GLOSSARY OF TECHNICAL TERMS

"5G"	the 5th generation mobile network, a new global wireless standard after 1G, 2G, 3G, and 4G networks
"AI"	artificial intelligence, simulation of human intelligence by machines
"AI empowerment computing center"	a computing center with AI supercomputing infrastructure and a large number of GPUs, to offer pre-trained AI models and produce new AI models
"AI model"	mathematical algorithms which can take unstructured data as input and transform them into informative outputs through its "intelligence", namely, the capability of perceiving the world, transcribing and organizing information, enhancing or generating contents, or making decisions
"algorithm"	a procedure or formula for solving a problem, based on conducting a sequence of specific actions, especially by a computer
"API"	application programming interface, a computer programming approach for facilitating exchange of information and executing instructions between different computer systems
"app" or "application"	application software designed to run on smartphones and other mobile devices
"architecture"	the structure under which an information system's hardware, software, data and communication capabilities are put together
"automatic speech recognition" or "ASR"	a technology that uses machine-learning algorithms to convert spoken language to computer-processable inputs, such as keystrokes, binary codes or character sequences
"CAGR"	compound annual growth rate, representing the year-over-year growth rate of a value over a specified period of time taking into account the effects of compounding and calculated by subtracting one from the result of dividing the ending value by its beginning value raised to the power of one divided by the period length

GLOSSARY OF TECHNICAL TERMS

"carbon neutrality"	net zero carbon emissions, achieved through a transparent process of measuring emissions, reducing those emissions and offsetting residual emissions
"city-level autonomous driving"	autonomous driving that enables city-wide scheduling of vehicles, including city-wide coverage and compatibility with various vehicle types within the city
"cloud"	a network of remote servers hosted on the internet/intranet and used to store, manage, and process data in place of local servers or personal computers
"cloud-based"	applications, services or resources made available to users on demand via the internet from a cloud computing provider's servers with access to shared pools of configurable resources
"cloud computing"	the practice of storing computer data and programs on multiple servers that can be accessed through the internet
"computer telecommunications integration" or "CTI"	a set of technologies for integrating and managing computers and telecommunications systems
"computer vision AI"	a field of AI that enables cameras and computers to identify, track and measure images and videos in lieu of human eyes, through which it allows extraction of valuable information and data, and performance of tasks such as analyses and automation
"computing power"	the ability of a computer to perform an operation
"core conversational AI technologies"	conversational AI technologies necessary for realizing speech-based interactions between human beings and machines, such as automatic speech recognition, emotion recognition, natural language processing, natural language generation and text to speech
"COVID-19"	coronavirus disease 2019, a disease caused by a novel virus designated as severe acute respiratory syndrome coronavirus 2
"CSTA"	computer-supported telecommunications applications, a protocol interface which enables the smart connection of computers and phone systems

GLOSSARY OF TECHNICAL TERMS

"customer relationship management" or "CRM"	a strategy for managing an organization's relationships and interactions with customers and potential customers, including automatic analysis of sales and marketing strategies, and customer services, as well as implementations procedures
"deep learning"	a subset of AI and machine learning that mimics the working of biological neural systems such as human brains and uses multi-layered neural networks to deliver state-of-the-art accuracy in tasks such as object detection and recognition, speech recognition and natural language processing. Deep learning differs from traditional machine learning techniques in that it can automatically learn representations from data such as images, video or text, without introducing hand-coded rules or human domain knowledge. Its highly flexible architecture can learn directly from raw data and can increase its predictive accuracy when provided with some data
"digital human"	a human-like digital avatar that interacts with users naturally and vividly through dialogues, expressions and gestures
"emotion recognition"	the attribution of emotion states based on the observation of visual and auditory nonverbal cues
"eco-partners"	participants within the AI industrial value chain featured by increasing technology fusion for serving specific scenarios that can not only form reciprocal supplier-customer relationships between themselves, but also collaboratively develop technologies and expand market penetration by leveraging their respective strengths and/or resources in technology, service and/or commercialization, etc.
"end-customer industry(ies)"	an industry-based classification of our direct customers, i.e., the industry (i) that a system integrator primarily serves; or (ii) in which an enterprise-level user operates
"end users"	enterprise-level users that have used or may potentially use our solutions offered through system integrators as our customers

GLOSSARY OF TECHNICAL TERMS

"enterprise-level users"	organizations (including corporations and government entities) that have used or may potentially use conversational AI solutions
"enterprise resource planning"	a business process management software that allows an organization to use a system of integrated applications to manage the business and digitalize back-office functions relating to technologies, services, and human resources
"ETC"	a wireless system to automatically collect the usage fee or toll charged to vehicles using toll roads, high-occupancy vehicle lanes, toll bridges and toll tunnels
"federated learning"	a decentralized approach to training machine learning models where the raw data on edge devices are used to train models locally without an exchange of data to global servers
"few-shot learning"	the practice of feeding a learning model with a very small amount of training data, in contrast to the practice of using a large amount of data
"gateway"	a computer system that conducts the conversion between two systems with different communication protocols, data formats or languages, or even completely different architectures
"GDP"	Gross Domestic Product
"GPU"	graphics processing unit, a specialized electronic circuit designed to rapidly manipulate and alter memory to accelerate the creation of images
"Hz"	hertz, a measurement of frequency
"IDC"	internet data centers, physical facilities that house data servers and other IT infrastructure
"image recognition"	a technology that uses computers to process, analyze and understand images in order to recognize targets in a variety of different patterns

GLOSSARY OF TECHNICAL TERMS

"intelligent connective vehicle" or "ICV"	an emerging product accelerating cross-border integration and transformation in information and communication, the internet, big data, AI, and road transportation industries
"interactive voice response" or "IVR"	an automated voice system technology to provide or gather information from incoming callers via a voice response system, with pre-recorded or synthesized speech generated from text-to-speech technology, without having to speak to a human agent
"internet of vehicles" or "IoV"	a network of vehicles equipped with sensors, software, and the technologies that mediate between these with the aim of connecting and exchanging data over the Internet according to agreed standards
"IoT"	internet of things, the extension of internet connectivity into physical devices and everyday objects
"IP"	Internet Protocol, a set of rules for communication over the internet, with an IP address identifying a network or device on the internet
"ISCSLP"	International Symposium on Chinese Spoken Language Processing, a biennial conference for scientists, researchers, and practitioners to report and discuss the latest progress in all theoretical and technological aspects of spoken language processing. ISCSLP is the flagship conference of the Special Interest Group on Chinese Spoken Language Processing (SIG-CSLP)
"ISO"	International Organization for Standardization, an international standard-setting body composed of representatives from various national standards organizations
"IT"	information technology
"knowledge base"	a centralized repository of information designed to store complex structured data and capture the knowledge of human experts to support decision-making

GLOSSARY OF TECHNICAL TERMS

"knowledge graphs"	a series of different graphics showing the process of knowledge development and structural relationships, describing subjects or concepts using visualization techniques, and containing multiple abilities to mine, analyze, construct, map and display knowledge and their interconnections
"large language model" or "LLM"	without formal definition and normally referring to a language model trained on large quantities of text data with billion-level or above parameters for general purposes, as opposed to models trained for accomplishing specific tasks
"low-code"	characteristics of a development environment used to create application software through a graphical user interface
"machine learning"	the scientific study of algorithms and statistical models that computer systems use to effectively perform specific tasks without being explicitly programmed to do so
"natural language processing" or "NLP"	a subfield of linguistics, computer science and AI primarily consisted of natural language understanding (NLU) and natural language generation (NLG) and concerned with the interactions between computers and human language, in particular how to program computers to process and analyze large amounts of natural language data
"office automation system"	also known as OA system, a system that enables to create, collect, store, manipulate and relay office information in a data storage system
"on-board unit"	a device installed in a vehicle for recording data for the vehicle and communication with specific devices installed in the ETC toll lanes by way of microwave signals. The on-board unit must be used in conjunction with the ETC card to allow non-stop drive through on the ETC lanes
"open-source"	a source code that is made freely available for possible modification and redistribution

GLOSSARY OF TECHNICAL TERMS

"PC"	personal computer, a multi-purpose computer whose size, capabilities, and price make it feasible for individual use
"power usage effectiveness" or "PUE"	a metric used to determine the energy efficiency of a facility and is determined by dividing the total amount of power entering the facility by the power used to run the IT equipment within it
"public switched telephone network"	also known as PSTN, a generic term for a fixed network to which a cellular network is interconnected in order to be able to send and receive calls to and from fixed network subscribers
"R&D"	research and development
"reinforcement learning"	an area of machine learning concerned with how intelligent agents ought to take actions in an environment in order to maximize the notion of cumulative reward
"return on investment"	financial ratios used to calculate the benefit an investor will receive in relation to their investment cost
"roadside unit"	a special wireless communicating device located on the roadside that provides connectivity and information support to passing vehicles, including safety warnings and traffic information
"self-supervised learning"	a machine learning paradigm and corresponding methods, for processing unlabeled data and completing pretext tasks to obtain useful representations that can help with downstream learning tasks
"sensor"	a device, module, machine, or subsystem whose purpose is to detect events or changes in its environment and send the information to other electronics, frequently a computer processor
"SIP"	Session Initiation Protocol, a signaling protocol used for initiating, maintaining, and terminating communication sessions that include voice, video and messaging applications

GLOSSARY OF TECHNICAL TERMS

"SMS"	short message service, a basic communication technology for mobile data transfer and is characterized by the exchange of short alphanumeric text messages between digital line and mobile devices
"softswitch"	also known as software switch, a call-switching node in a telecommunications network based in software instead of specialized switching hardware. It separates the call-control functions of a telephone call from the media gateways that carry it. It is the core communication component in a communication platform, which processes all calls taking place on the platform and performs key functions such as communication protocol processing, communication routing processing, and codec (coder/decoder) processing
"software development kits"	a set of tools used for developing applications provided by hardware and software providers
"TAPI"	telephony application programming interface, a set of standard application programming interfaces for connecting a computer to telephone services
"T-box"	also known as telematics box, an electronic device fitted to a vehicle to record and monitor the vehicle's performance
"text to speech" or "TTS"	a type of speech synthesis application that converts text into natural speech output
"time interval between failures"	the elapsed time between inherent failures of a mechanical or electronic system, during normal system operation
"total cost of ownership"	the purchase price of an asset plus the costs of operation
"transfer learning"	a research field in machine learning that focuses on storing knowledge gained while solving one problem and applying it to a different but related problem
"TSAPI"	telephony server application programming interface, a computer telecommunications integration standard that enables telephony and CTI application programming

GLOSSARY OF TECHNICAL TERMS

"vehicle-to-everything" or "V2X"   communication between a vehicle and any object, such as road, traffic lights and roadside signals that may affect, or may be affected by, the vehicle

"video gateway"   a gateway that integrates core functions such as streaming protocol conversion, streaming distribution services, multi-channel video decoding, and video screen segmentation

"virtual reality"   the computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors

"voiceprint recognition"   a technology that identifies the speaker through acoustic features

"VoIP"   Voice over Internet Protocol, the category of hardware and software that enables people to make telephone calls via the Internet or IP networks, including phone to phone, phone to PC, PC to phone but excluding PC to PC communications and private network traffic. Voice signals are converted to packets of data, which are transmitted on shared public lines, hence avoiding the tolls of the traditional public switched telephone network