

#### SUNNY OPTICAL TECHNOLOGY (GROUP) COMPANY LIMITED

舜宇光學科技 (集團) 有限公司

(Incorporated in the Cayman Islands with limited liability) (Stock Code: 2382.HK)

# 2024 Annual Results Corporate Presentation



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# 01

# Financial Overview

# **Summary of Financial Statement**



 $\bullet$ 

	2023	2024	Change
(RMB mn)			 
Revenue	31,681.3	38,294.5	+20.9%
Gross Profit	4,590.4	7,006.0	+52.6%
Profit Before Tax	1,358.2	3,143.5	+131.5%
Income Tax Expense	(207.8)	(366.5)	+76.4%
Effective Tax Rate (%)	15.3	11.7	-3.6 ppt
Profit for the Year Attributable to Owners of the Company	1,099.4	2,699.2	+145.5%
Earnings per Share – Basic (RMB cents)	100.7	248.2	+146.4%

# **Operating Expenses Breakdown**



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	202	22	202	3	202	4
(RMB mn)		(as % of revenue)		(as % of revenue)		(as % of revenue)
Revenue	33,196.9	100.0%	31,681.3	100.0%	38,294.5	100.0%
<b>Total Operating Expenses</b>	4,084.8	12.3%	3,991.5	12.6%	4,762.6	12.4%
<ul> <li>Selling and Distribution Expenses</li> </ul>	352.8	1.1%	415.1	1.3%	439.3	1.1%
• R&D Expenditure	2,803.4	8.4%	2,566.5	8.1%	2,924.1	7.6%
• Administrative Expenses	928.6	2.8%	1,009.9	3.2%	1,399.2	3.7%

# **Financial Ratios and Capital Expenditure**



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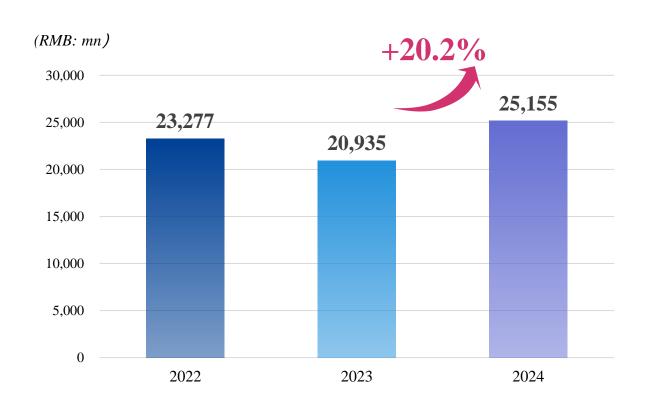
	2022	2023	2024
Current Ratio (Times)	1.6	1.7	1.7
<b>Operating Cash Inflow</b> (RMB mn)	7,377.3	2,664.5	3,455.3
Net Cash per Share (RMB)	10.9	14.6	14.3
Gearing Ratio (%)	14.4	11.1	11.0
<b>ROE</b> (%)	11.2	5.0	11.0
Capital Expenditure (RMB mn)	3,113.8	2,487.8	2,260.4

# Revenue and Growth Rate of Handset Segment

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## **Revenue and Growth Rate of Handset Segment**



Revenue from handset segment was

RMB 25.16 billion

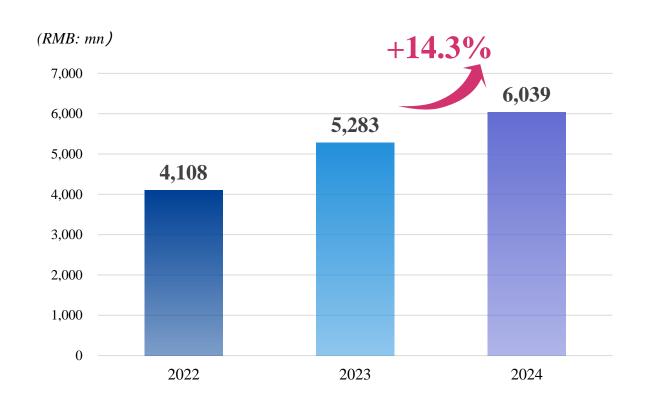
Increased by 20.2% yoy

# Revenue and Growth Rate of Vehicle Segment



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#### **Revenue and Growth Rate of Vehicle Segment**



Revenue from vehicle segment was

RMB 6.04 billion

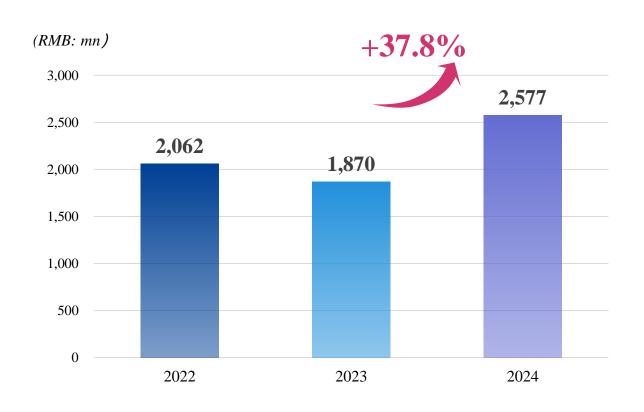
Increased by 14.3% you

# Revenue and Growth Rate of XR Segment



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#### **Revenue and Growth Rate of XR Segment**



Revenue from XR segment was

RMB 2.58 billion

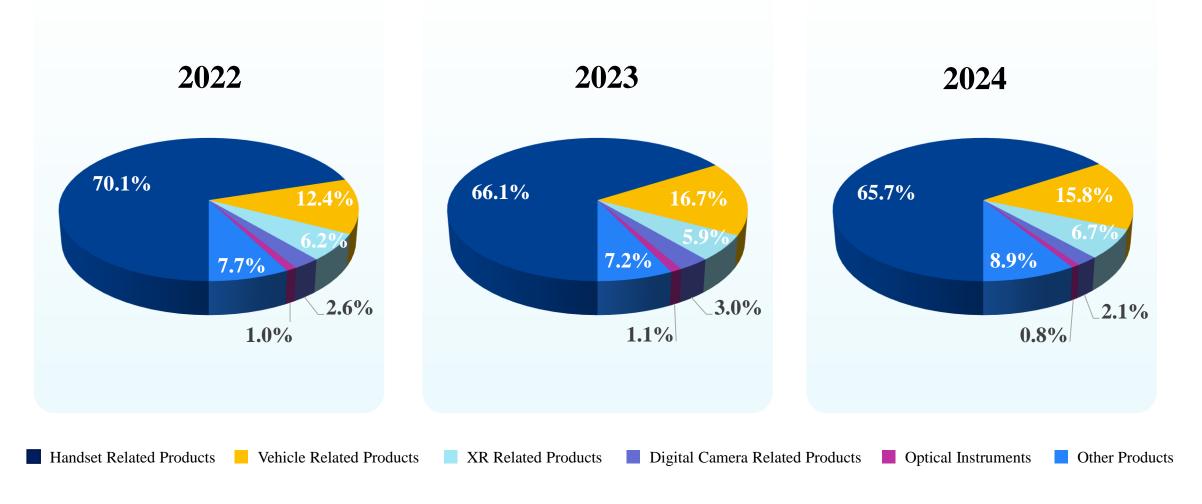
Increased by 37.8% yoy

# Revenue Breakdown by Product Applications



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## **Revenue Breakdown by Product Applications**

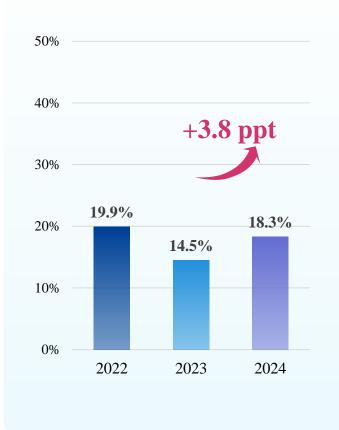


# **Gross Profit Margin Overview**

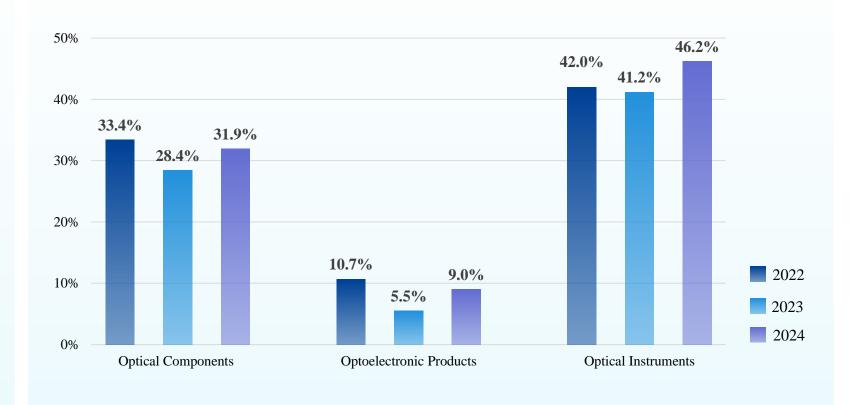


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## Consolidated Gross Profit Margin



### **Gross Profit Margins by Business Segments**



# 02

# **Operational Highlights**

# **R&D** and Technical Achievements – Handset Segment



#### **Multi-fold Prism**

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Innovation and optimization based on 40-year of experience in cold processing of glass

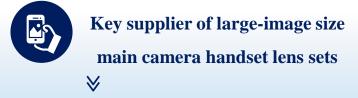
**Achieved mass production:** 

#### **Multi-fold Prism**





#### **Handset Lens Sets**



**Achieved mass production:** 

Various 7P HLS

Various Glass-plastic Hybrid HLS

Multi-group Telephoto HLS





#### **Handset Camera Modules**



#### **Achieved mass production:**



**Periscope HCM with Integrated Actuators** 

#### Completed the R&D:



Large-aperture Periscope HCM with Reflective Mirror

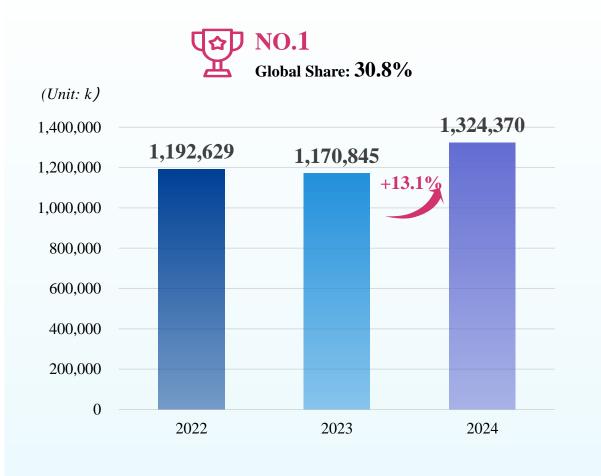
**Ultra-low Height Main HCM with Integrated Actuators** 

# **Shipment and Product Mix - Handset Lens Sets**

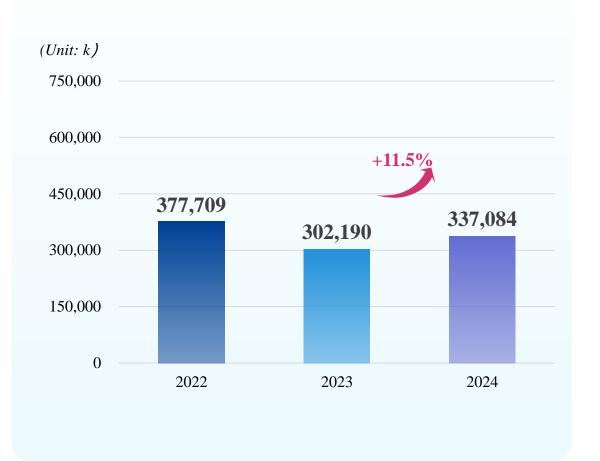


## **Shipment Volume of Handset Lens Sets**

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# **Shipment Volume of 6P and Above Handset Lens Sets**



# **Shipment and Product Mix - Handset Camera Modules**



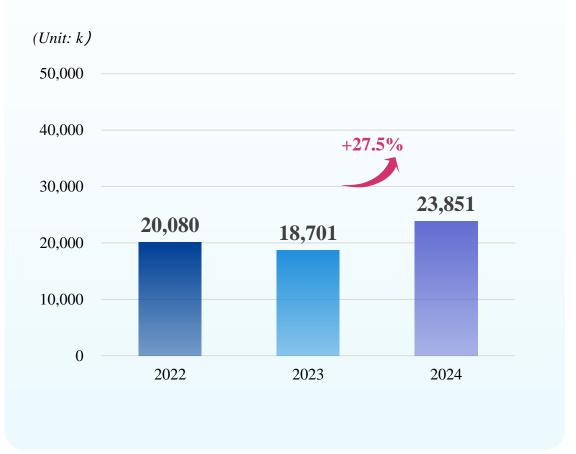
#### **Shipment Volume of Handset Camera Modules**

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## **Shipment Volume of Periscope Modules and Large Image Size Modules**

\* Large image size modules refer to modules with 1/1.5" and above image size



# **R&D** and Technical Achievements – Vehicle Segment



#### **Vehicle Lens Sets**





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#### Completed the R&D:

**8MP Heating VLS** 

8MP Ultra-low-reflection Coating VLS

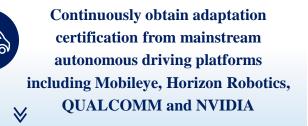
First 8MP Front-view Hybrid VLS in Industry







#### **Vehicle Modules**



#### Completed the R&D:



### **8MP Heating VM**

#### **Achieved mass production:**

First Small-sized Anti-fatigue Integrated Driving System in Industry

#### LiDAR/HUD





#### Completed the R&D:



**Long-range LiDAR Module** 

Full-solid-state Gap-filler LiDAR Platform Module

#### **Achieved mass production:**

Self-developed PGU based on Chips of a Leading HUD Manufacturer

# **Business Development Results – Vehicle Segment**



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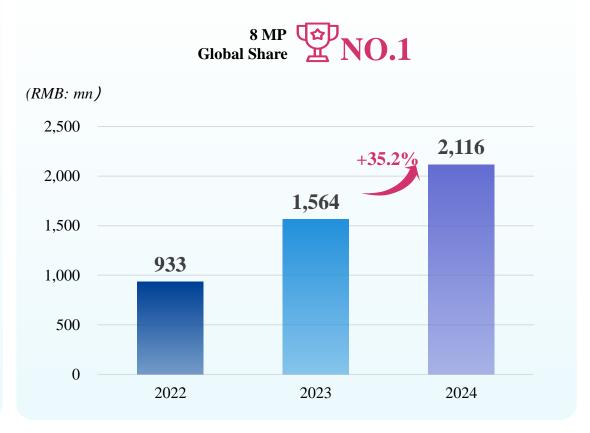
### **Shipment Volume of Vehicle Lens Sets**



2023

2024

#### **Revenue of Vehicle Modules**



**Emerging Businesses** 

2022

LiDAR business customers covering European, North American, Japanese well-known vehicle manufactures and domestic new energy vehicle brands HUD business customers are mainly European, Japanese well-known vehicle brands and domestic new energy vehicle manufacturers

# **R&D** and Technical Achievements – XR Segment



#### **Optical Display Modules**



Multiple varieties, miniaturization, precision assembly and adjustment

#### Completed the R&D:



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MR-optical-module-integration combined with Eye Tracking Algorithms

#### **Achieved mass production:**



Monochrome and Color MicroLed Optical Engines

#### **XR Machine System**



#### Completed the R&D:



#### **Achieved mass production:**



#### **XR** Assessment





Near-eye Display
Detection System



Perception and Interaction Testing System



Spatial positioning detection system



XR Calibration System

# **Business Development Results – XR Segment**



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AI glasses expanded to over

30 customers





Optical display modules: the market share of MRoptical-module-integration is

global No. 1,

and shipment reaches

million level





Optical imaging modules:
market share continues to maintain
the No.1 position in industry,
such modules can be widely used in
various forms of smart glasses
terminal

# **R&D** and Technical Achievements – Robotics Segment



**Robotics Business** 

Built up the entire process development capability from core module to the whole machine project, and successfully obtained the projects from renowned customers

#### **Robotics Module**

**Achieved mass production:** 

Robot Navigation, Obstacle Avoidance and AI Recognition Camera Modules and Subsystems



### Hand-eye-brain Synergistic Embodied Intelligent Platform

Developed a hand-eye-brain synergistic embodied intelligent platform

Opened up the perception-decisionexecution link, providing basic platform capabilities for model training, data set collection and validation, and exploring embodied intelligent solutions



# **R&D** and Technical Achievements – Instrument Segment



R&D of fully automated production line of vehicle module has been completed, realizing full process automation of the entire line, efficiency increased by



**Fully Automated Production Line of Vehicle Module** 

more than 30%.



3D Super Depth-of-field Digital Microscope

The comprehensive performance of 3D super depth-of-field

digital microscope is at the domestic leading level,

realizing the domestic substitution of high-end instruments.

### **Awards and Honors**



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#### Awards from various top-tier customers in 2024

Highly recognized by customers for high quality products and excellent services





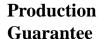


# Globalization of the Group



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In addition to our existing subsidiaries in the U.S., Japan, Korea and India, we have further improved the construction of our Vietnam subsidiary, which is now equipped with platform and localized service capabilities, and we have newly established Sunny Europe to provide localized services to European customers.

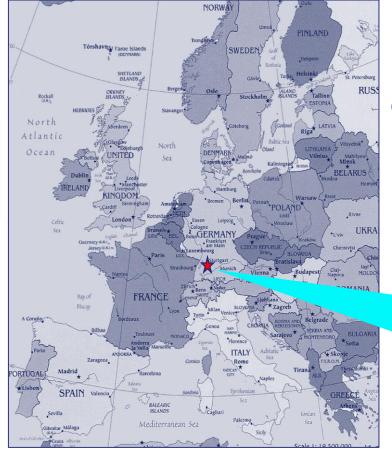


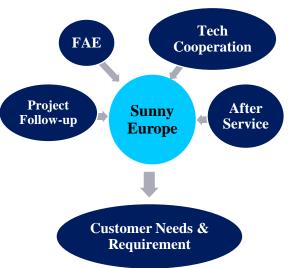




Information Security









**Sunny Vietnam** 

**Sunny Europe** 

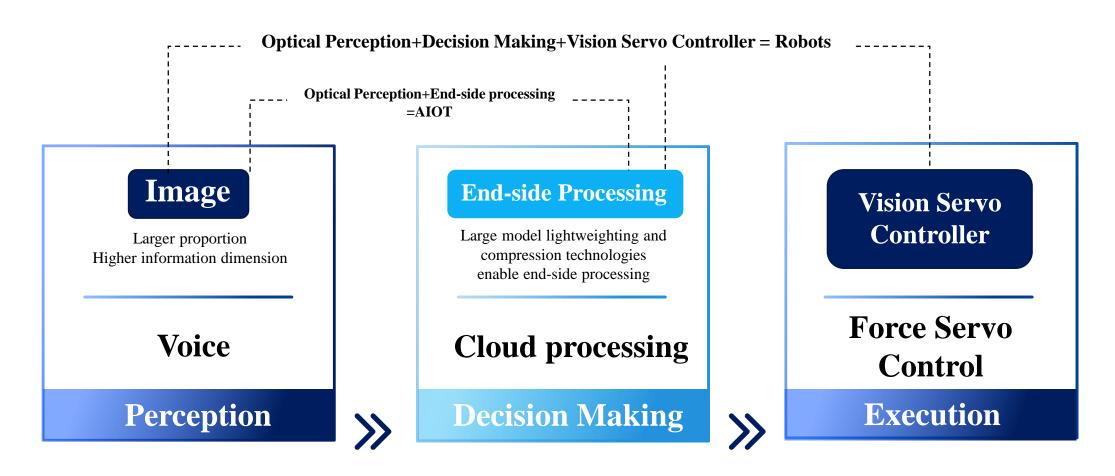
# 03

# **Future Outlook**

# AI Breakthroughs Break Down Product Boundaries



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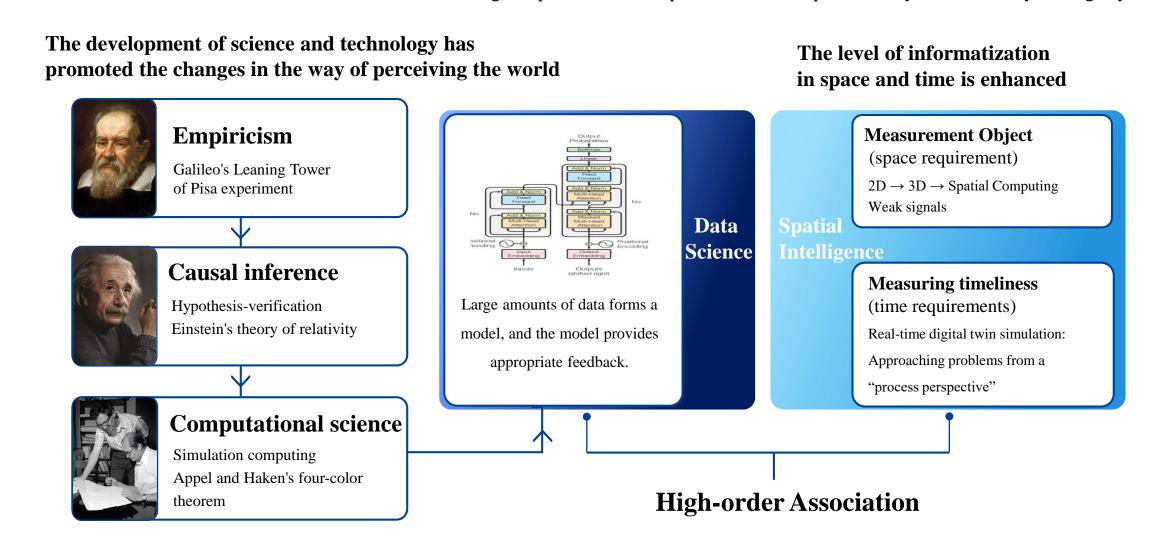


Optical perception and large models can well promote the development of smart hardware, break the boundaries of products, which is conducive to our efficient and gradual construction of a closed loop of smart hardware perception, decision-making and execution at the end side.

# **Breakthrough Development of AI Promotes Innovation in Manufacturing**



The collaboration between data science and manufacturing has promoted the improvement of our production yield, efficiency, and agility.



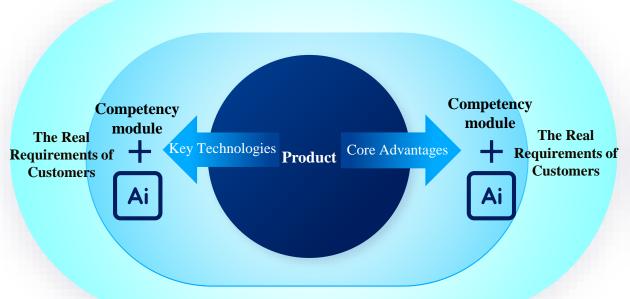
# AI Breakthroughs Promote Changes in Market Strategies

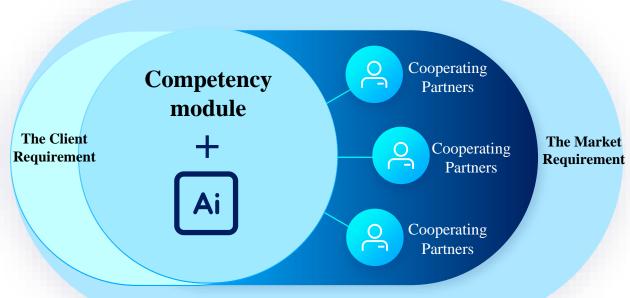


Moving from a product mindset to a capability mindset

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Combining market and customer requirements, shifting to an ecological mindset





Adhering to the "Science and Innovation Oriented", deeply integrating AI capability with various competency modules and the entire process of business

Achieve consensus, co-creation and win-win on demand through ecological cooperation

# **High-end Applications Drive Smartphone Optical Hardware Upgrade**





#### **AI Imaging:**

- Spectral camera
- Depth camera
- AI de-blurring
- High-speed shooting

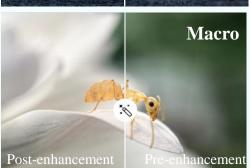


#### Video:

#### Video stabilization/Steady state improvement /Wide angle upgrade

- Smooth and stable, smooth zooming (OIS improvement)
- Combination of AI actuator hardware technology
- Dual focal length periscope or dual periscope
- Continuous HDR across all focal lengths





#### **Photography:**

Reduced shooting burden, improved image quality

- G+P
- Glare optimization
- AI+Aperture
- HDR enhancement



#### Slim:

#### **Miniaturized module (XYZ)**

- Foldable/Flagship Pro/Flagship Number Series/Sub-flagship
- Main camera miniaturization, ultra-low height
- Miniaturized periscope

# **R&D** Capabilities and Vertical Integration Capabilities Support the Future Development of Handset Businesses



#### Integrated Design and Vertical Integration Capability of Lens Set, Actuator and Module

Actuator and module integration



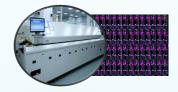
IM and actuator integration



Lens set and actuator integration



SMT and actuator integration

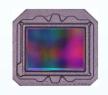


Combines large image size, large aperture, OIS, miniaturization and light-weight advantages

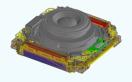
# Core Platform Technology Support; Industryleading Module Packaging Capability

Miniaturization
Molding Packaging Technology



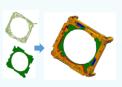


**High-precision**Actuator Actuation Technology





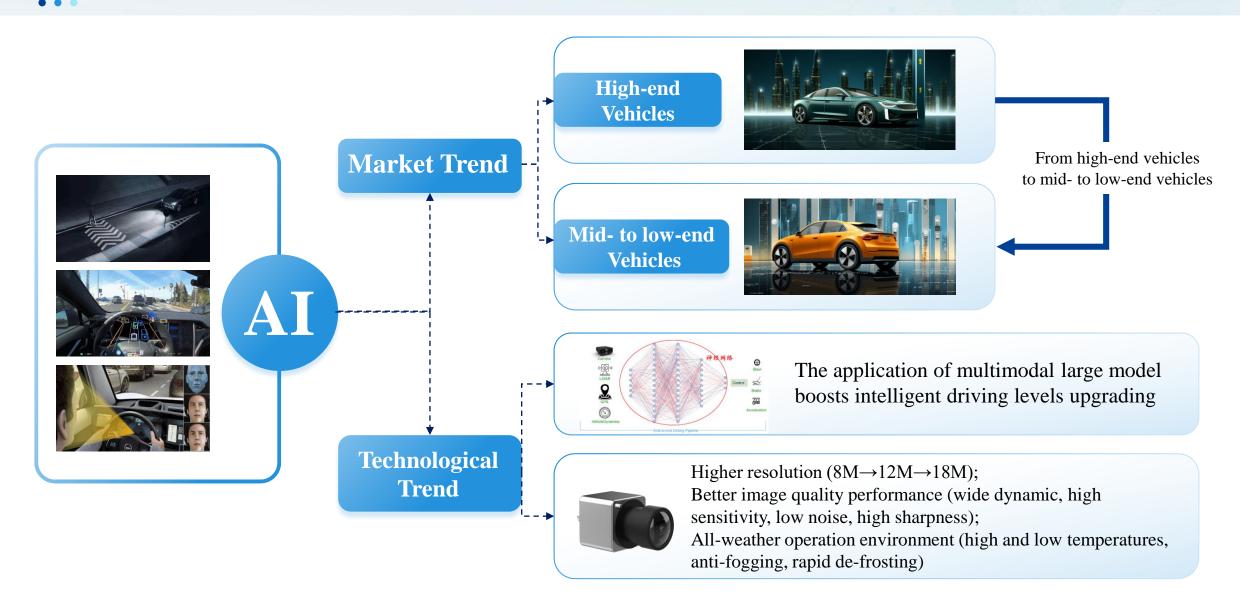
**High-precision**Insert Molding Technology



Deepening platform and component technology applications to achieve extreme camera module size and performance

# **AI Drives Equal Rights in Smart Driving to Further Lead the Development of Intelligent Driving**





# Development of Key Technologies and Various Sensors Lays the Foundation for Rapid Growth in the Vehicle Segment



Thanks to continuous layout in the vehicle segment, our vehicle business has laid a solid foundation for development and is expected to see rapid growth.

R&D of Key Technologies

#### **Complex Environment**

Ultra-low-reflection Coating Technology

Automatic Aperture Technology

Active Cleaning Technology

High-precision Calibration Technology

Vehicle Cameras
Imaging Performance

R&D of Various Sensors 8MP above High Resolution Lens Sets and Modules Infrared Lens Sets and Modules

LiDAR

+

Multi-data Synergistic Application Intelligent
Driving levels
L2 L3 L4 L5

# **Explosive Growth of AI Glasses Leads to Accelerated Development of AR Glasses**

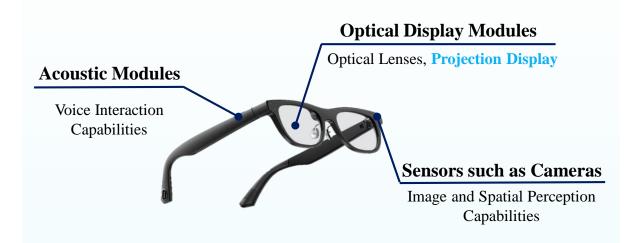


#### **Global Smart Glasses Sales Statistics and Forecast**



Numerous companies are actively involved, and shipments of smart glasses have the potential to reach 100 million level scale

#### **AR Smart Glasses**



- Smart glasses camera modules will continue to be upgraded in the direction of high pixel, auto-focus, OIS and so on
- Smart glasses put forward more stringent requirements on the core optical components in terms of power consumption control and miniaturization

# **Leveraging Vertical Integration Capability Delivers Diversified Solutions**



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By virtue of the vertical integration capability covering the entire chain of optical components, perception and interaction module, optical engine system, machine design and self-developed testing equipment, we provide diversified solutions for the industry, and systematically overcome the problems of optical efficiency, size and assembly precision for AR smart glasses.



# **AI Drives the Development of Humanoid Robots and Embodied Intelligence**



Breakthroughs in AI large model technology are accelerating the progress of embodied intelligent robots toward generalization. In the multimodal perception system to realize embodied intelligence, the vision system plays a core important role in environment cognition and interaction decision-making.



Healthcare



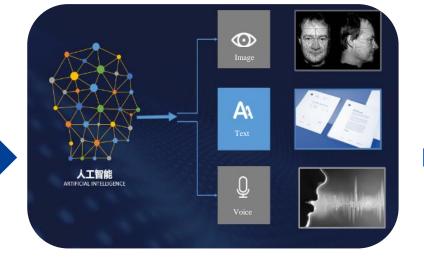
Catering



Cleaning



Education



Embodied Intelligent Perception + Learning Platform

Modeling human first-person environmental perception mechanisms allows for the construction of spatial comprehension and the combination of cognitive reasoning algorithms to form a human-like learning paradigm.



**General Integrated** 

**Single Scenario** 

# **Technology Accumulation in Optical Perception Enables Intelligent Leap in Robotics**







High-precision binocular camera, ToF, LiDAR related technologies and products, and multisensor integration for all-scenario perception



#### **High-precision Robotic Arm Hand-eye Calibration Technology**

- High-precision eye-to-hand calibration technology determines the coordinate relationship between the global camera and robotic arm, enabling robotic arms to perform a wider range of tasks like palletizing and handling through an overall field-of-view
- High-precision eye-in-hand calibration technology calculates the coordinate relationship between the end-mounted 3D camera and robotic arm, allowing robotic arms to carry out high-precision local tasks such as grasping and assembly



#### **Visual Servoing Technology**

- High-precision 3D reconstruction technology in industrial scenarios based on 3D cameras and robotic arm movements
- High-precision spatial path planning technology for robotic arms based on their motion models
- Solving the problems of 3D guidance and control of robotic arms using 3D object detection and AI-based segmentation technology

## **Aggressive Market Development in Various Segments Based on Strong Customer Base**





#### **Handset**

- Further deepen strategic cooperation with leading customers to drive revenue growth
- Actively explore customers and strive for new breakthroughs in products and business
- Strengthen global our leading position by carefully positioning flagship and high-value models, while focusing on the market cultivation of large-volume and wide-ranging products



#### Vehicle

- VLS business has covered the industry's major customers, but there is still room to optimize customer structure and increase market share
- VM business will focus more on leading customers in the market, accelerate the improvement of the industry position, promote the rapid expansion of the scale, and expect to be able to occupy a leading position in this segment as soon as possible



#### XR

- The customers of smart glasses are highly overlapped with the customer resources of VR and handset businesses, which helps to quickly open up the market landscape
- Fully utilize the first-mover advantage in the segments of smart glasses and VR, stabilize our position in the supply chain of famous customers, and strive to continue to obtain major project orders from toptier customers



#### **Embodied Intelligent Robotics**

- Customers in the robotics segment are highly overlapping with those in the consumer electronics and automotive businesses
- Taking Sunny's technological advantages in optical perception, currently we have cooperated with many top-tier embodied intelligent robotics companies to occupy a favourable position in advance

# 04

# **ESG** Review

#### **Awards and Honors**



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## **MSCI Rating Improvement**



#### **ESG Selected Indexes**

**《FTSE Socially Responsible Investment Certification》** 

《Hang Seng Climate Change 1.5°C Target Index》

《Hang Seng Sustainable Development Corporate Index》

《Hang Seng Sustainable Development Corporate Benchmark Index》

《Hang Seng Low Carbon Index》

《Hang Seng ESG Index》

《Hang Seng ESG Enhanced Index》

《Hang Seng ESG 50 Index》

#### **Awards**

- The 5<sup>th</sup> InnoESG Prize
  - Organizational ESG Impact Award
- 2024 International Green Zero-carbon Festival
  - Green and Sustainable Development Contribution Award
- Included in the Fortune China ESG Impact List 2024
- Sunny Optical Technology
  - Initial batch of Selected Waste-Free Group in Zhejiang Province
- Sunny Zhejiang Optics, Sunny Opotech
  - Provincial Green Low-carbon Factory
- Sunny Automotive Optech
  - Water-saving Enterprise in Zhejiang Province

#### **ESG** Achievements



#### **Environmental**

- ➤ In 2024, 203,322.0 MWh of green power was used, with the proportion increasing by over 10 ppts vs 2023, exceeding the annual target.
- Implemented 13 energy-saving and consumption reduction projects, achieving energy savings of approximately 18,878 MWh, reducing carbon emissions by 13,280.6 tons of carbon dioxide equivalent, and saving more than RMB18 million.
- ➤ The optimized reclaimed water solution saved around **350,000 tons** of water in 2024.
- ➤ One **provincial-level green factory** was added in 2024.

#### Social

- Regular safety and first-aid training is organized, and **18 AEDs** have been installed at key production bases to protect employees' health.
- Participated in a provincial-level information security exercise for the first time, ranking 12<sup>th</sup> out of 187 defense units.
- In 2024, Sunny Zhejiang Optics and Sunny Opotech passed the ISO 56005 "Innovation and Intellectual Property Management Capability" Level 4 certification.

#### Governance

- Added 5 new emerging risks, including energy shortage and transition risks, to the scope of risk management. Meanwhile, the risk management information platform has achieved full-coverage and digitally managed.
- Organized training sessions for senior managers on sustainable development and lighthouse factory construction.

# 05

# Appendix

# **Business Development Focused on the Field of Optoelectronics**



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1984

into the

optical

industry

Established

and engaged

1995

image

Extended the

business into

the field of

digitization

#### 2003

Commenced production of handset camera modules

#### 2004

- Enhanced R&D and production capability of handset lens sets
- Acquired plastic aspherical lens technology
- Entered into the field of vehicle lens sets

#### 2007

Listed on the Main Board of the Hong Kong Stock Exchange

#### 2013

- Successfully placed 97,000,000 new shares and raised net proceeds of approximately HKD770 million
- Achieved a series of strategic cooperation agreements with Konica Minolta Optical (Shanghai) Co., Ltd.

#### 2014

Carried out the strategic layout of 3D imaging business

#### 2015

- Established Zhejiang Sunny Optical Intelligence Technology Co., Ltd.
- Established Zhejiang Sunny Smartlead Technologies Co.. Ltd., entering into the field of vehicle modules

#### 2019

- Established Sunny **OmniLight** Technology Co., Ltd.
- Established production base in Andhra Pradesh. India. producing handset camera modules
- Established production base in Vinh Phuc, Vietnam, producing vehicle lens sets
- Established European sales company in Germany

#### 2023

- Issued USD400 million 3.5-year sustainabilitylinked bonds
- Established a new production base in Nghe Anh. Vietnam

2024

Established European platform company in Germany

#### 2012

Established subsidiaries in the U.S.A. and Republic of Korea

#### 2016

**Established Sunny** Optical (Zhejiang) Research Institute Co., Ltd. in

#### 2018

Issued USD600 million 5- year bonds

#### 2020

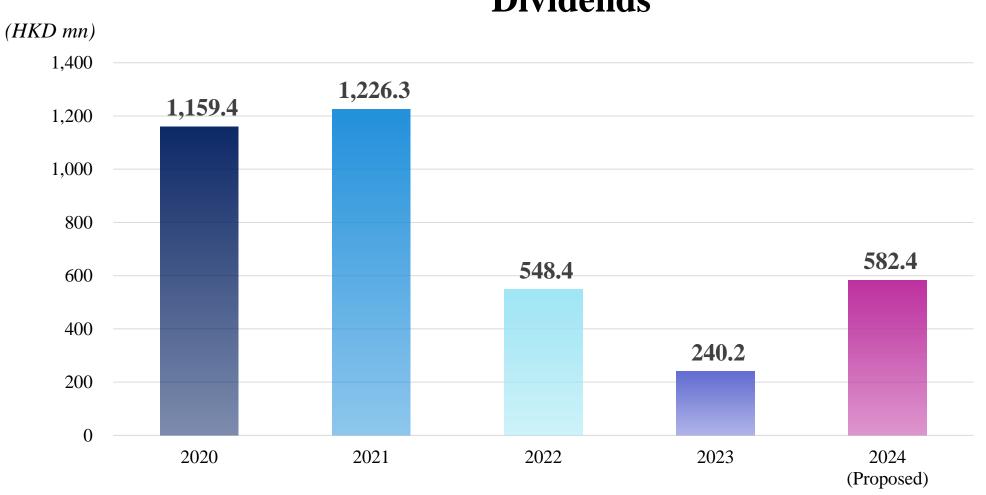
Established a production base of handset camera modules in Thai Nguyen, Vietnam

Hangzhou

# **Dividend Policy Well Executed Stable and Consistent Payout Ratio**



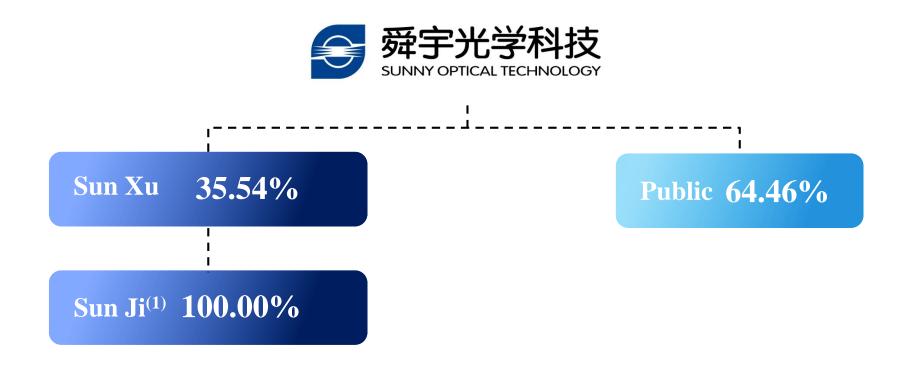




# **Shareholding Structure Remained Stable**



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(1) The Sunny Group Employee Offshore Trust is a trust which holds the entire issued share capital of Sun Ji Limited. Mr. Wang Wenjian, together with TMF Trust (HK) Limited, is one of the two trustees and one of the beneficiaries of the Sunny Group Employee Offshore Trust.

<sup>\*</sup> As at 31 December 2024

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