

GLOSSARY OF TECHNICAL TERMS

This glossary contains definitions of certain terms used in this Document in connection with our Company and our business. Some of these may not correspond to standard industry definitions or usage of these terms.

“Adaptive Matrix/ADB”	Adaptive Matrix/Adaptive Driving Beam (ADB) systems automatically adjust the beam pattern and brightness of the high beams in real time based on road conditions, vehicles ahead, oncoming traffic and traffic signs
“ADAS”	Advanced Driver Assistance Systems (ADAS) are vehicle systems that use sensors, controllers and algorithms to provide perception, warnings and driving assistance, thereby enhancing driving safety and comfort
“ADS”	Automated Driving System (ADS) refers to vehicle automation systems that, under specified operating conditions, are capable of continuously performing all or part of the driving task, without requiring continuous human driver supervision
“AFS”	Adaptive Frontlight System (AFS) is an adaptive headlighting system that automatically adjusts the direction and range of the light beam based on information such as steering angle and vehicle speed
“AGV”	Automated Guided Vehicle (AGV) is a mobile robot used for material handling that navigates along predefined paths or guidance systems
“Air-leakage Test”	a critical test used to verify whether the sealing performance of a lamp assembly meets required standards, preventing the ingress of water and dust
“ALS”	Automatic Headlamp Leveling System (ALS) automatically adjusts the headlamp beam height in response to changes in vehicle load, ensuring adequate road illumination while preventing glare to other drivers
“APS”	Advanced Planning and Scheduling (APS) is a system used to optimize production planning and scheduling based on resource availability, capacity constraints and demand requirements
“ASIL-B”	Automotive Safety Integrity Level B (ASIL-B) is a functional safety classification level defined under automotive safety standards, indicating a medium level of safety integrity requirement

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“BI”	Business Intelligence (BI) aggregates data from multiple systems to provide real-time dashboards and multi-dimensional analysis, supporting data-driven decision-making and performance optimization
“CMMM”	Maturity Model of Intelligent Manufacturing Capability (CMMM) is a national standard formulated by the China National Information Technology Standardization Committee, used to help enterprises establish, evaluate and continuously improve data management capabilities by applying advanced data management concepts and methods, thereby promoting development toward informatization, digitalization and intelligent manufacturing
“CRM”	Customer Relationship Management (CRM) is a system that centralizes customer, order and after-sales information to support rapid customer response, sales lead management and closed-loop requirement tracking, enhancing service quality and customer retention
“DFM/DFA”	Design for Manufacturing/Design for Assembly (DFM/DFA) are two design methodologies focused on optimizing cost, quality and efficiency by considering manufacturability and assembly requirements at the product design stage
“DLP”	Digital Light Processing (DLP) is a projection display technology based on Digital Micromirror Device (DMD) technology
“EDO”	Equipment Digital Operation (EDO) manages production equipment throughout its lifecycle, supporting preventive maintenance and fault handling to ensure equipment reliability and reduce downtime
“embodied intelligence”	refers to intelligence that emerges from the integration of perception, cognition and action within a physical body, enabling systems to learn from and adapt to real-world interactions with their environment
“EMC”	Electromagnetic Compatibility (EMC) is the ability of electrical and electronic equipment to operate properly in its electromagnetic environment without causing or suffering unacceptable electromagnetic interference
“EMS”	Energy Management System (EMS) monitors and analyzes facility energy consumption to support refined energy management, cost control and low-carbon manufacturing

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“ERP”	Enterprise Resource Planning (ERP) integrates sales, supply chain, production, inventory and finance to enable end-to-end resource coordination, order-to-production linkage and automated financial accounting, supporting efficient operations and management decision-making
“fog lamp”	a lamp designed to improve short-range illumination in low-visibility conditions such as fog, rain or snow
“friction welding”	a solid-state joining process that uses frictional heat generated by relative motion between workpieces, combined with pressure, to create a high-strength bond without melting the materials
“Grille Lamp”	a lighting or display lamp installed in the front grille area of a vehicle, primarily used for styling expression, brand identification or information indication
“HCM”	refers to Headlamp Control Module (HCM), a control module used to manage and control front headlamp functions
“HD”	High Definition (HD) refers to lighting systems with high-resolution light distribution and precise beam control, enabling sharper illumination patterns and enhanced visibility
“HID”	High-Intensity Discharge (HID) is a lighting technology in which an electric arc passes through a gas-filled chamber to produce high-intensity light, commonly used in automotive headlamps and industrial lighting
“high-reliability electronic control”	an electronic control technology system that, through hardware and software design optimization, enables long-term operation with low failure rates and strong anti-interference performance, suitable for automotive applications
“IML”	In-Mold Labeling (IML) is an in-mold decoration technology used to manufacture automotive lamp lenses or decorative components with complex patterns or textures
“injection molding”	a forming process in which molten plastic material is injected into a closed metal mold cavity under high pressure and, after cooling and solidification, produces plastic products consistent with the cavity shape
“intelligent automotive lighting”	intelligent automotive lighting achieves adaptive illumination, beam pattern control and information display through the integration of advanced optical hardware and intelligent software algorithms

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“Intelligent Light Carpet”	Intelligent Light Carpet is an intelligent lighting function that dynamically adjusts the illuminated area in front of a vehicle to form a band-shaped light zone capable of guiding driving paths or adapting to road conditions
“intelligent projection headlamp”	a headlamp that, based on information identified by sensors and decisions made by specialized algorithms within the lighting control system, automatically projects different lighting effects
“ISA”	International SSL Alliance (ISA), an international industry organization in the field of solid-state lighting
“ISD”	refers to Interactive Signal Display (ISD), generally used for information communication and interaction between vehicles and the external environment or other road users
“ISO”	International Organization for Standardization (ISO) is an independent, non-governmental international body that develops and publishes international standards to ensure quality, safety, efficiency and interoperability across products and services
“ISS”	Intelligent Security System (ISS) integrates video surveillance and access control to enable continuous monitoring and early warning in key production areas, enhancing factory safety and operational stability
“lane-change light-carpet”	a lighting function in which the light carpet dynamically extends or flows toward the target lane during a lane-change manoeuvre, providing visual assistance to the driver through dynamic lighting cues
“laser engraving”	using a high-intensity focused laser beam to etch the substrate surface or vaporise surface coatings at the focal point, thereby producing the required patterns or text
“laser welding”	an advanced welding technology that uses a high-energy-density laser beam as a heat source to melt and join two or more workpieces under precise control
“Level 2 ADAS” or “L2-level intelligent driving” or “L2 driver assistance”	refers to a system that can simultaneously control steering and acceleration/deceleration under certain conditions, while the driver must continuously monitor the driving environment and remain responsible for the vehicle at all times
“LCU”	refers to Lighting Control Unit (LCU), a lighting control module used to manage vehicle lighting functions

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“LED”	Light-Emitting Diode, a semiconductor diode that emits light when current flows through it
“Lens”	the transparent or semi-transparent front cover of an automotive lamp assembly and a key component of the optical system
“LiDAR”	Light Detection and Ranging (LiDAR) is a sensing technology that uses laser pulses to measure distances and generate precise three-dimensional representations of the surrounding environment
“light guide”	a transparent plastic component that transmits light based on the principle of total internal reflection and is a core optical element for achieving uniform, elongated and dynamic lighting effects in modern automotive lamps
“Lighting sub-assembly”	the process of assembling individual lamp components into a complete lighting sub-assembly unit
“LIMS”	Laboratory Information Management System (LIMS) standardizes testing and validation processes through automated data collection, traceability and report management, improving data accuracy and reducing product quality risks
“MES”	Manufacturing Execution System (MES) connects production planning with shop-floor execution, enabling real-time production monitoring, process control and quality assurance to support lean manufacturing
“Micro-LED”	Micro Light-Emitting Diode (Micro-LED) is a technology that uses micro-sized LED chips, where each pixel is made of an independent LED chip. It offers extremely high brightness, contrast and energy efficiency and is widely used in high-precision displays, smart projection systems and automotive lighting applications
“Mini-LED”	Mini Light-Emitting Diode (Mini-LED) is a technology with smaller-sized LEDs typically used for backlighting or display systems, offering higher pixel density and more precise local dimming capabilities, which improve brightness, contrast and color accuracy of displays
“monocular vision perception algorithm”	a perception algorithm based on input from a single camera, enabling detection, recognition and understanding of road environments, vehicles, pedestrians and traffic signs through image analysis

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“multi-color injection molding”	an injection molding process that injects different colors or materials simultaneously or sequentially to directly produce multi-colored or composite-structure products
“nano-micro engraving”	a precision manufacturing process that creates micro- and nano-scale surface structures to control optical, functional or decorative properties of a component
“NEV”	New Energy Vehicle
“nomination”	refers to the automotive manufacturer’s selection of suppliers to supply components for integration into specific vehicle models, and the result is typically confirmed in the form of nomination letter
“OEM original equipped market”	the market where automotive lighting products uniformly procured by automotive manufacturers (OEMs) and installed during vehicle assembly, distinct from post-sales aftermarket for retrofitting or modification
“OLED”	Organic Light-Emitting Diode (OLED) is a display technology in which organic materials emit light directly when an electric current is applied, enabling thin, flexible, high-contrast screens without the need for a backlight
“optical film”	Optical Film refers to thin-film materials used in optical systems to regulate optical properties such as light transmission, reflection, diffusion or polarization
“OTA”	Over-the-Air (OTA) refers to the wireless delivery of software, firmware or configuration updates to devices or vehicles without requiring physical connections
“OTS”	refers to Off-tooling Samples, are samples manufactured using formal production tooling (including molds, fixtures and inspection tools), which are subject to systematic testing to verify compliance with design specifications and mass production requirements
“PCB”	Printed Circuit Board (PCB) is a board that mechanically supports and electrically connects electronic components using conductive pathways etched or printed on an insulating substrate
“PLM”	Product Lifecycle Management (PLM) supports end-to-end digital collaboration and data control across the automotive lighting R&D lifecycle, enabling centralized management of requirements, design, processes and projects, improving R&D efficiency, design accuracy and R&D-to-production transition

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“PPAP”	refers to Production Part Approval Process, the formal approval procedure for production parts before the mass-production
“precise optics”	a field that study and manufacture high-precision optics components and assemblies, involving the design, process testing, and application of various optical elements such as lenses, prisms and modules
“QA Inspection – AOI & ICT”	a quality assurance process that uses Automated Optical Inspection (AOI) to identify appearance and assembly defects, together with In-Circuit Testing (ICT) to verify electrical continuity, functionality and detect open or short circuits
“QA Inspection – Electrical Test”	a quality assurance process that verifies the electrical functionality and performance of electronic components or assemblies
“QA Inspection – Optical Testing”	a quality assurance step that inspects products using optical inspection equipment
“QMS”	Quality Management System (QMS) is a structured and documented management framework designed to ensure that an organization’s products and services consistently meet customer requirements and applicable laws and regulations
“RCM”	refers to Rearlamp Control Module (RCM), a control module used to manage and control rear lamp functions
“RCS”	Robot Control System (RCS) is a control and scheduling system for coordinating and managing mobile robot fleets
“SCADA”	Supervisory Control and Data Acquisition (SCADA) collects real-time equipment and environmental data to enable transparent production monitoring and provide foundational data support for other systems
“SMT”	Surface Mount Technology (SMT) is a technology used to mount electronic components directly onto the surface of printed circuit boards
“software algorithm platform”	a platform that supports the development and operation of software algorithms
“SRM”	Supplier Relationship Management (SRM) manages supplier onboarding, procurement collaboration and performance evaluation through digital interaction, improving supply chain transparency, cost efficiency and supply stability

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“stacker crane”	a core storage and retrieval device used in automated warehouses that operates along rails within high-bay racking aisles to store and retrieve palletized goods
“stepless brightness control”	Stepless Brightness Control refers to the capability of a lighting system to adjust brightness smoothly and continuously rather than switching between predefined discrete levels, enabling finer atmosphere creation and visual adaptation
“surface treatment”	a collective term for processes that form functional or decorative coatings/plating layers on the substrate surface of automotive lamp components, or directly modify the microstructure of the substrate surface, through physical, chemical or physicochemical methods
“third space”	In automotive design, third space refers to the concept of transforming the vehicle interior into a comfortable, personalized and lifestyle-oriented space beyond the home (the first space) and the workplace (the second space)
“WCS”	Warehouse Control System (WCS) is a control system that manages and coordinates warehouse automation equipment
“WMS”	Warehouse Management System (WMS) is a system used to manage and control warehouse operations, including inventory, storage and logistics activities