisticated artificial intelligence (AI) model trained on vast amounts of data, capable of handling complex tasks such as natural language processing, computer vision, and multi-modal interactions
"large language model" or "LLM"	an AI model that has been trained on extensive text data, enabling it to comprehend and produce natural language through a deep learning framework, and it possesses generalization abilities including logical reasoning
"LIN"	local interconnect network, a low-cost embedded serial networking standard for connecting smart devices where it enables communication between vehicle components
"microservices architecture"	an architectural style where an application is built as a collection of small, independent services that each handle a specific business function within a microservices model

"multi-modal interaction"	an interaction model in smart cockpits that combines voice commands, facial recognition, gesture recognition, and visual inputs for seamless and intuitive operation
"multi-zone microphones"	a microphone system designed to capture sound from specific zones within a vehicle, enabling accurate voice recognition and enhancing multi-user interaction in the smart cockpit
"NEV"	new energy vehicle, a vehicle powered by alternative energy sources, such as battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell electric vehicles (FCEVs), as opposed to traditional internal combustion engine vehicles
"OEM"	automotive original equipment manufacturer
"OMS"	occupant monitoring system, a system that uses cameras and sensors to detect the presence, position, and condition of vehicle occupants to enhance safety and comfort
"One-Box dual SoC"	a configuration where two separate System-on-Chip processors are integrated into a single domain controller to manage multiple functions simultaneously, such as cockpit and parking
"OTA services"	over-the-air services, wireless delivery of software updates, data, or configurations to vehicles, ensuring continuous improvement of functionality and user experience without requiring physical updates
"PCB"	printed circuit boards, a flat board that supports and electrically connects electronic components using conductive pathways etched from copper sheets, critical for assembling electronic systems in vehicles
"PPAP"	production part approval process, a standardized process used in the automotive industry to ensure that a supplier's production process can consistently produce parts that meet customer specifications and quality requirements before mass production begins
"Premium Domain Controllers"	a high-performance domain controller designed to support advanced smart cockpit functionalities, supporting features like infotainment, multiple screens and APA
"RTOS"	real-time operating system, an operating system designed to process data as it comes in, typically used in systems requiring immediate responses, such as vehicle infotainment clusters
"SD" or "standard definition"	a resolution quality for digital video and imagery that provides a lower level of detail compared to high-definition (HD) or ultra-high-definition (UHD). SD typically has a resolution of 480p or 576p, depending on the region

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"software baseline"	a foundational software framework provided with the chip by its manufacturer, which serves as the base for development and integration of custom smart cockpit features such as navigation, voice control and safety system
"SDK"	software development kit, a set of platform-specific building tools for developers
"SoC"	system-on-chip, a microchip that integrates a CPU, memory interfaces, input/output devices, and other components into a single substrate for efficient performance in automotive systems
"SOR"	statement of requirement, a document that sets out the detailed needs, expectations, objectives, and specifications for a project or product
"SOTA"	software over the air, a technology that enables wireless delivery and installation of software updates or patches to vehicles, enhancing functionality and resolving issues without requiring physical intervention
"SSL/TLS" or "Security Sockets Layer/Transport Layer Security"	protocols for encrypting data transmitted over a network, ensuring secure communication by safeguarding data integrity, privacy, and protection against unauthorized access
"Standard Domain Controllers"	a cost-effective domain controller designed for vehicles with basic smart cockpit functionalities, supporting features like infotainment and 360-degree around-view monitoring
"TSP"	telematics service provider, an entity that offers telematics services, including data collection, transmission, and analysis, to support connected vehicle functionalities such as navigation, vehicle diagnostics, fleet management, and remote control
"T-Box"	telematics box, an in-vehicle device that connects the vehicle to the internet or other vehicles, enabling features like remote control and over-the-air updates
"Tier-1 suppliers"	companies that supply automotive components or systems directly to OEMs
"UI"	user interface, the visual and interactive elements that allow users to interact with a system, such as buttons, icons, menus, and screens. In the context of smart cockpits, it includes the displays, touchscreens, and controls that drivers and passengers utilize to operate the vehicle's functions or access information
"USB"	universal serial bus, an industry standard developed by USB-IF for digital data transmission and power delivery

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"USB-IF"	USB Implementation Forum, Inc., is a nonprofit organization created to promote and maintain USB, a set of specifications and transmission procedures for a type of cable connection that has since become used widely for electronic equipment
"WeLink3"	our proprietary multi-platform in-vehicle connectivity solution that supports wired and wireless mobile phone screen mirroring and reverse control across Android, iOS, and Harmony OS platforms