Stock Code: 2533.HK

BLACK SESAME TECHNOLOGIES

Corporate Introduction

Stock Code: 2533.HK

BLACK SESAME TECHNOLOGIES

“We're going to make the chip that changes the way we travel.”

—— Johnson SHAN, Founder & CEO of Black Sesame Technologies

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BLACK SESAME TECHNOLOGIES

About Black Sesame Technologies

Black Sesame Technologies is a leading provider in automotive-grade computing platform and solutions for smart vehicles. Founded in 2016, Black Sesame Technologies has listed on the main board of the Hong Kong Stock Exchange since 2024, under stock code 2533.HK. The Company started with Huashan Series high-computing power platforms for autonomous driving and released Wudang Series cross-domain platforms in 2023 to address more diverse and sophisticated demands for advanced functionalities in smart vehicles, while also beginning to expand into other applications.

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BLACK SESAME TECHNOLOGIES

Leader of Intelligent Vehicle Computing Chips

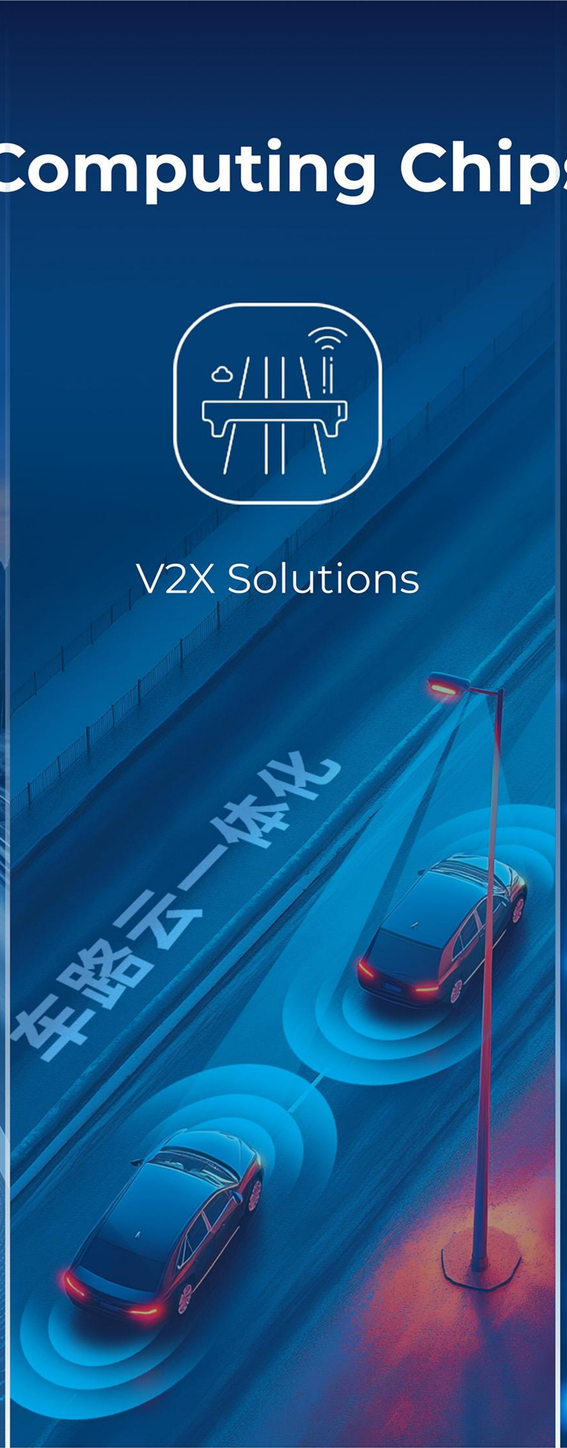
Automotive-grade SoCs for Smart Vehicles

Autonomous Driving Algorithms

Commercial Vehicle Solutions

V2X Solutions

Computing Platforms for Smart Robotics



Stock Code: 2533.HK

BLACK SESAME TECHNOLOGIES

International Talents and Global Offices

Having over 1000 employees worldwide, Black Sesame Technologies established R&D and sales centers in the Silicon Valley, Singapore, Hong Kong and mainland China. Our core team consists of talents from top companies like Bosch, OV, Nvidia, Ambarella, Microsoft, Qualcomm, Huawei and ZTE, with averages 15+ years professional experiences.

50+ PhD | > 85% R&D Team | Avg. 15+yrs Dedicated Experience | Top Computer Vision Experts Worldwide | Solid SoC Design Capability

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Company History

2016

Jul. Company founded

2018

Mar. Entered into global strategic cooperation agreement with **Bosch**

2019

Nov. Entered into strategic cooperation agreement with **FAW Group** to accelerate intelligent driving commercialization

2020

Jun. Launched **Huashan A1000** and **Huashan A1000L**

Oct. Launched autonomous driving solutions and V2X solution

2021

Sep. Entered into strategic cooperation with **JAC Motors** to develop vehicle-level autonomous driving chips and visual perception algorithms

2022

Sep. Awarded project with **Utopilot** on L4 AGV and heavy truck models

Dec. Announced joint collaboration with **Dongfeng Motor** to deploy Huashan A1000 SoCs on its first all-electric sedan and SUV models

Reached a commercial vehicle platform-level strategic cooperation with SANY

2023

Apr. Announced **the industry's first cross-domain computing platform** for intelligent vehicles, **Wudang Series**, achieving four-domain with single chip

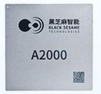
May. Announced joint collaboration with **FAW Group** to deploy Huashan A1000L on the **Hongqi models**

Aug. The GEELY – **LYNK & CO 08** with Huashan A1000 start to sell

Iveco Olsson equipped with Huashan A1000 are mass-produced this year

2024

Dec. **Launched Huashan A2000 family chips** and announced the three major technological innovations



Sep. Signed a technical cooperation framework agreement with Dongfeng Motor to deepen cooperation and resource sharing in all aspects

Aug. **Officially listed on the main board of the HKEX**

Jun. **Dongfeng eπ008** with Huashan A1000 started to sell

May. **LYNK&CO 07EM-P** with Huashan A1000 started to sell

Mar. **Dongfeng eπ007** with Huashan A1000 started to sell

2025

Jan. Entered into global strategic cooperation agreement with **Continental**

Feb. Awarded project with **FAW Group** on Huashan A1000

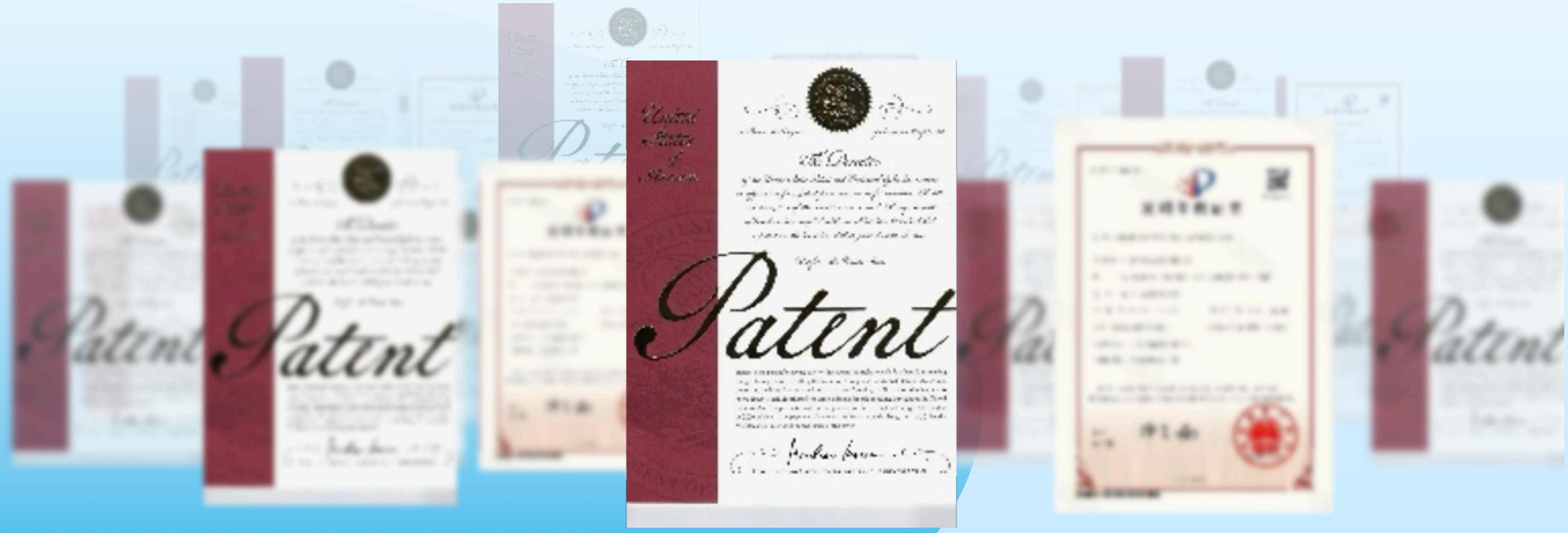
Mar. **Geely Galaxy E8, Galaxy Xingyao 8** with Huashan A1000 **started to sell**

Apr. **Launched "Safety Intelligent Platform"** based on **Wudang C1200 family chip.**

Awarded project with **Dongfeng Motor** on Wudang C1296

Qualifications & Honors

As of 2025Q1, Black Sesame Technologies has owned over **160** licensed patents globally and has won over **150** awards from major industry and media.



Products, Technologies and Solutions

Black Sesame Technologies proprietary automotive-grade products and technologies empower intelligent vehicles with mission-critical capabilities, such as autonomous driving, smart cockpit, advanced imaging and interconnection. The company offer full-stack autonomous driving capabilities to meet broad customer needs through SoCs and SoC-based solutions, powered by in-house developed IP cores, algorithms and support software.

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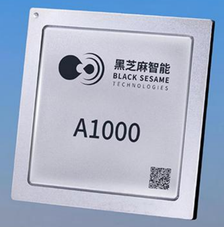
BLACK SESAME TECHNOLOGIES

From Autonomous Driving to Cross-domain Fusion

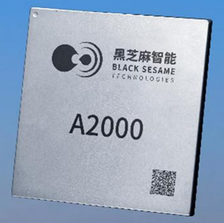
Black Sesame Technologies chip product lines fully support L2-L4 autonomous driving and solutions of cross-domain computing platform in need of different customer requirements.

Huashan Series

High Performance & Cost-effective Autonomous Driving Chip Platform



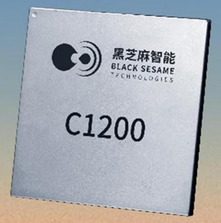
A1000 Family



A2000 Family

Wudang Series

Industry's First Intelligent Vehicle Cross-domain Computing Chip Platform



C1200 Family

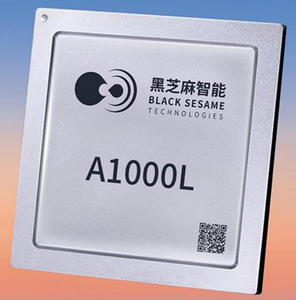
Stock Code: 2533.HK

BLACK SESAME TECHNOLOGIES

Product | Huashan Series

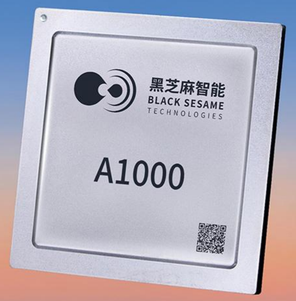
Huashan Series Autonomous Driving Computing Chip

AUTONOMOUS DRIVING



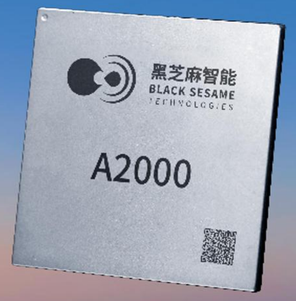
Huashan A1000L
Autonomous Driving Chip

Fully support L2/L2+ autonomous driving



Huashan A1000
Automotive Grade High Performance AD Chip

Perfectly implement in L2+/ L3 autonomous driving



Huashan A2000
Full-scenario Knowledge-driven AD Chip

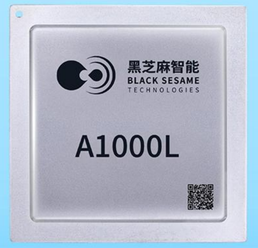
New Generation Computing Platform

BLACK SESAME TECHNOLOGIES

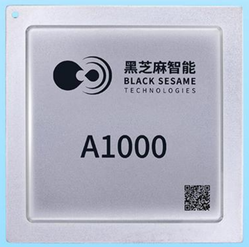
Huashan A1000 Family Chips

A1000 is the high-computing-power platform equipped in the most mass-produced car models in industry, with the highest performance in 16nm auto-grade chips.

A1000L



A1000



2020

2023

LYNK&CO 08

2024

LYNK&CO 07

东风汽车 DONGFENG MOTOR

Dongfeng eπ008

Dongfeng eπ007

2025

GEELY 吉利控股集团

Geely Xingyao 8

Geely Galaxy E8

2026+

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Highlights of Huashan A2000 Family Chips

High Safety & Reliability
Supports redundancy-based Safety NPU

Revolutionary Compute & Memory Architecture
3-level memory hierarchy
Balancing performance, bandwidth, and cost

Native Transformer Support

Comprehensive Product Coverage
From NOA to Robotaxi

New Generation NPU Architecture

High Integrity
6-in-one: CPU+DSP+GPU+NPU+MCU+ISP/CV

New Generation ISP
4-frame exposure, 150dB HDR

Self-Developed High-performance RISC-V Scheduling Core

Flexible Scalability
Supports multi-chip expansion

Single-Chip Data Closed-Loop

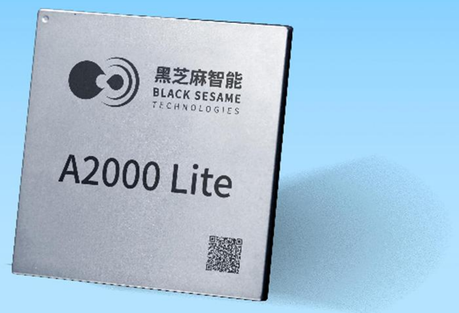
Stock Code: 2533.HK

Huashan A2000 Family Product Portfolio

High-performance Chip Platform Dedicated for Next Generation AI Models

A2000 Lite

Urban Autonomous Driving Chip

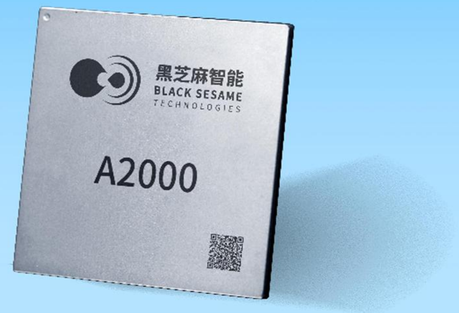


Industry's Extreme Cost-effectiveness

Typical Solution:
Vision (+ Single LiDAR)
Performance:
1 x Industry flagship chip

A2000

Full-scenario Knowledge-driven AD Chip

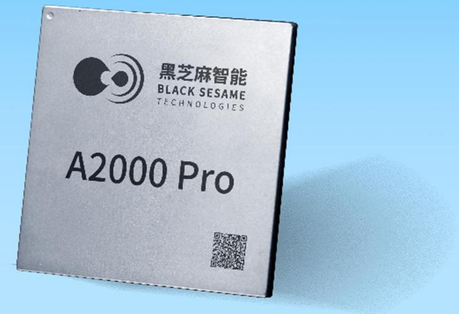


New Generation Computing Platform

Typical Solution: Vision + Multi-LiDARs
Performance: 2 x industry flagship chip
CPU: 16*Cortex-A78AE
MCU: 6*Cortex-R52(LS)
Automotive-grade IP adopted
Modular design facilitates flexible expansion

A2000 Pro

High-end Full-scenario Knowledge-driven AD Chip



Chiplet Architecture Flagship Computing Platform

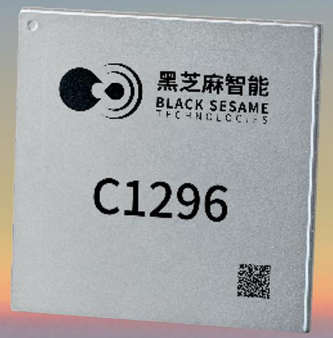
Scenario Solution:
Safety and redundancy
Performance:
4 x industry flagship chip

Stock Code: 2533.HK

Product | Wudang Series

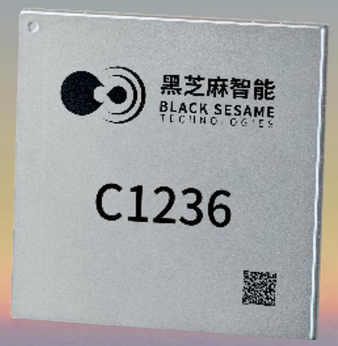
Wudang Series Cross-domain Computing Chip

CROSS-DOMAIN FUSION



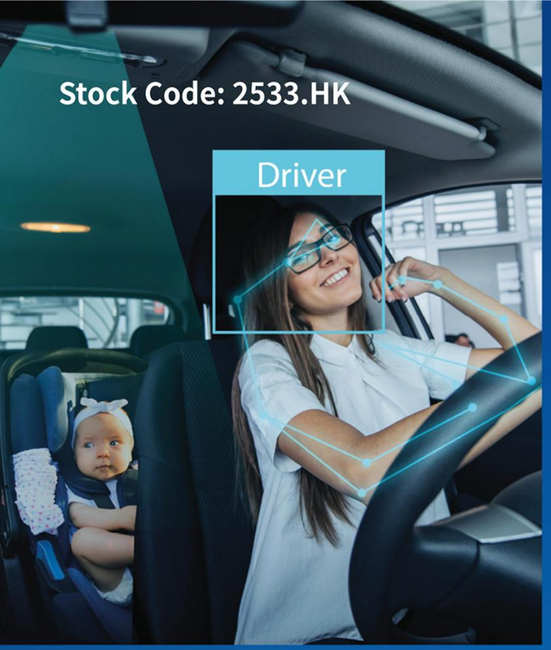
Wudang C1296

The industry's first computing chip to support multi-domain fusion



Wudang C1236

The single autonomous driving chip to support NOA driving



In-cabin sensing system

DMS/OMS
Cabin monitoring
Gesture recognition
Multimodal interaction

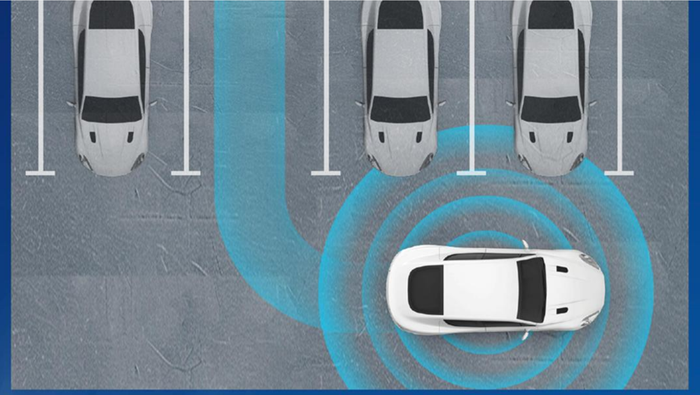
CMS system

In-car streaming rear view mirror
Exterior mirror replace-ment

Infotainment

Central navigation
Audio processing
Rear entertainment

Wudang C1296



Vehicle computing

Data gateway exchange
Body/chassis algorithm
Data security management
SOA service

Intelligent headlight

New Scene Interaction
Intelligent headlight control

BLACK SESAME TECHNOLOGIES

L2++ driving system

ACC LCA NOA
AEB HWP

Safety information system

Digital dashboard
Digital control panel
AR HUD

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BLACK SESAME TECHNOLOGIES

First A78AE SOC

ARM-core performance improved >50% compared to the competing product

- **Localizing**
- **Fusion**
- **LiDAR processing**

Self-developed core DynamAI NN NPU

VS A1000 performance up to 20%

Transformer supported

- **BEV**
- **17MP camera supported**

Built-in Ethernet switching

MIPI CPHY/ CSI TX

Support SIP module

- **Optimal system BOM**
- **No need for water cooling**

Wudang C1236

MOST powerful integrated MCU

ASILD
16K DMIPS

- **External MCU not required**
- **ASILD safety island**
- **Global cybersecurity standards**

The First High-performance ARM Automotive Grade GPU Mali G78AE

5x performance vs competing product

- **Extremely vivid visual effect (virtual scene)**
- **Premium 3D surround view**

Shanhai Development Toolchain

Mass production -proven IP

Upgrade & Reuse

- **"One-click" algo migration**
- **Reuse A1000 investment**

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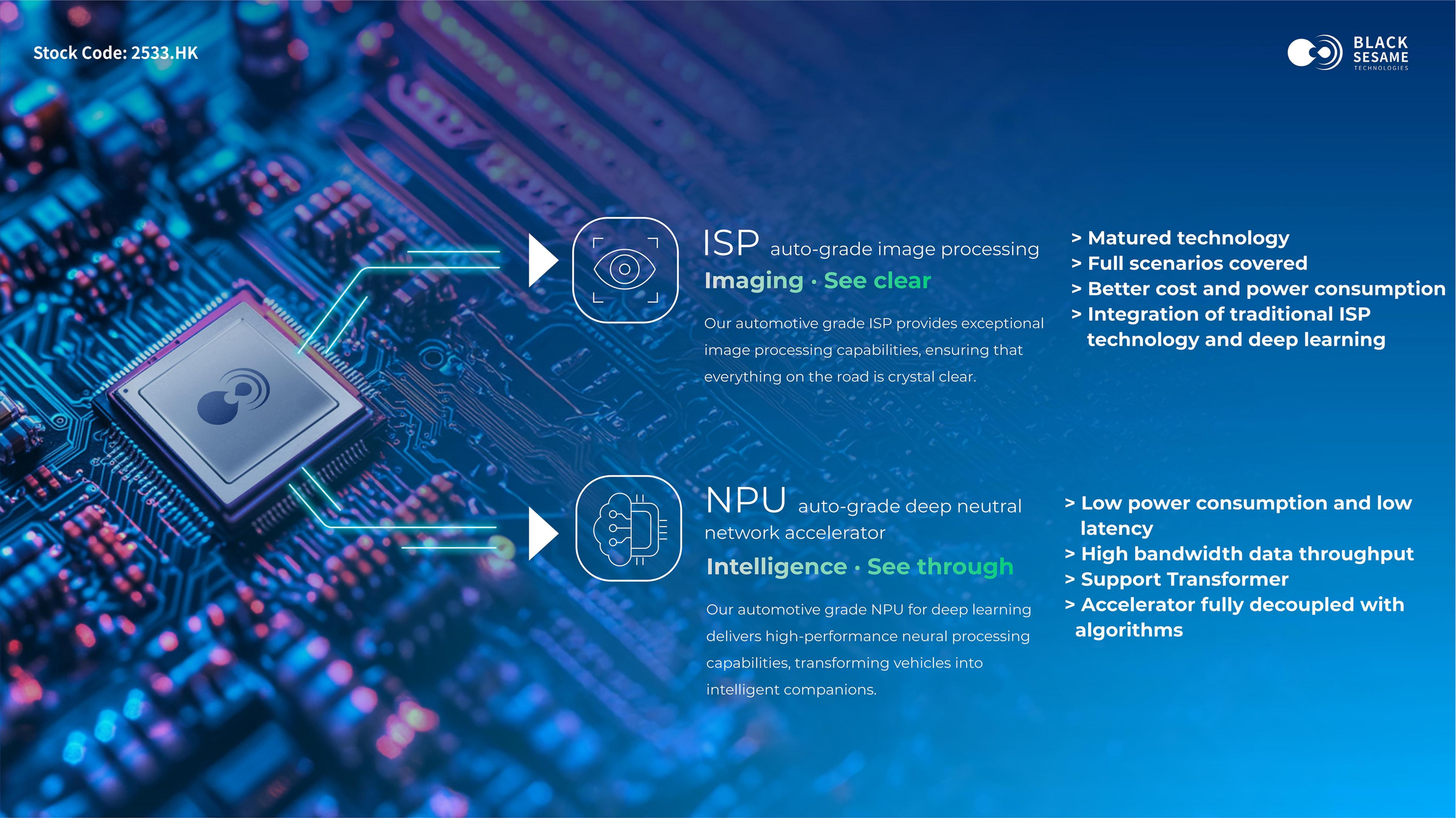
BLACK SESAME TECHNOLOGIES



ISP auto-grade image processing

Imaging · See clear

Our automotive grade ISP provides exceptional image processing capabilities, ensuring that everything on the road is crystal clear.

- **> Matured technology**
- **> Full scenarios covered**
- **> Better cost and power consumption**
- **> Integration of traditional ISP technology and deep learning**

NPU auto-grade deep neutral network accelerator

Intelligence · See through

Our automotive grade NPU for deep learning delivers high-performance neural processing capabilities, transforming vehicles into intelligent companions.

- **> Low power consumption and low latency**
- **> High bandwidth data throughput**
- **> Support Transformer**
- **> Accelerator fully decoupled with algorithms**

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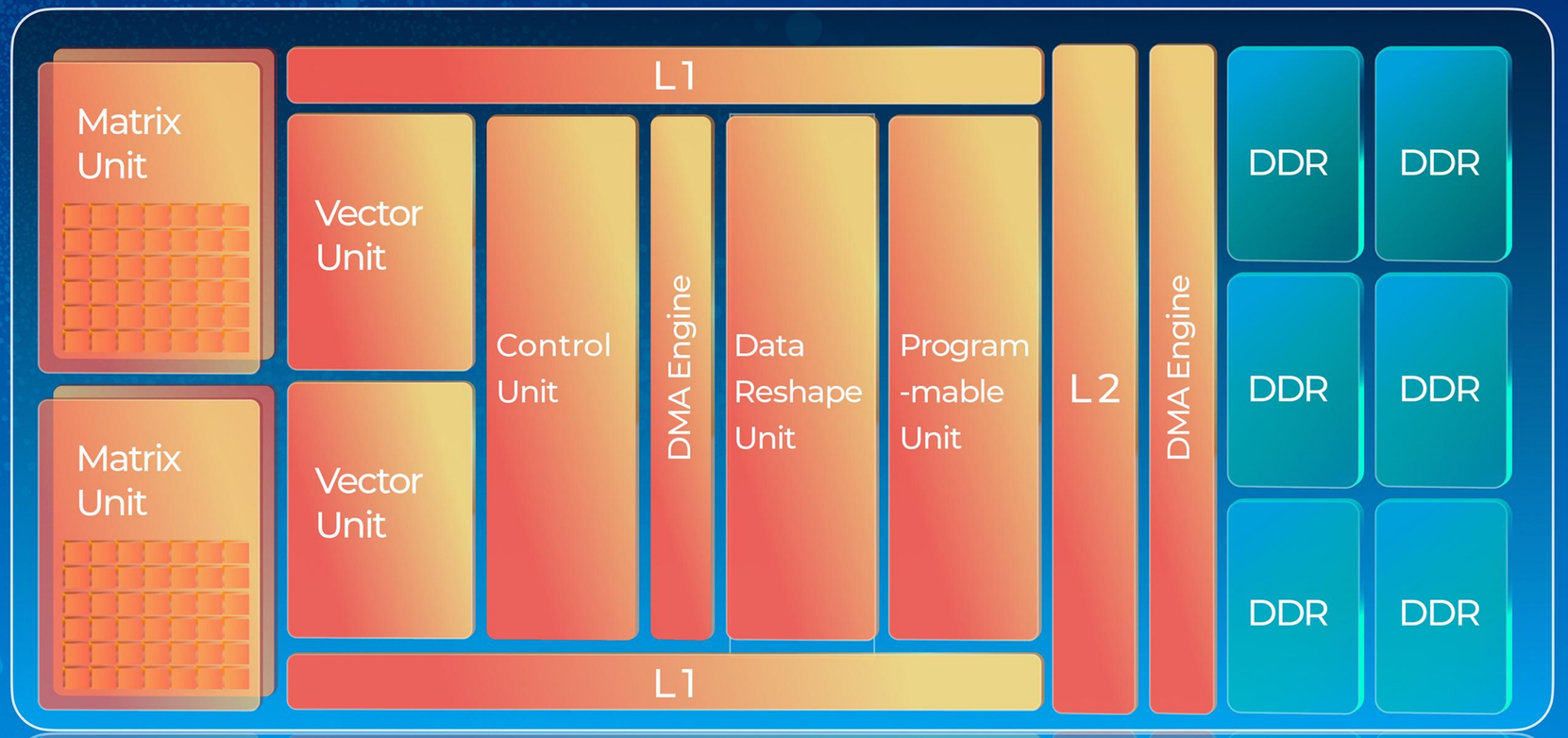
BLACK SESAME TECHNOLOGIES

NPU core — JIUSHAO Architecture

Largest Core × Highest Efficiency



Future-Oriented

Supports a comprehensive mathematical computing architecture that optimizes traditional algorithms and accelerates future evolutionary algorithms

Big-core architecture

Design and integrate the industry's largest independent NPU cores, replacing traditional small core stacks for greater energy efficiency and ease of use

Flexible Expansion

Supports a variety of popular frameworks, different type of precision data, various of network models, and adapted to multiple applications

New Level of Safety

Industry's highest safety-grade NPU core, brings the automotive grade safety to the next level

Matured Experience in Perception Algorithms

With the development and validation from CNN to BEV then to E2E algorithms, the company has now entered the R&D stage of autonomous driving algorithms with VLM/VLA and deploying cloud-based world model for reinforcement learning. High level algorithms will **empower autonomous driving system a generalized perception of complex scenarios**, which **makes safer and more reasonable path planning and driving operations** by combining regulations, common sense and plenty of experience.

2023-2024

Unified BEV Perception and Two-stage E2E

Muli-scene adaptive temporal fusion:
- Regressive temporal information transfer
- Multi-frame temporal feature alignment
- Multi-frame temporal information concatenation

Reinforced lane topology prediction

Multi-functional backbone: Static object, dynamic object, lanes, occupancy, traffic light, vehicle head/tail light…

Two-stage E2E path planning:
- Human driver imitation learning
- Efficient closed-loop training

2024-2025

More Effective One-stage E2E

Token based path planning network

Multi-mode hybrid training:
- ***Reinforcement learning of multiple driving styles***
- ***Multi-objective joint training***

Physical scene simulation

- ***Multi-agent joint training***
- ***Online mining of high-value training data***

2025 & beyond

Multi-modal VLM for ADAS

Image features from VLM

Text features from LLM:
- ***Traffic regulations***
- ***Common sense***
- ***Driver instructions***

…

Voice instructions

Reinforcement learning using scene synthesis with generative world model

VLM with low-latency prediction and multi-modal input

- Complex scene understanding
- LLM chain-of-thought (COT) reasoning

- Generalization to diverse scenes
- Path planning following traffic regulations
- Path planning with human drivers' experience and common sense

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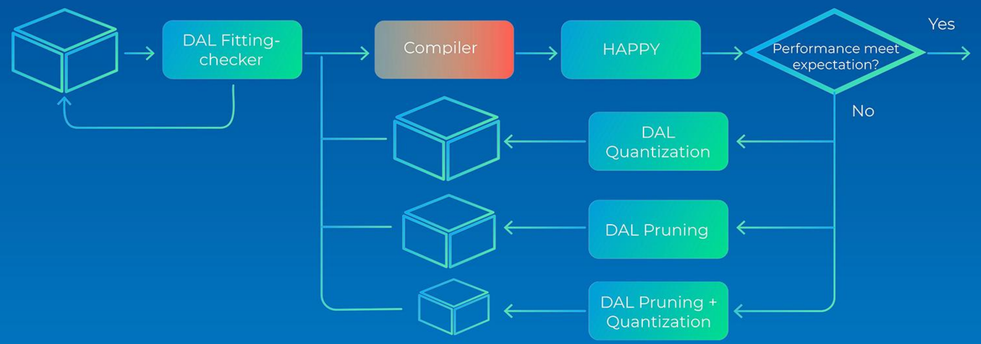
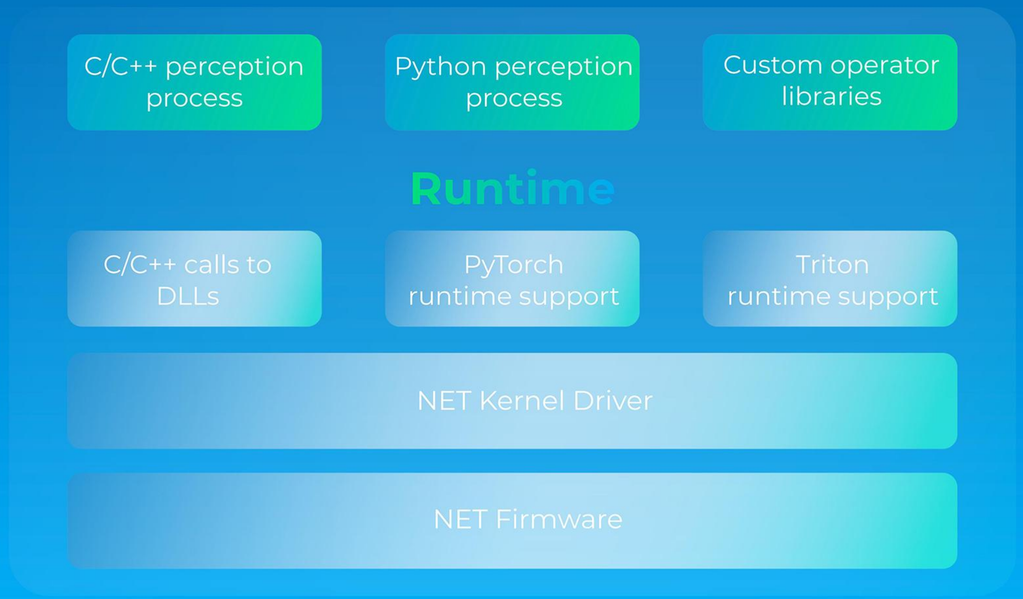
BLACK SESAME TECHNOLOGIES

BaRT | New Generation Universal AI Toolchain

Black Sesame acceleration Run Time





MLIR

Supports single OS deployment across chips.

API

Supports high-bandwidth C2C consistency connection, meeting NUMA-style cross-chip memory access requirements.

Shares one set of boot storage devices, reducing costs.

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Complete Automotive Grade Certifications

ISO26262 Automotive Functional Safety Professional

ISO26262 ASIL B Functional Safety Product Certificate for A1000

ISO26262 ASIL D Functional Safety Process Certificate

ISO26262 ASIL D Software Functional Safety Process Certificate

ISO9001 Quality Management System

ASPICE CL2 Certificate

AEC-Q100 Reliability Standard Certificate

BLACK SESAME TECHNOLOGIES

Black Sesame Technologies has obtained complete automotive grade certifications:

Automotive Functional Safety Professional

+

Functional Safety Product Certificate

+

Functional Safety Process Certificate

+

Software Functional Safety Process Certificate

+

ASPICE Certificate

+

AEC-Q100 Reliability Certificate

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Solution
BEST Road - V2X Edge Computing Solution

Solution for V2X scenario applications needs in smart cities

Continuously Improvement in Computation and Perception Platform at Roadside

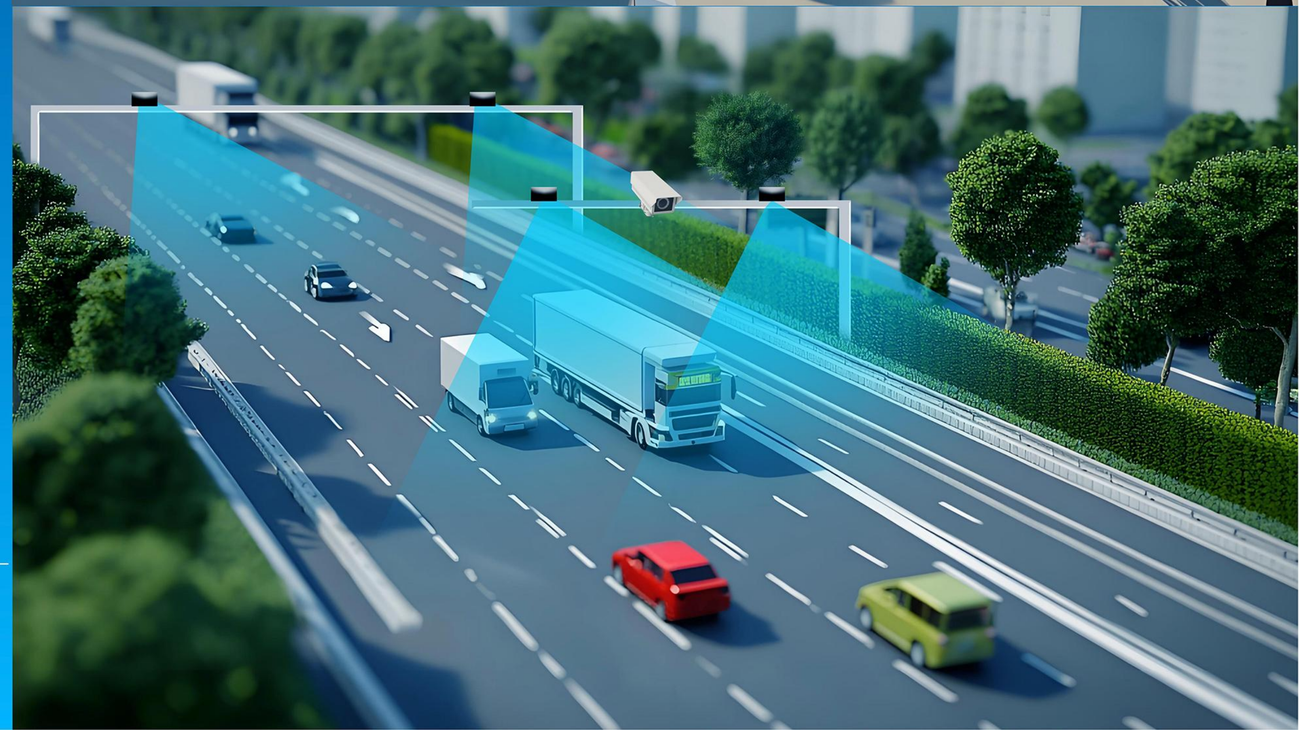
Powerful Real-time Computing Chip

Multi-Scenarios Image Processing

Efficient and Precise Perception Algorithm

Reliable MEC Unit

Empowering Smart City and Smart Road



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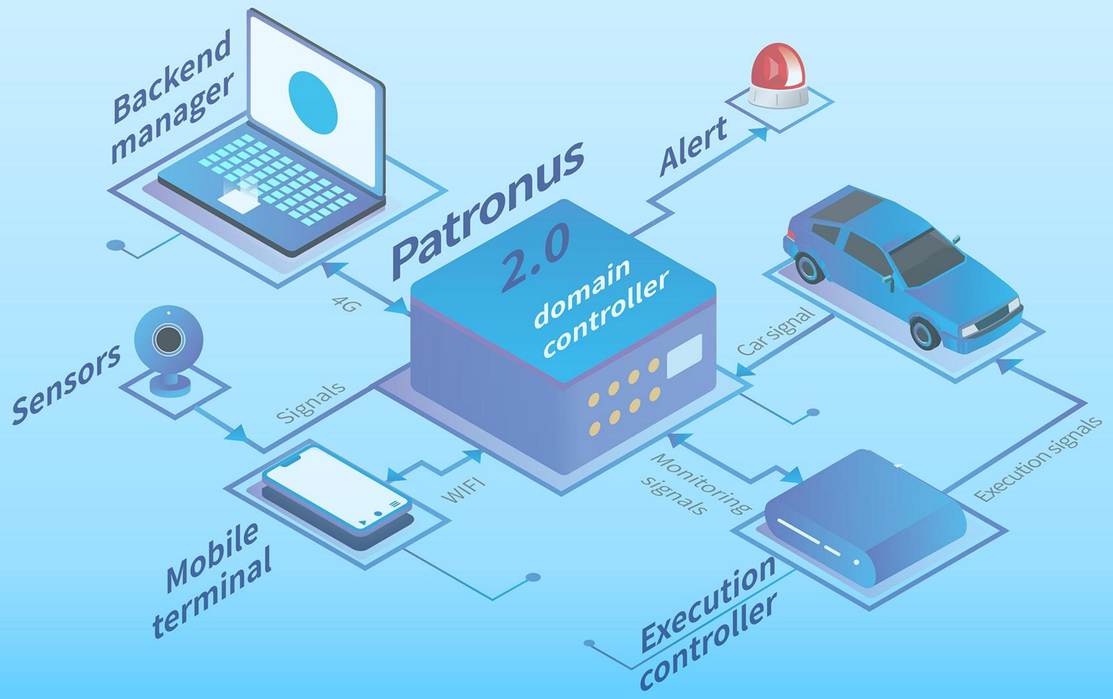
BLACK SESAME TECHNOLOGIES

Solution

Patronus2.0 - CV Active Safety System

Patronus 2.0 – The CV (Commercial Vehicle) Active Safety System, is an aftermarket-mounted integrated solution. This platform can be used in different types of vehicles like commercial vehicles and vans. The main chip of this platform is Black Sesame Technologies' self-developed AI Huashan Series chip with great computational power, low cost and highly open, which supports massive NN perception, DMS, BSD and BEV algorithms.

Commercial Vehicle Active Safety System Patronus 2.0 Architecture



ADAS & Recording

Equipped with company's self-developed neural network model, the algorithm has high precision, multiple types of target recognition, and strong scene adaptability; with the actuator can realize the active safety function; reduce hardware costs by sharing DVR cameras..

BSD

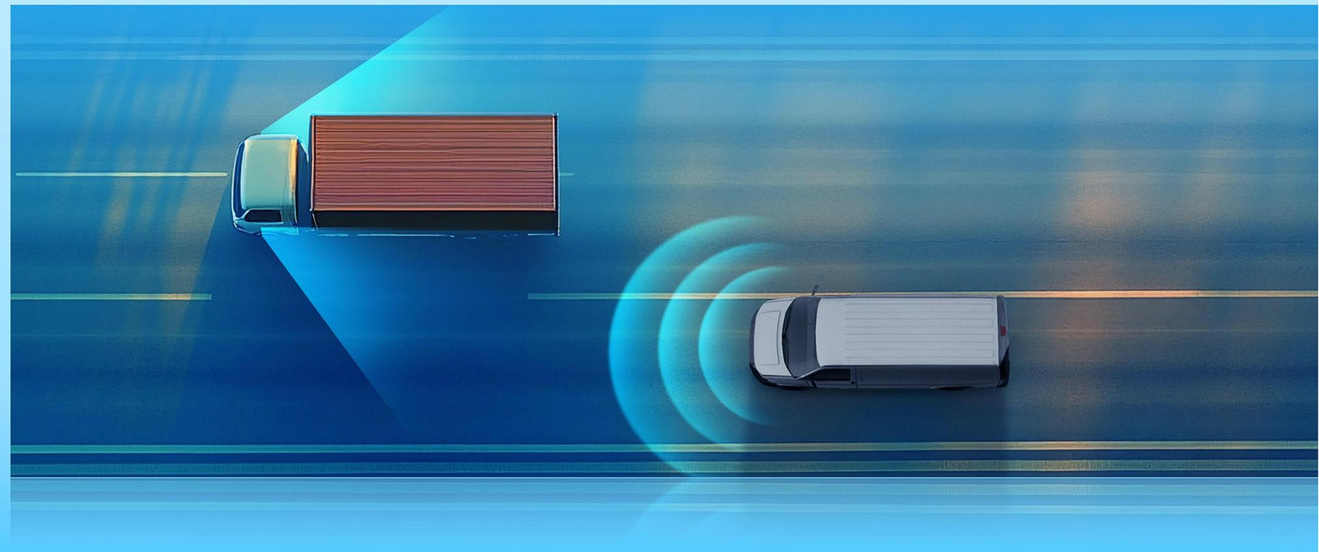
The function realizes identification of vehicles, pedestrians and obstacles in the blind area, and is able to recognize objectives quickly and accurately. And can realize active control functions with the actuator.

DMS

The self-developed algorithm realizes functions like face recognition， monitoring of fatigue, distraction, smoking, phone calling and leaving situations， with low demand for computing power and strong flexibility.

Surround Viewing & Monitoring

It monitors inside and outside of the cabin for assistance of parking, reversing and in-car monitoring & etc.



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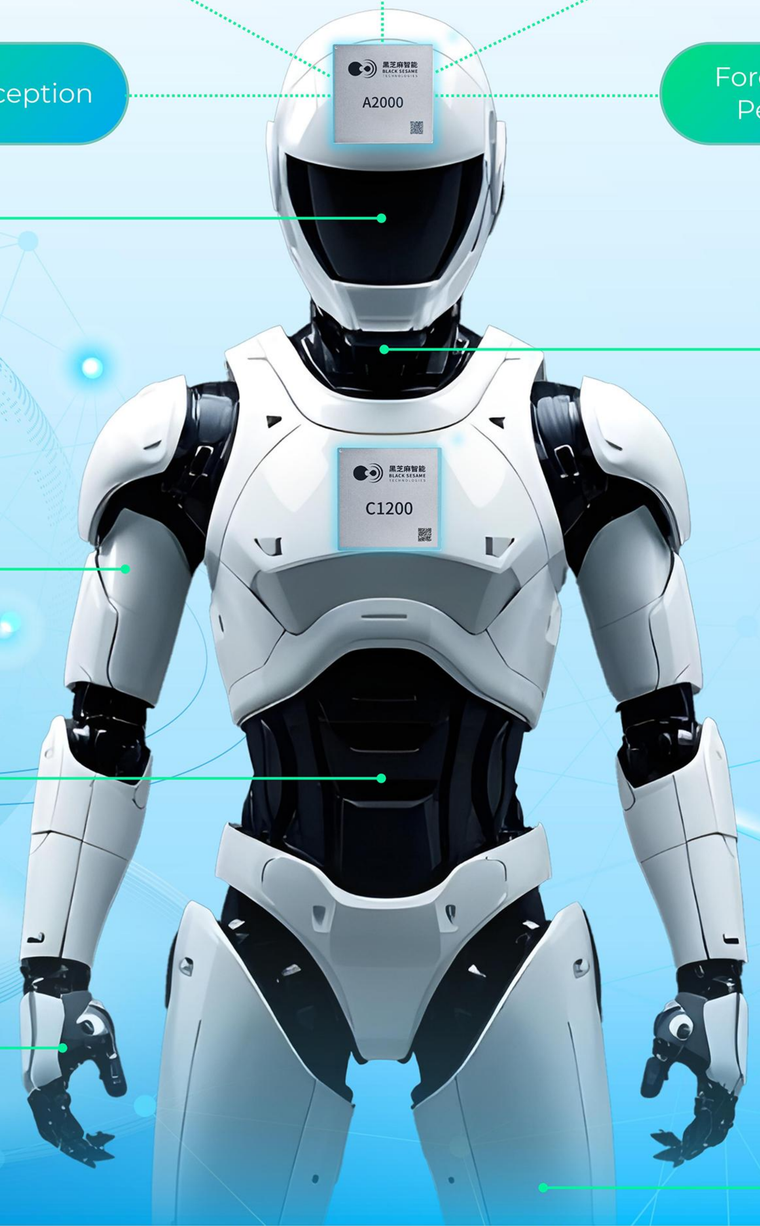
Solution
Intelligent Robot Computing Platform

Supports a variety of solutions from 'cerebellum' to 'brain'

A2000 Family
- **Full-scenario knowledge-driven perception and decision-making**

C1200 Family
- **Real-time motion control and servo control**



Multiocular Vision
Electrical / Environmental Perception...
Auditory Perception
Haptic Perception
Force / Postural Perception...
Face
Neck
Arms × 2
Waist / hip
Leg × 2
Feet × 2
Dexterous Hand × 2

Stock Code: 2533.HK

Application Scenarios

Automotive OEM

北汽集团 BAIC GROUP
长安汽车 CHANGAN
中国中车 CRRC
东风汽车 DONGFENG MOTOR
中国一汽 FAW GROUP
FOTON 福田汽车
GEELY 吉利控股集团
江汽集团 JAC GROUP
三一重工
LOTUS NYO
SAIC
陕汽集团
SKYWORTH 创维汽车

V2X

中国电信 CHINA TELECOM
中电信数智科技
中国联通 China unicom
CUSC 联通智网
招商公路 CMET
招商新智
LES
金桥集团 GOLDEN BRIDGE GROUP
HEYOING 中海庭
西部智联 WICV
伊电集团
中国南方电网 CHINA SOUTHERN POWER GRID

Robotics

FOURIER 傅利叶
武汉大学 WUHAN UNIVERSITY

Commercial Applications

曹操出行
行深智能
星程智驾 STAR1.AI
朴津智能

Tier 1

ADAYO 华阳集团
AIBAYTEK
AICO
ANNGIC 安智杰
APTIV
BAOLONG 保隆科技
北斗智联 BiCV
BOSCH
CAIC 中汽创智
中信科智联 CICTCI
Continental
德赛西威
东软
DiAS
ecarX
ECTEK
FULSCIENCE
光昱智能 GOYU
科大国创 GUOCHUANG
HAISTAR
HASCO
HUILIAN 慧联智能
HYPERVIEW 宏景智驾
iTruckTec 智博汽车科技（上海）有限公司
经纬恒润 JINGWEI HIRAIN
JOYNEXT 迈联智行
六力智行 SFOUNDINT
MARELLI
Megatronix
英博超算
SOTEREA 所托瑞安
鼎昆科技 TACTICAL
创时智驾 TECHNOMOUS
Tsingtech 清研微视
UAES
Xretinai
远峰科技 YF TECH
优控

Software Ecosystem

阿里云
诚迈科技 ARCHERMIND
Baidu 百度
BlackBerry QNX
CALMCAR
CETC 普华基础软件
DIRAC
Elektrobit
流马锐驰 ihorseai.com
JIMU 极目
KANZI ONE
LANDMARK
LeddarTech
MACH 迈驰智行
MAXIEYE 智驾科技
元橡科技 METOAK
multicoreware
NESINEXT 均联智及
nullmax AI
斑马智行 Powered by AliOS
润光智行 AINCOM
ROCKAI 岩芯智驾
RT-Thread
中科慧眼 Smarter Eye
STRADVISION
足下科技 STEP
TELENAV
ThunderSoft 中科创达
VECTOR
UNREAL ENGINE
WNDRVR
易行智联
易航智能 YIHANG.AI
ZTE 中兴

Hardware Ecosystem

alhua TECHNOLOGY
AICO
北斗智联 BiCV
cadence
承泰科技 Cheng-Tech
德赛西威
国汽智端
HAWKEYE 隼眼科技
HESAI
HiY 海易科技
infineon
迈特威视 iSmartVision
Labpano 图灵
Lanodo
micron
JOYNEXT 迈联智行
REACHENG 锐承
robosense 速腾聚创
REVOLUTION 千乃智驾
tanway 探维
腾讯智慧出行
UHNDER
ULTRONIX
WHST 森思泰克

* Sort in alphabetical order

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