



丘鈦科技（集團）有限公司  
Q Technology (Group) Company Limited



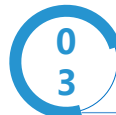
Stock Code 股份代號：1478

# 2023 Interim Results Investor Presentation 7 August 2023

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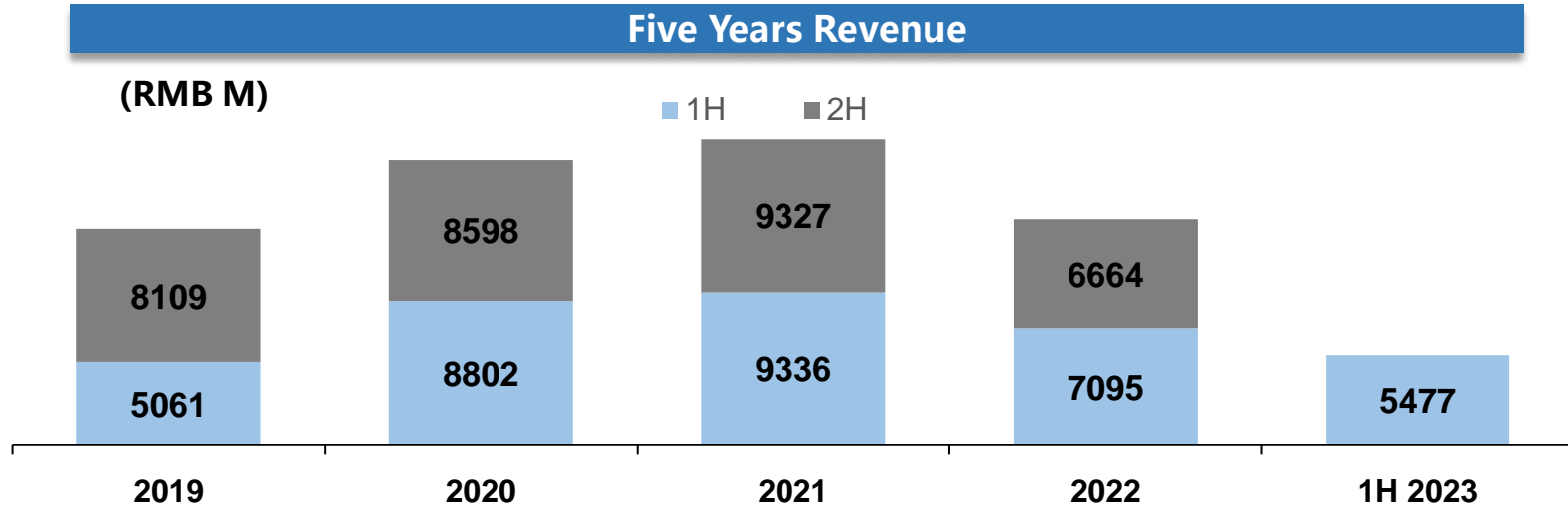
-  **2023 Interim Results Business Review**
-  **Smartphone/IoT/Automotive Business Segments Outlook**
-  **Five-Year Plan**

# »» Financial Summary



RMB K	1H		YoY Change	2H	HoH Change
	2023	2022		2022	
Phone CCM Sales Volume	<b>166,583K</b>	211,368K	-21.2%	205,891K	-19.1%
Other Fields CCM Sales Volume	<b>2,726K</b>	1,659K	+64.3%	4,957K	-45.0%
FPM Sales Volume	<b>50,611K</b>	50,651K	-0.1%	60,865K	-16.8%
Revenue	<b>5,476,543</b>	7,094,787	-22.8%	6,664,383	-17.8%
Gross Profit	<b>188,303</b>	375,830	-49.9%	165,512	+13.8%
Gross Profit Margin	<b>3.4%</b>	5.3%	-1.9pts	2.5%	+0.9pts
OPEX Ratio	<b>5.0%</b>	4.8%	+0.2pts	4.3%	+0.7pts
Net Profit/Loss	<b>21,692</b>	165,530	-86.9%	4,700	+361.5%
Net Profit Margin	<b>0.4%</b>	2.3%	-1.9pts	0.1%	+0.3pts
Basic EPS	<b>1.8 cents</b>	14.0 cents	-87.1%	0.5 cents	+260.0%
Operating Cash Flow	<b>-89,714</b>	400,413	N/A	647,939	N/A

# »» Weakening Demand due to Global Economic Downturn Prevailing



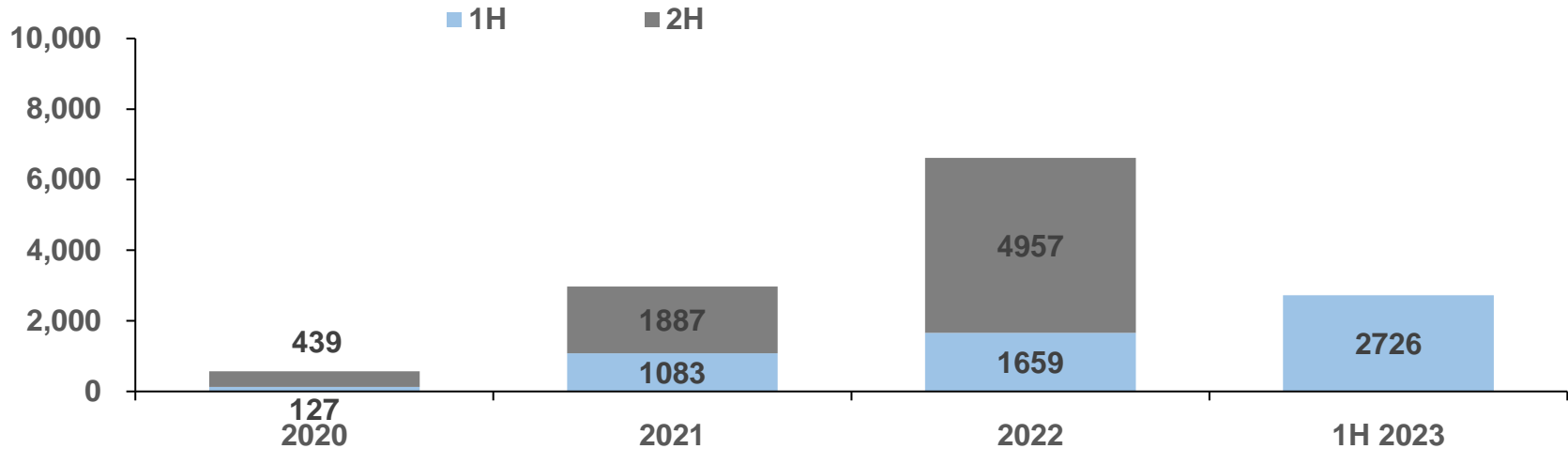
During the Period, sales revenue of the group amounted to approx. RMB 5.477 billion, representing a decrease of approx. 22.8% YoY, mainly due to:

- 1) Due to the adverse factors such as the complex macro situation, the long tail effect of the pandemic, overall demand of smartphone in the first half of the year was still poor, resulting in approx. 21.2% YoY decrease in the sales volume of the Group's CCM adopted by mobile phone.
- 2) Optical specs upgrade in smartphone shown signs of recovery during the Period, Nevertheless, the ASP of CCM and FPM declined 3.4% and 28.3% respectively during the Period.

## »» Sales Volume of CCM Applied in Non-handset Increased Significantly



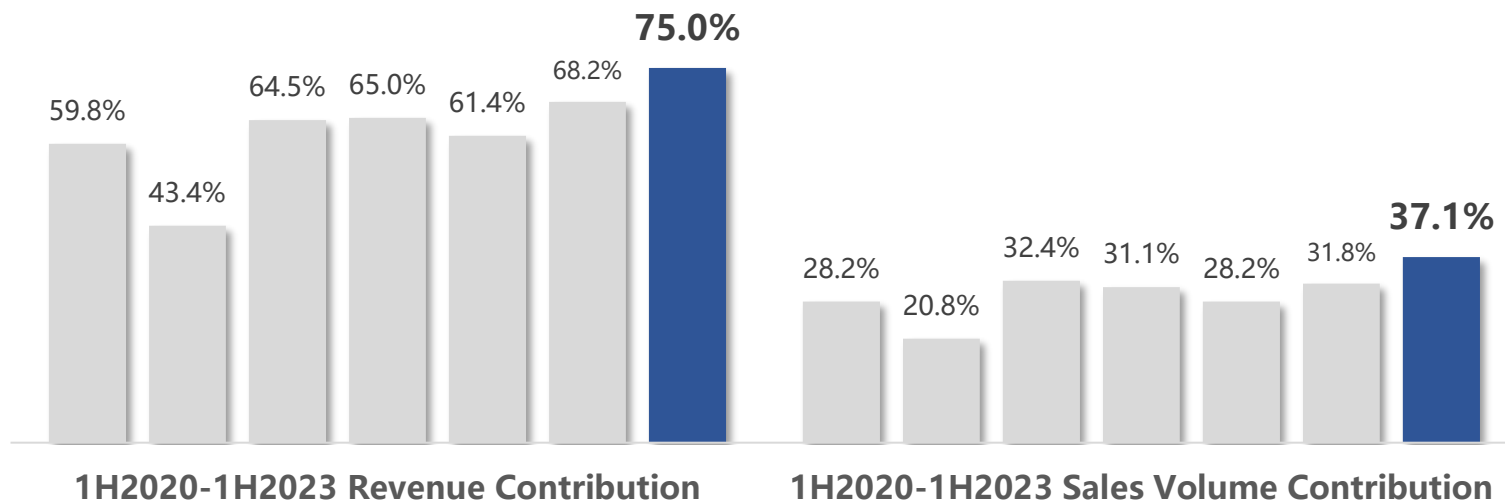
(Sales volume K)



- Customer structure and product structure of CCM used in smart vehicles and Internet of Things (IoT) terminals have been significantly improved result in an increase in sales volume of approx. 64.3% YoY, exceeding the operation target set at the beginning of the Year.
- Sales volume of CCM used in smart vehicles during the Period increased 100% YoY

## Proportion of 32M and above CCM

\*Products include 32 megapixels and above's single-camera modules, dual/multi-camera modules, 3D modules, car camera modules, and other camera modules

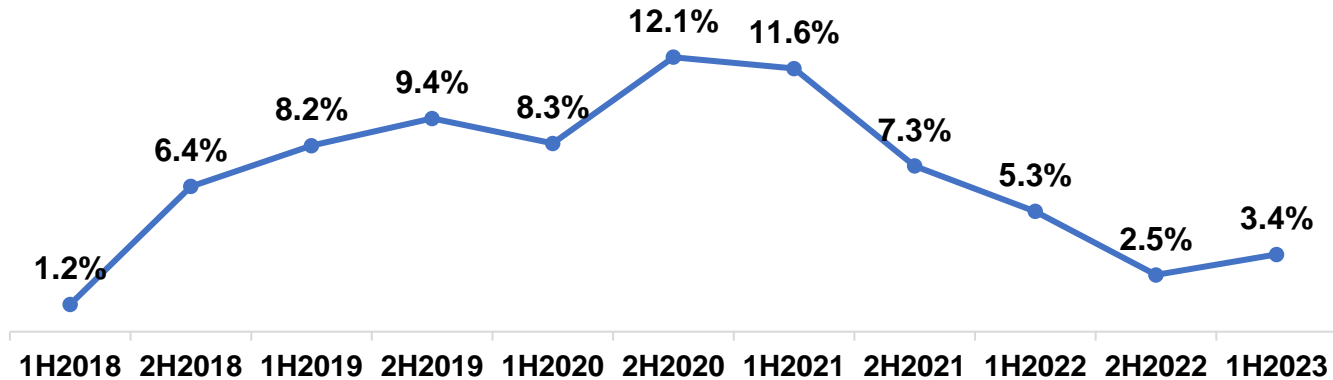


➤ During the Period, The Group's adopted an effective strategy of 'Focusing on product mix improvement in order to raise the quality of revenue'. The product mix of CCM was improved significantly and the proportion of CCM with 32 mega pixels and above increased steadily HoH and YoY.

# »» Gross Margin May Bottom out as Market Sentiment Recovering



## Gross Margin Trend

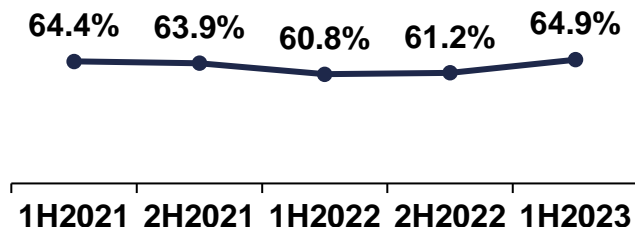


➤ During this Period, the gross profit margin was approx. 3.4% and it shown early sign of bottom-out. During the Period, the labor cost associated with manufacturing accounted for 4.8% of the revenue (5.2% in the same Period last year), and including overall cost of depreciation, water and electricity, etc. accounted for 10.8% of the revenue (11.0% in the same Period last year), both showed a downward trend, which is a reflection that the measures implemented such as product structure improvement, cost reduction and efficiency enhancement achieved positive result.

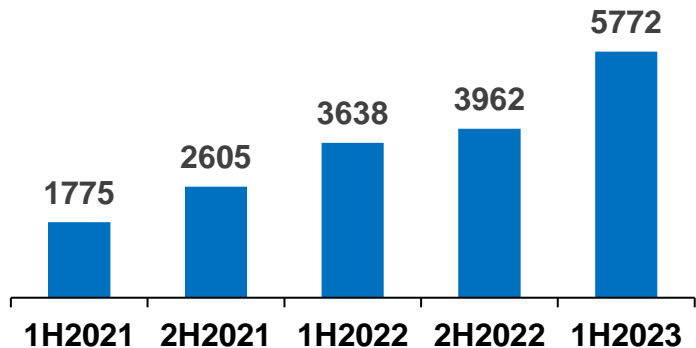
# »» Decent Financial Position Favorable for Future Development



## Debt to Asset Ratio



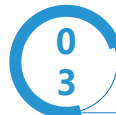


## Cash Assets (RMB M)



➤ The company's debt-to-asset ratio has increased, mainly due to bank loans of approx. RMB 4.553 billion, an increase of approx. 74.0% compared to the end of last year (including short-term loans of approximately RMB 4.322 billion and long-term loans of 231 million). But on the other hand, at the end of the Period, the total amount of the Group's cash assets (including cash and cash equivalents, bank time deposits with an original maturity of more than three months, pledged bank deposits, financial assets at fair value through profit or loss and financial assets measured at amortized cost reached approximately RMB 5.772 billion, fully covering bank loans of RMB 4.553 billion. If all these time deposits are used to repay bank loans, the company will have 2.616 billion in cash and cash equivalents on the one hand, and the debt-to-asset ratio will be reduced to 54.42%. Therefore, the company financial position is very secure.

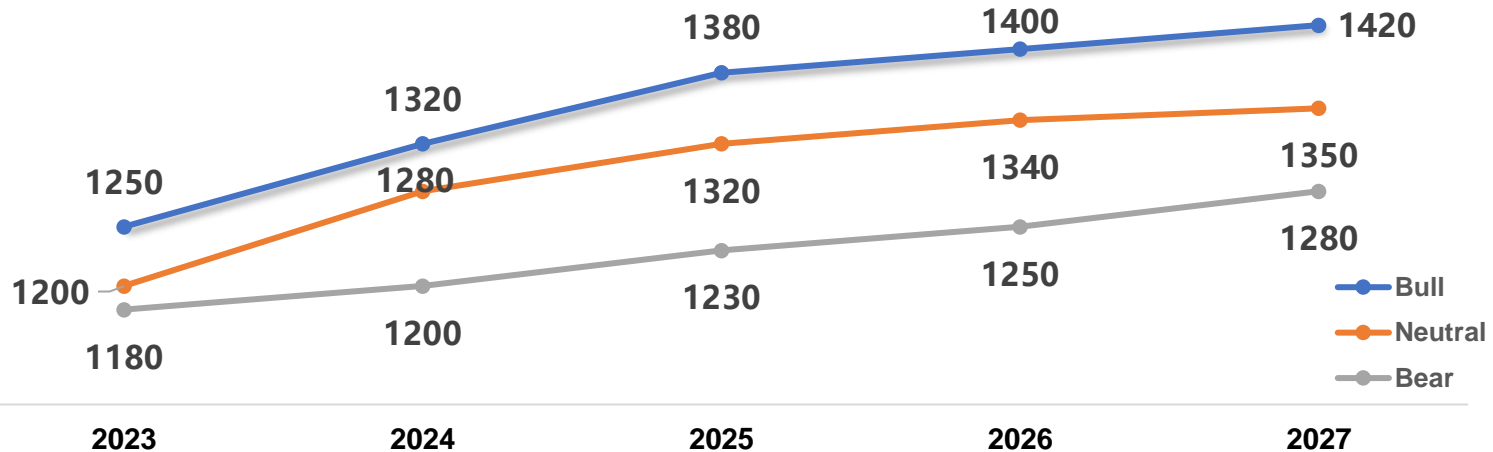


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# »» Possible Turning Point of Smartphone Sales Downtrend

## Three Growth Scenarios of Smartphone Sales Volume in Next Five Years

(Source: Industry Consensus View )  
(M Pcs)



- **Canalys:** Global smartphone inventory has reached a relatively healthy level by the end of the second quarter of 2023. In the second half of 2023, smartphone sales will gradually improve as inventory decreases.
- **MIIT :**From Jan to May 2023, mobile phone shipments in the China market totaled 108 million units, a YoY decrease of 0.7%, versus in May 2023, mobile phone shipments in the China market reached 26.04 million units, a YoY increase of 25.2%, showing an improvement trend.
- On July 21, seven departments including the National Development and Reform Commission issued "Several Measures on Promoting the Consumption of Electronic Products", aiming to promote the consumption of electronic products and help the recovery and expansion of domestic consumption.

# »» Smartphone CCM Specs Upgrade Continues



1 + 3 + X

## Front Facing

### Trend

- ❑ AF front camera become mainstream of flagship models, some of them even with OIS

### Demand

- ❑  $\Phi$ 1.8mm size
- ❑ Miniature
- ❑ Large aperture to F2.0

## Rear Wide Angle

### Trend

- ❑ Changeable aperture
- ❑ 1 inch large CIS and aperture
- ❑ 8 wire SMA

### Demand

- ❑ Domestic OIS & adoption in RMB 1000 model
- ❑ Large CIS OIS & TSA mass production in 2024

## Rear Ultra-wide

### Trend

- ❑ Flagship adopt AF ultra wide angle
- ❑ Overseas brand adopt OIS ultra wide

### Demand

- ❑ Low distortion

## Rear Tele Cam

### Trend

- ❑ Large CIS ( To 1/1.4")
- ❑ Large aperture
- ❑ Various Periscope structure (L Shade, Bar Shape)
- ❑ Short focal length marco

### Demand

- ❑ Balance of cost and performance
- ❑ Optimization of internal focusing for periscope

## Sensing

### Trend

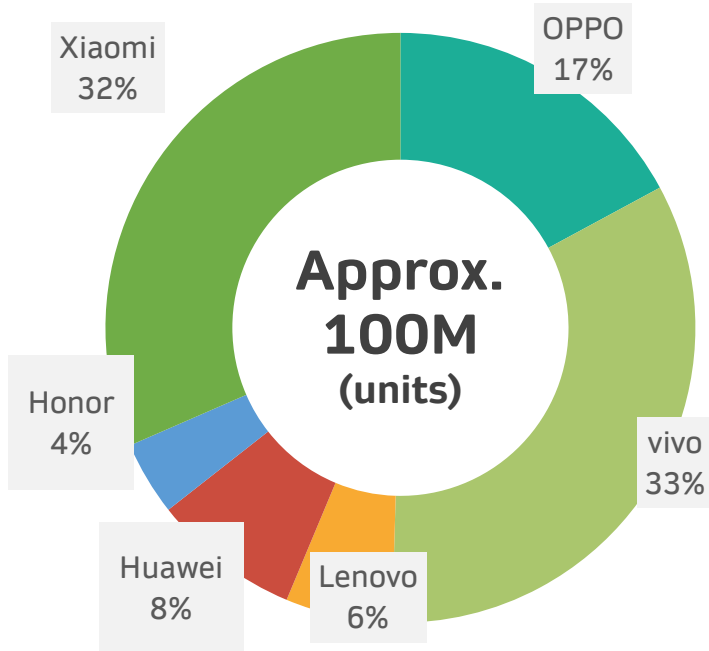
- ❑ Rear dToF module
- ❑ Multispectral

### Demand

- ❑ ToF distance measurement
- ❑ Multispectral for Imaging
- ❑ RGB+EVS for moving objects

## Domestic Market Demand of OIS Module (By Customers)

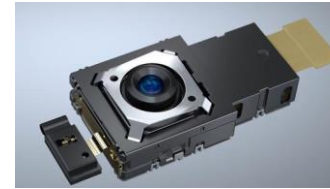
(Source: Industry consensus view)



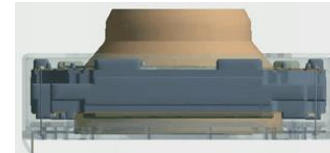
In 2023, it is expected that the Group's sales volume of OIS CCM will be accounted for 40% of the market demand among domestic brands

- Apple (100%) and Samsung (approx.30%) adopt OIS extensively and the adoption rate of OIS in domestic mobile phone brands still low (approx. 20%)
- Overseas Asia customer have achieved remarkable progress in cost reduction of Ball type OIS, which will stimulate domestic Android brands to catch up in OIS adoption.

### OIS capabilities of QTech



Micro Gimbal



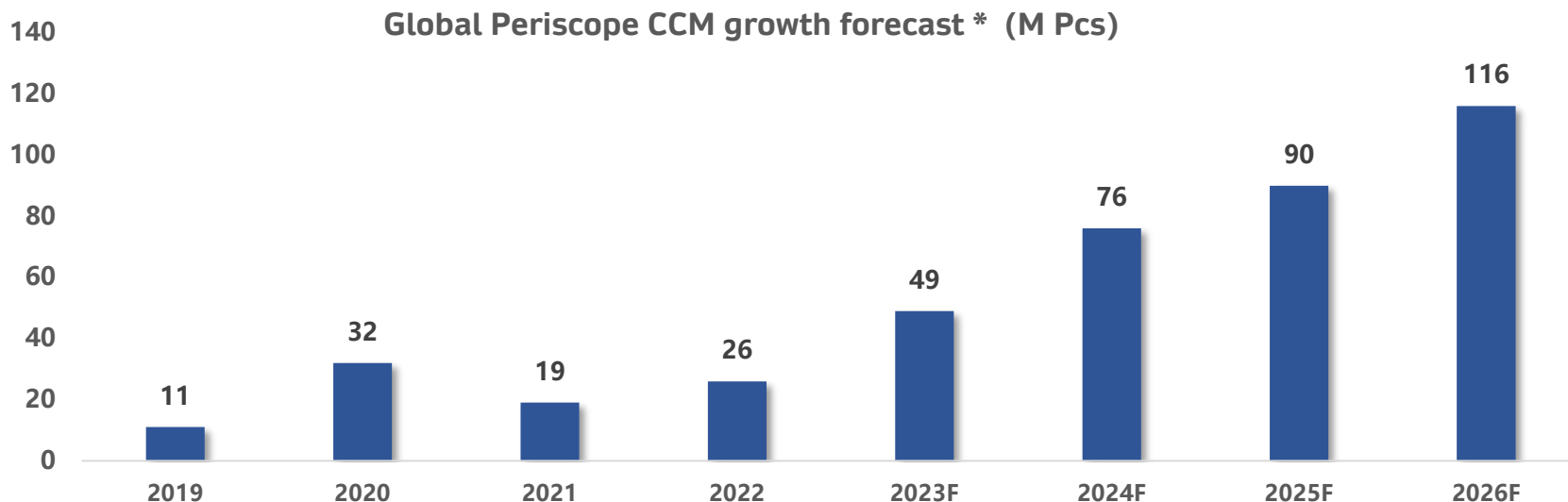
Spring Type



Sensor Shift



Ball Type

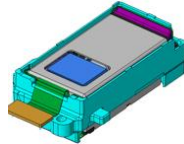


- According to media reports, the new iPhone to be released in 2023 will be equipped with a large aperture and small size periscope camera
- The cost of the periscope camera has dropped significantly, laying a good foundation for the mid-range phone to adopt
- During the Period, the Group's sales volume of periscope cameras doubled YoY and the Group will continue to participate in several new periscope projects in the 2H of the year

# »» Opportunity for Short-to-Medium Term: Periscope (Con't)

In 2024, the Group's periscope CCM are expected to cover the flagship models of most leading domestic brands, and the shipments will increase in multiples

50M 1/2.5" 3.5X  
FNO:3.0  
H=7.0mm



50M 1/1.56" 2.7X  
FNO:2.4  
H=8.4mm

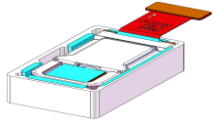


48M 1/2" 3.5X  
FNO: 2.1  
SS + dual prism+1G+4P+1P

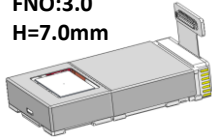


1H 2023

64M 1/2" 3.5X  
FNO:3.5  
H=6.9mm



48M 1/2" 3.5X  
3P+2P  
FNO:3.0  
H=7.0mm



2021-2022

12M 1/3" 5X  
FNO:2.8

64M 1/2" 3X  
FNO:2.4

50M 1/2.5" 4X  
FNO:2.4



2H 2023 (Forecast)

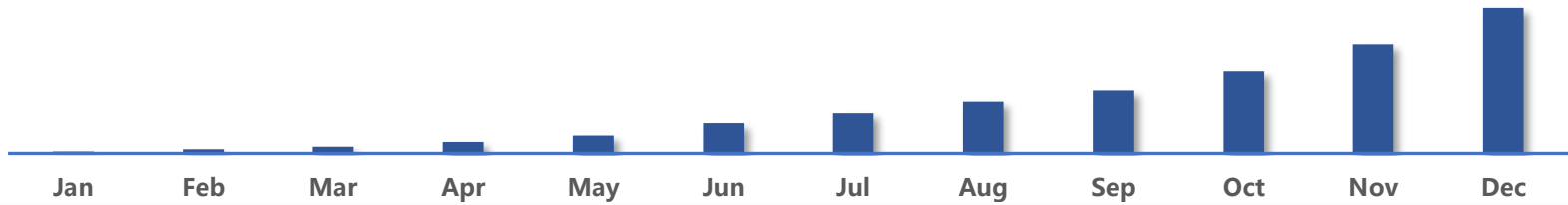
Trend of periscope CCM development

- ◆ CIS size enlarged, higher resolution
- ◆ Big aperture with an option of macro
- ◆ Miniaturization and new design structure
- ◆ Low cost solutions

# »» Potential Growth in Sales Volume of Automotive CCM in 2H2023



Forecast of Monthly Sales Volume in 2023



**Breakthrough of 2023:**  
 8M ADAS CCM, 2M Surround View CCM mass production;  
 8M COB ADAS CCM sampling to international Tier-1

Goal	Q Tech Tier-1.5 Model	Progress
<p>To replicate Q Tech market position of Smartphone CCM in Automotive CCM market</p>	<p>Leverage on the advantage in algorithm and module design, QTech will provide hardware and software integrated product of CCM, LiDAR and millimeter wave radar to Tier-1 and they will integrate with system and ship to carmakers</p>	<p><b>Products:</b>                      Fully cover                      ADAS\Surround View\In-cabin</p> <p><b>Customers(approaching 30):</b>  <u>International Tier-1:</u>                      Continental, Customer H &amp; Q</p> <p><u>China NEV:</u>                      BYD、Xpeng、Nio、Aito、Aion、Geely</p>

# »» Collaborate with International Tier-1 to Build Image Laboratory

The lighting environment test laboratory leverage on the installed moving track, sun lamp, traffic lights, road signs, plants, neon lights, pedestrian crossing, garages, car front and rear light, multi-colour temperature ceiling lights etc. to simulate different actual driving scenario for testing.





## 1. Precise Positioning

Positioned as a Tier-1.5 in automotive CCM business, specializing in the manufacture of optical modules, serving the world's leading Tier-1 companies

## 3. Build Comparative Advantage

Leverage on the experience of scale production and design of smartphone CCM, we will take the lead in entering COB vehicle-mounted modules and use the advantages of latecomers to promote optical module products such as millimeter wave radar and LiDAR with the latest technology

## 2. Product Technology Focus

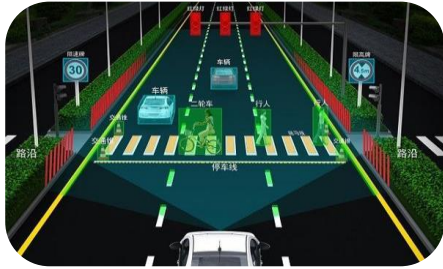
Relying on the company's accumulation in optical module, and algorithm technologies, focus on making optical modules

## 4. Multi-products per Vehicle & Vertical Integration

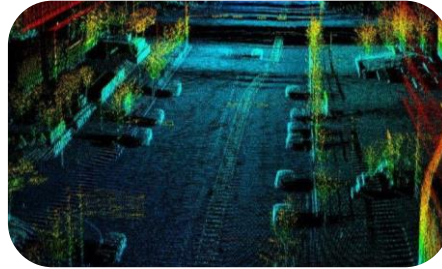
Promote CCM alongside with other optical module products such as LiDAR and millimeter wave radar to increase the product content per vehicle

# »» Multiple Sensor Module Products per Vehicle

### Automotive CCM



### LiDAR



### Millimeter Wave Radar



Early fusion of multi-modal sensors fuses the raw data of multiple sensors before feature extraction to achieve a better autonomous driving result

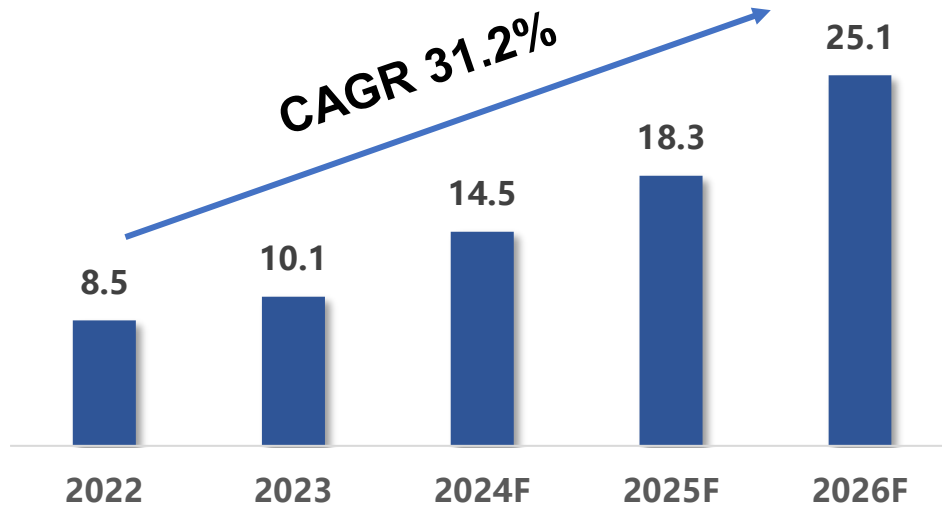
Enhanced Situational Awareness

Better Decision Making

Enhanced Algorithm Efficiency

# »» Acceleration of VR Device Market Growth

Global VR Market Forecast (M Pcs)



- Affected by the Marco-economy downturn, the total global shipments of VR headsets in 2023 only reach 10.1 million units. However, CAGR of 2022-2026 is expected to be 31.2% and the sales volume will hit 25.1 million in 2026.
- Apple launched the MR headset Vision Pro, its technology and solutions will lead the industry trend of the Metaverse

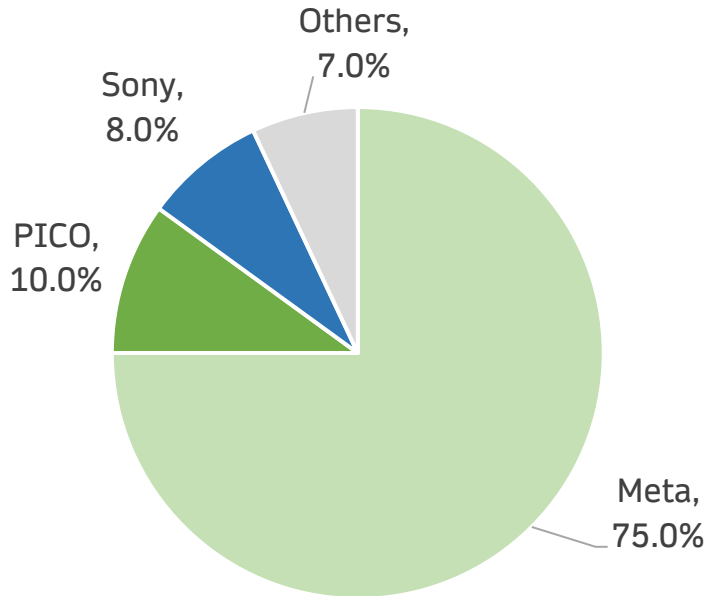


# »» Well Strategised Customers Roadmap



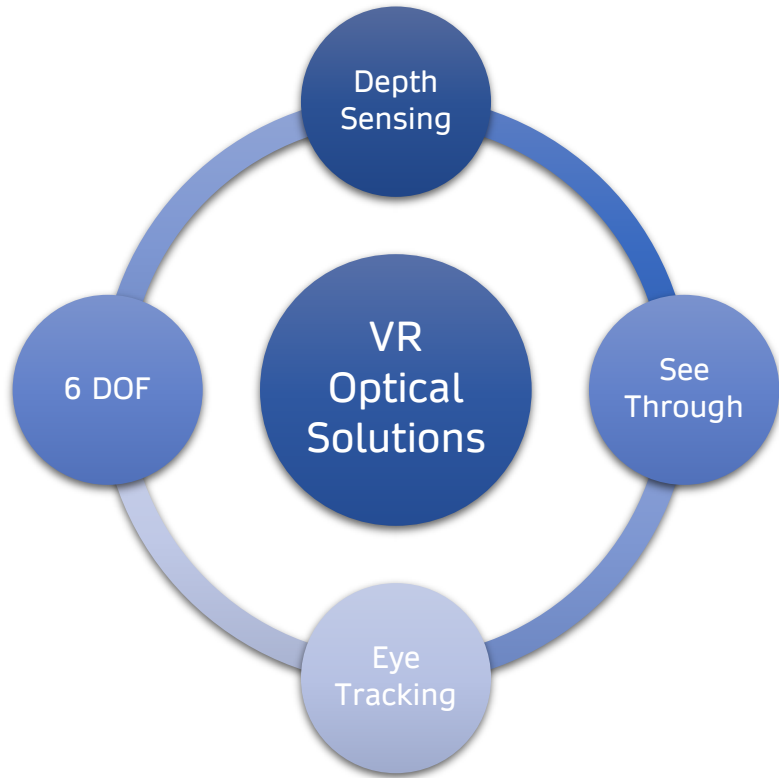
## Market Share of VR brands in 2023\*

(Source: Industry consensus view)



Type	Q Tech Collaboration
<b>US and Japan Customers</b>	Overseas sales team in place, significant progress achieved in various US and Japan customers
<b>Greater China Customers</b>	Covered major mainland China and Taiwan VR customers including PICO, HTC, DPVR etc. Collaborations initiated in new product projects such as pancake lens, dToF module and eye-tracking module
<b>Android Handset Customers</b>	Long term relationship facilitate new collaboration in VR. R&D and sampling in progress

\*Data extracted from independent third-party research, for reference only



Product	Q Tech Strategy
<b>RGB/6DoF</b>	Highlight products including 32M RGB and VGA+ 6DoF module. Focus on module miniaturization
<b>Depth Sensing</b>	Highlight products including dToF and VGA iToF wide-angle module. Product sampling to two major Chinese customers and penetrating overseas customers in parallel
<b>Pancake</b>	Offering 2P & 3P Lens solutions as well as Lens + Display integrated solution

# »» 2023 Operational Target

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## Q Tech (Revised Up)



- Sales Volume of 32M and above CCM account for more than 40% of total CCM sales volume

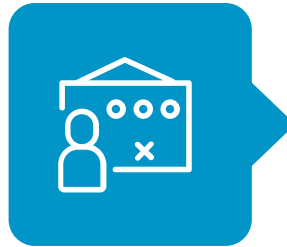
(Original target at the beginning of Year : 35%)



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# »» Four Core Development Principles

**New Process, New Technology, New Product**  
Driven by R&D and production innovation



**Local and Overseas Production Bases**

Steady expansion in production scale and product offering

**Balance Strategy for Development and Risk**  
Optimize internal resource allocation and business structure



**Vertical Integration**

Leverage on the CCM product platform, accelerate integration of upstream and downstream supply chain to build the edge as total intelligent vision solution provider

## Development of Camera module with SCM integration

### Actuator R&D

- ❑ Close loop OIS, Open loop OIS
- ❑ Folded actuator, Sensor Shift, Sensor AF, Changeable aperture
- ❑ Close, Open, BI AF actuator
- ❑ COP: Precise Electronic & Mechanical Components

### Lens R&D

- ❑ 1G+6P、1P+6P
- ❑ 5P/6P/7P RGB
- ❑ Folded Zoom, Tele, Wide
- ❑ 3D Lens
- ❑ Pancake lens
- ❑ D-CUT、 Low reflection coating

### Algorithm R&D

- ❑ Computer Vision
  - ✓ Computational Optics
  - ✓ Enhancement, Restoration
  - ✓ Calibration, Fusion
  - ✓ Detection, Tracking
  - ✓ Classification, Recognition
- ❑ Machine Vision
  - ✓ Guidance, Gauging
  - ✓ Identification, Inspect

### FPCB R&D

- ❑ Through hole, HDI
- ❑ Palladium plate
- ❑ RF-PCB

# »» Core Capabilities of Q Tech

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**Core Values**

**Management  
Process:**  
IPD, LTC

**Technology:**  
Design/Knowhow/  
Machinery/  
Software/IT

**Industrial 4.0**

**Leading Global  
Customers**



丘鈦科技(集團)有限公司

# THANKS

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