



丘鈦科技(集團)有限公司

Q Technology (Group) Company Limited

Stock Code 股份代號 : 1478

**2023 Annual Results
Investor Presentation**
25 March 2024



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- 01** **2023 Annual Results Business Review**
- 02** **Smartphone/Automotive/IoT Business Segments Outlook**
- 03** **Q Tech Corporate Strategy**

»» Financial Summary

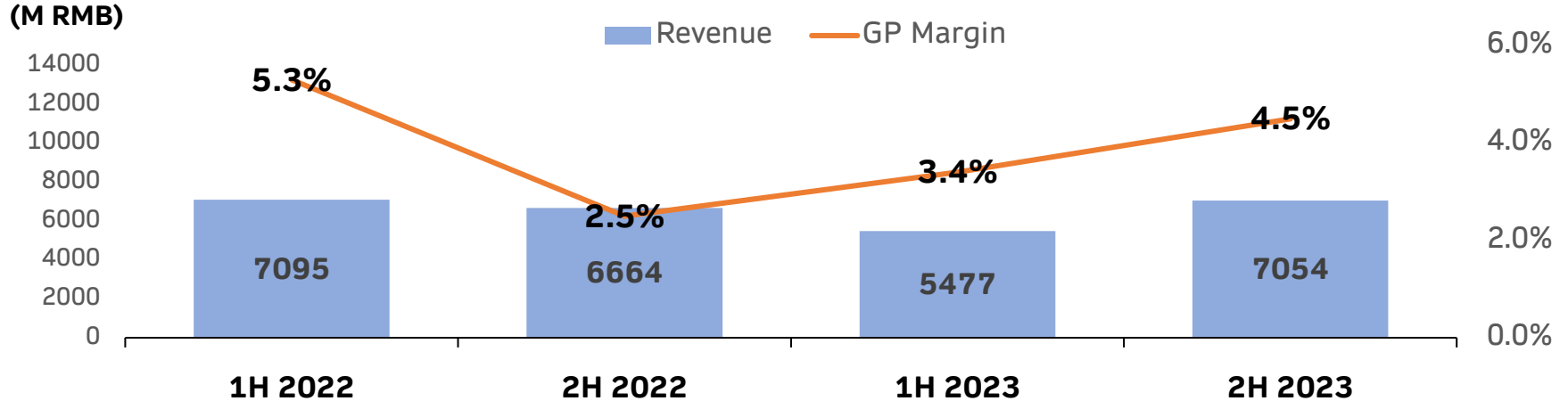


RMB K	FY		(YoY) Change	2H	1H	(HoH) Change
	2023	2022		2023	2023	
Phone CCM Sales Volume	365,953K	417,259K	-12.3%	199,370K	166,583K	+19.7%
Other Fields CCM Sales Volume	7,636K	6,616K	+15.4%	4,910K	2,726K	+80.1%
FPM Sales Volume	110,238K	111,516K	-1.1%	59,627K	50,611K	+17.8%
Revenue	12,530,799	13,759,170	-8.9%	7,054,256	5,476,543	+28.8%
Gross Profit	508,856	541,342	-6.0%	320,553	188,303	+70.2%
Gross Profit Margin	4.1%	3.9%	+0.2pts	4.5%	3.4%	+1.1pts
OPEX ratio	4.8%	4.5%	+0.3pts	4.7%	5.0%	-0.3pts
Net Profit/Loss	83,531	170,230	-50.9%	61,839	21,692	+185.1%
Net Profit Margin	0.7%	1.2%	-0.5pts	0.9%	0.4%	+0.5pts
Basic EPS	6.9 cents	14.5 cents	-52.4%	5.1 cents	1.8 cents	+183.3%
Operating Cash Flow	-378,783	1,048,352	N/A	-289,069	-89,714	N/A

»» Highlight 1: Overall Business Improved HoH



HoH Revenue and GP Margin (1H2022- 2H2023)



1) Market demand is likely hitting bottom and sales are improving. In the second half of 2023, revenue increased by approx.28.8% HoH and approx. 5.9% YoY. In particular, the sales volume of CCM increased by approx.20.7% HoH, and the proportion of 32M and above products increased by approx. 8.2pts HoH to approx. 45.3%, the ASP of the product increased by approx. 9.1% HoH and approx. 11.9% YoY.

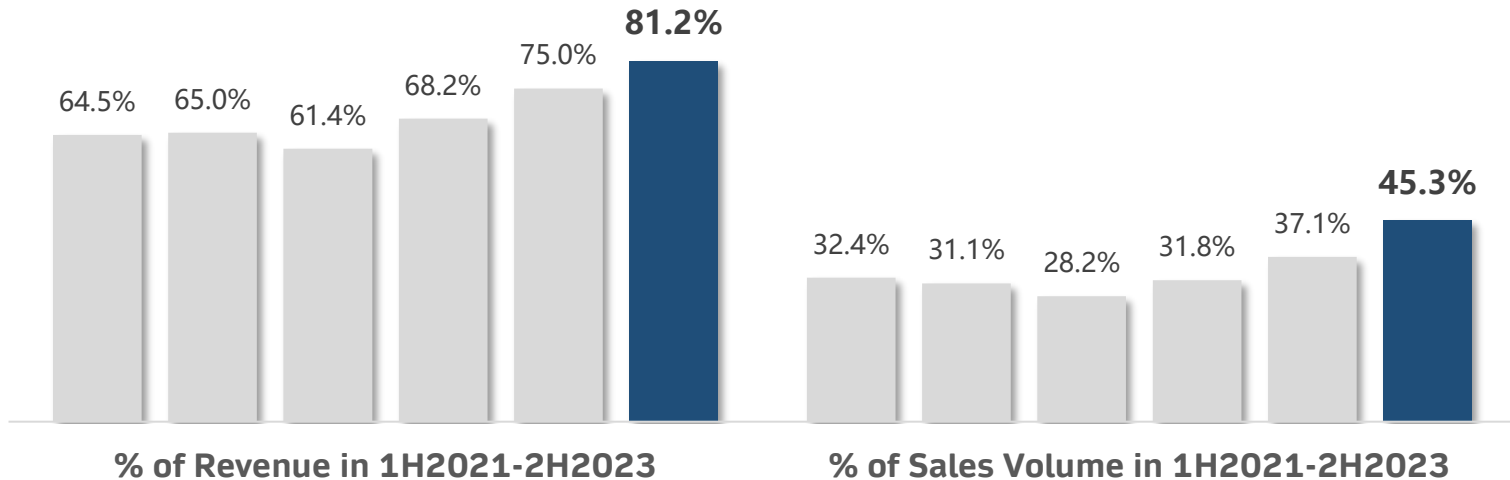
2) Gross profit margin has bottomed out and is gradually recovering. The GP margin in the second half of 2023 was approx. 4.5%, an increase of approx. 1.1pts HoH and 2.0pts YoY. Especially for the CCM business, the gross profit margin rebounded to 4.9% in the second half of the year.

Highlight 2: Mix of 32M and above CCM Reached New High in 2H 2023



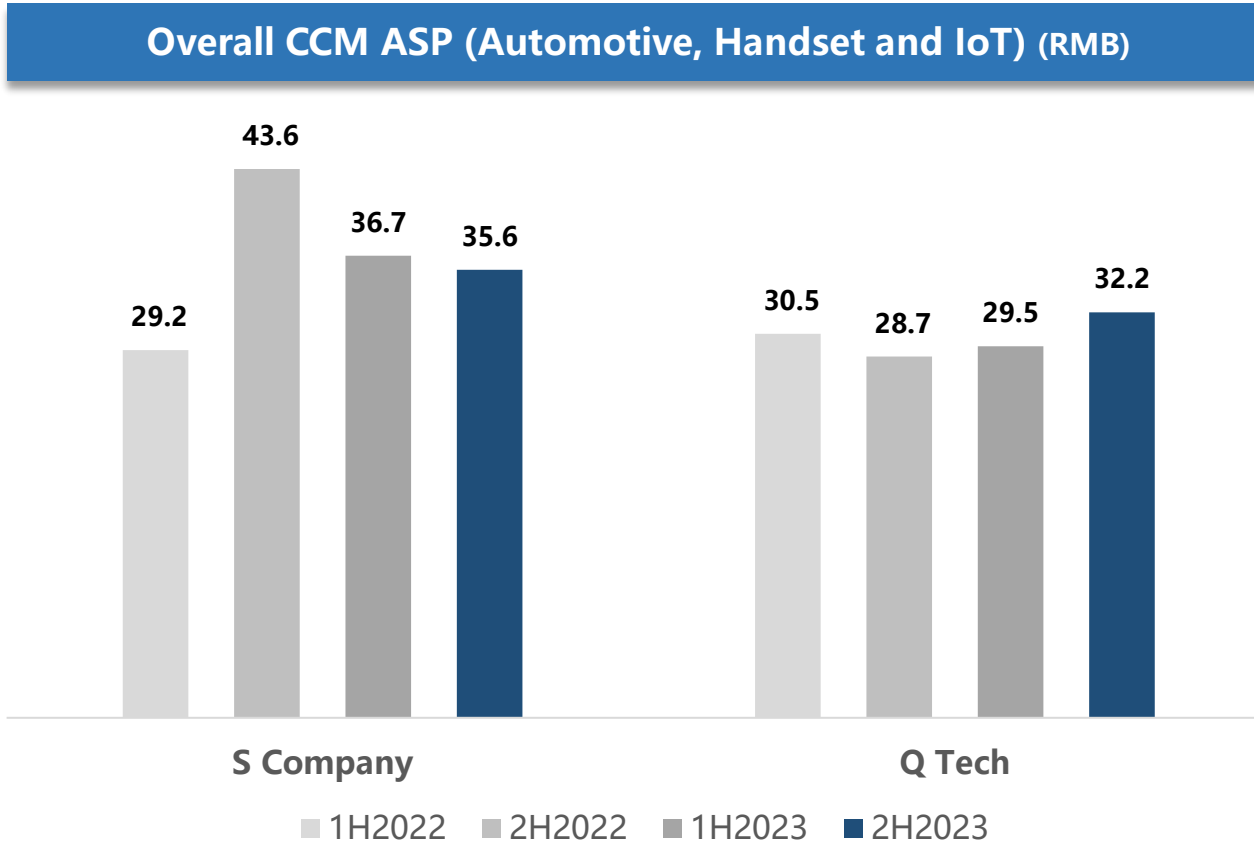
Proportion of 32M and above CCM

*Products include 32 megapixels and above single-camera modules, dual/multi-camera modules, 3D modules, vehicle camera modules, and other camera modules

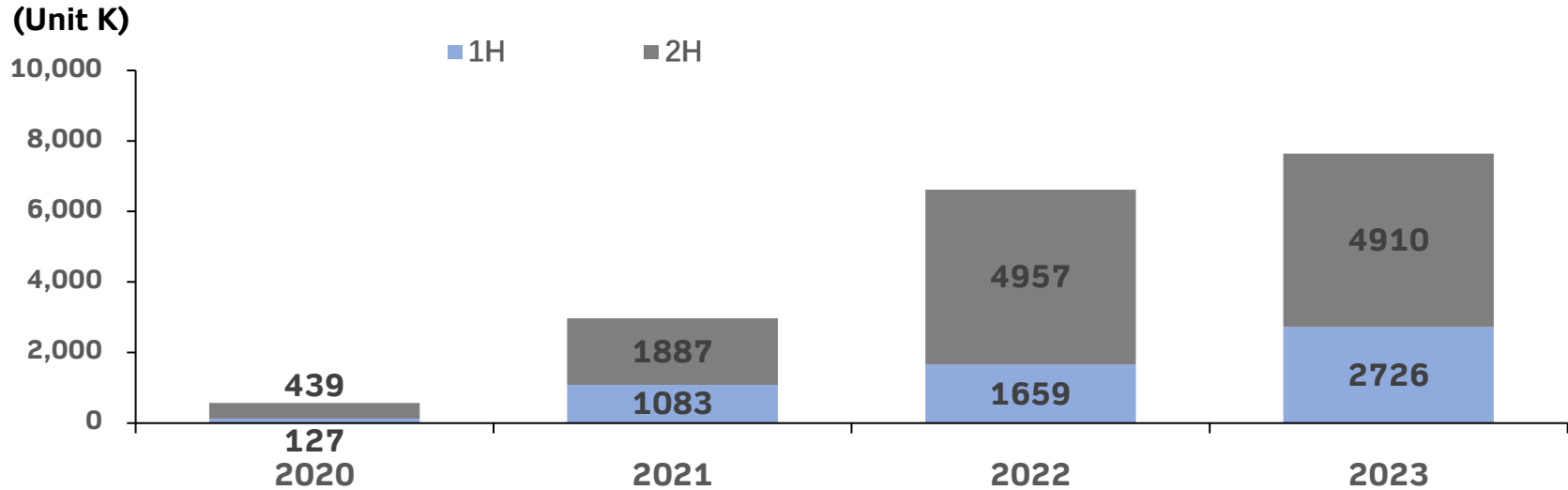


➤ During the Year, The Group's adopted an effective strategy of 'Focusing on product mix improvement in order to raise the quality of revenue'. The product mix of CCM was improved significantly and the proportion of CCM with 32 megapixels and above increased steadily HoH and YoY., reached new high in 2H 2023

»» Highlight 3: ASP of Overall CCM Trending up



Highlight 4: Sales Volume of CCM Applied in Non-handset Increased Significantly

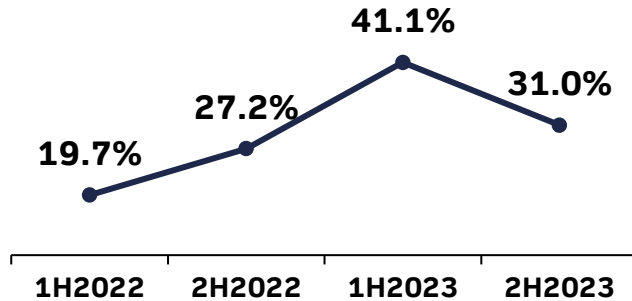


- Customer structure and product structure of CCM used in smart vehicles and Internet of Things (IoT) terminals have been significantly improved result in an increase in sales volume of approx. 15.4% YoY.
- Attributable to the major business engagement with a China Tier-1 customer, sales volume of CCM used in smart vehicles during the Year increased 3.6x.

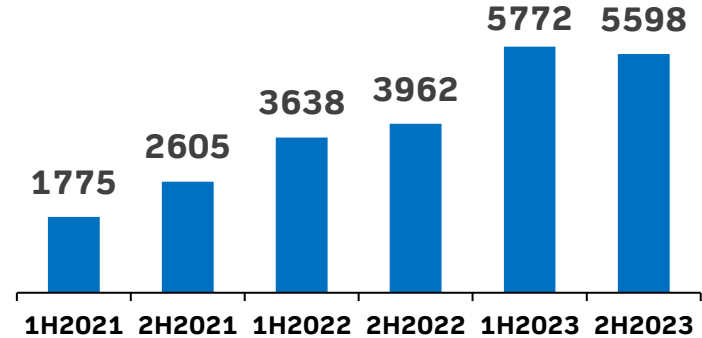
»» Decent Financial Position Set for Future Development



Net Debt to Equity Ratio



Cash Assets (RMB M)

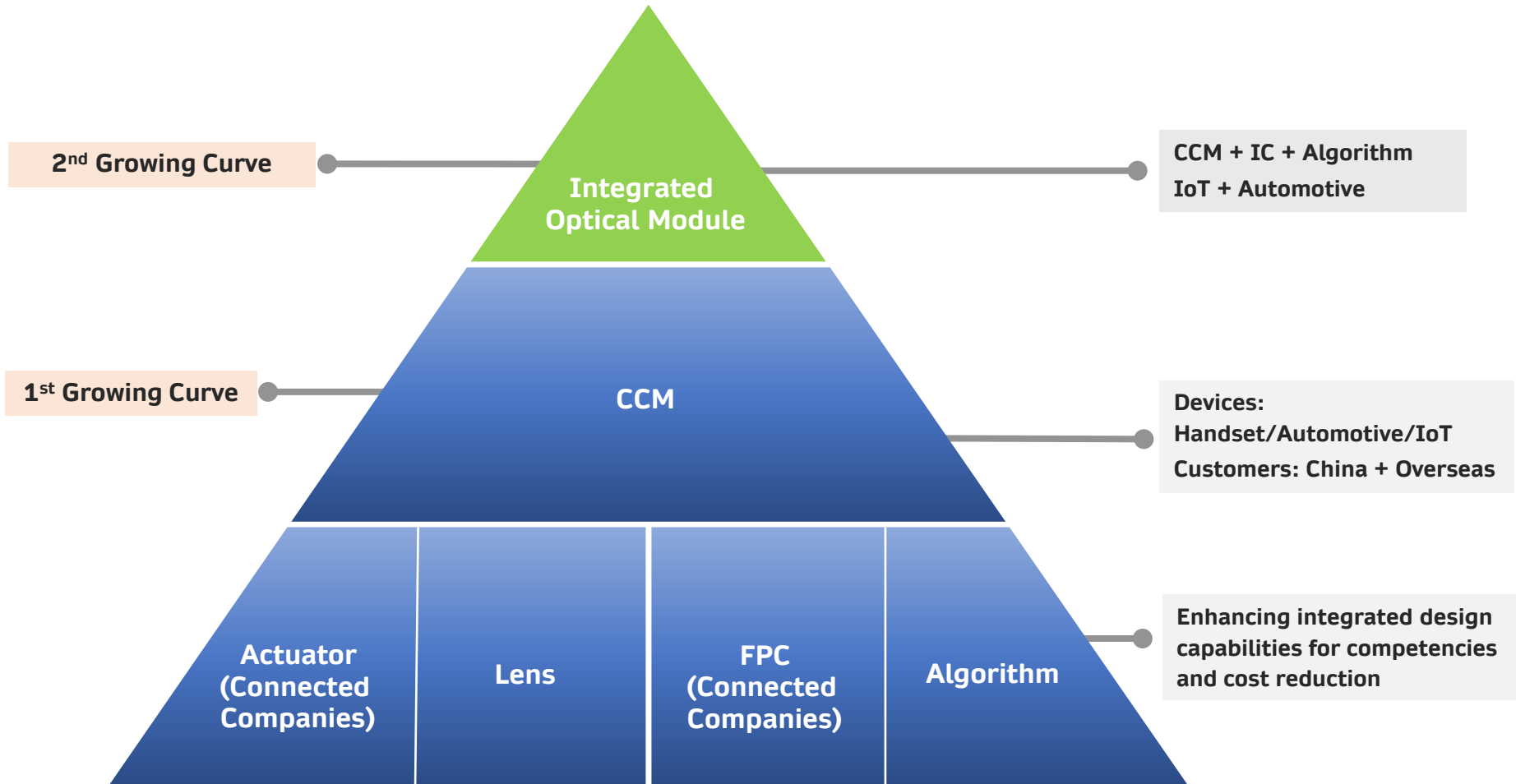


➤ The company's net debt to equity ratio has increased YoY, mainly due to after a holistic consideration of geo-political environment, cost of financing and deposit etc., the Company has increased the bank loans to approx. RMB 4.37 billion by end of the Year, representing an increase of 67.1% YoY. But on the other hand, at the end of the Year, 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 5.598 billion, fully covering the outstanding bank loans. Assuming the scenario of all these time deposits and pledged deposit are used to repay bank loans, the company will achieve a net cash position. Therefore, the company financial position is very secure.



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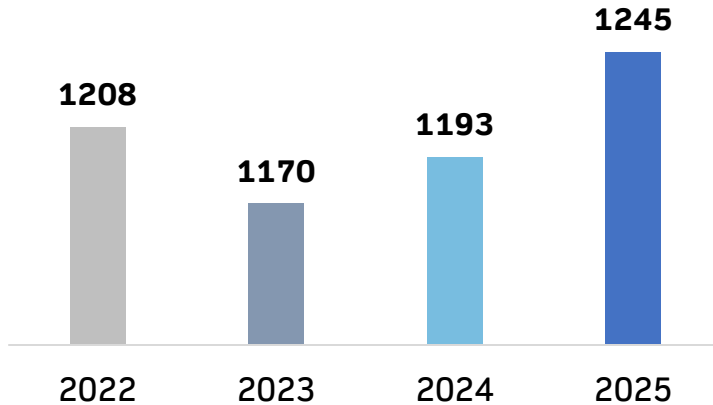
»» Growth Strategy of Q Tech Business



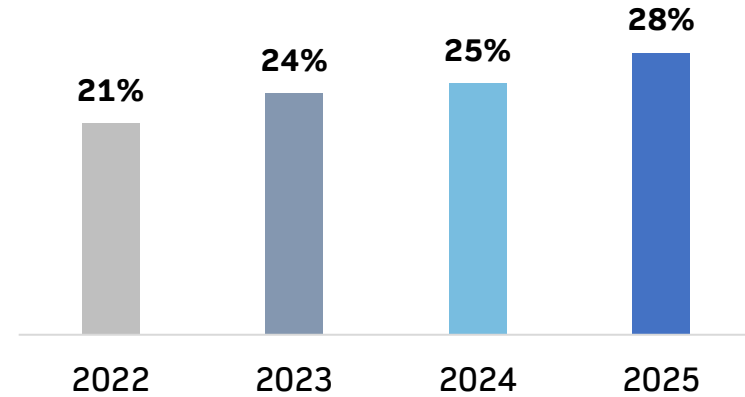
»» Handset: Premium Smartphone Growth Accelerating



Global smartphone sales trend (KK)



Market share of ASP >600 USD Smartphone



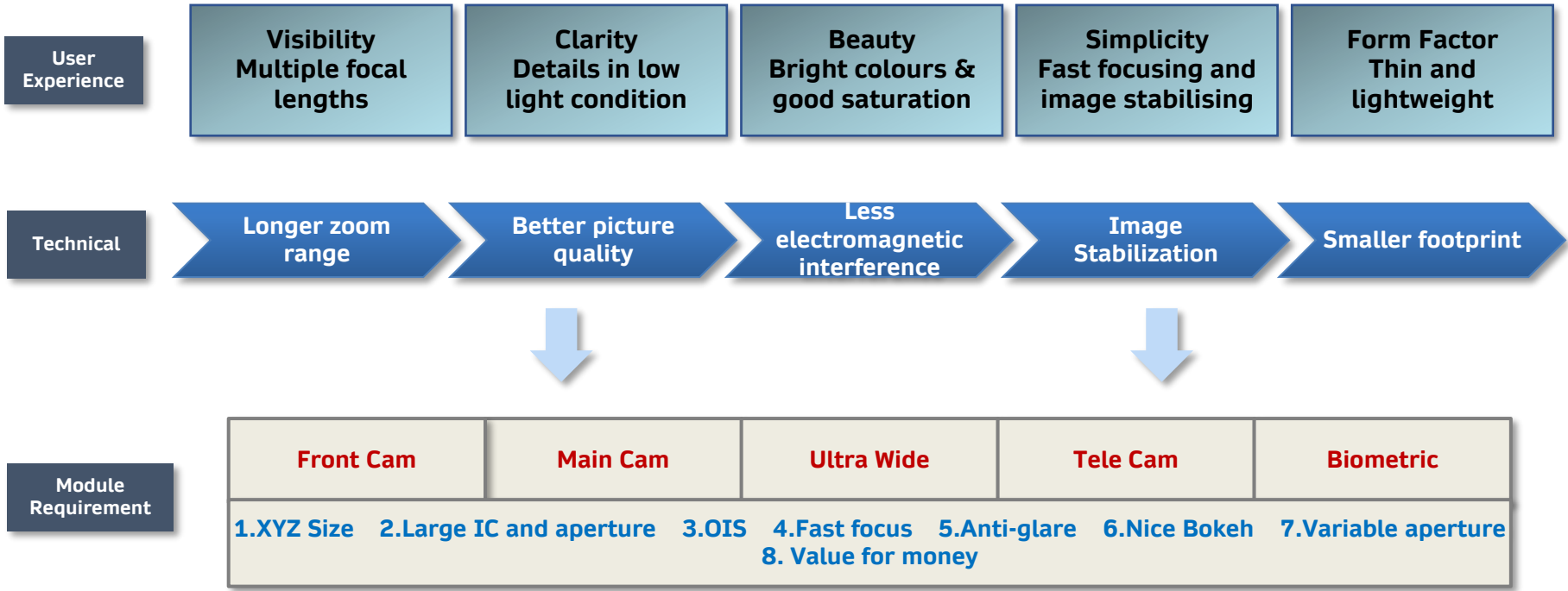
- Although the demand of smartphone pick up in 2H 2023, the global smartphone market in 2023 still declined by approx. 3.2% YoY. It is expected that sales of smartphone will rise only modestly in the next two years. Annual sales volume of smartphone is expected to exceed 1.2 billion units again only in 2025.
- In contrast, global sales of high-end smartphones (\geq US\$600) increased by 6% YoY in 2023, accounting for approx. 60% of total smartphone sales, hitting a record high and continuing to become a new growth driver of smartphone market.

*Subjective forecast based on market dynamics and for reference only

Handset: Demand for Mobile Imagine Quality far from satisfied

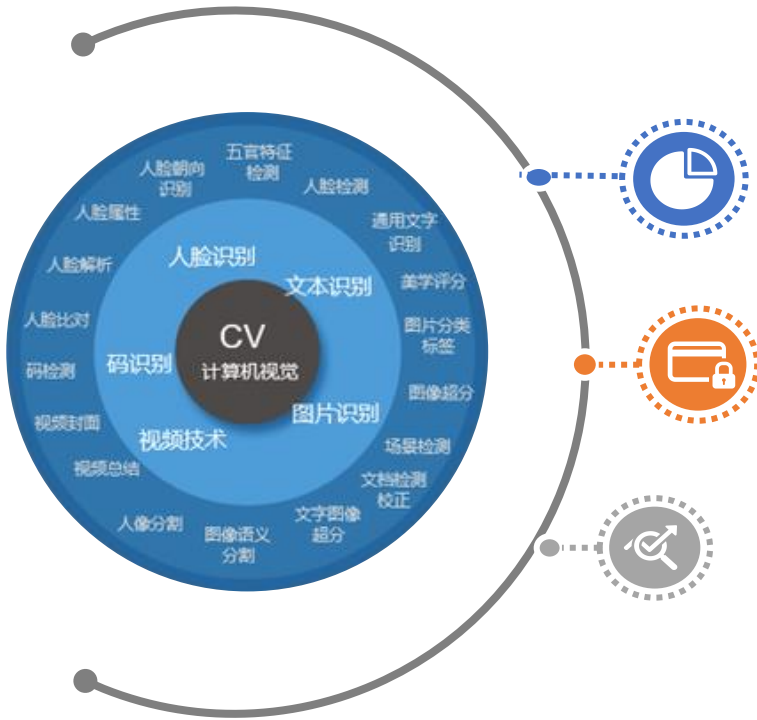


Capture the Beauty of Life



Handset: AI functions call for diverse camera needs

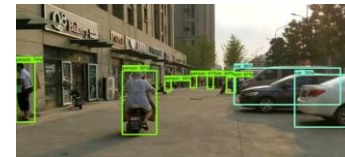
AI smartphone redefine the user experience of mobile phone camera functionalities. The camera will automatically identify and adjust the camera parameters according to different environments. At the same time, as the data collecting interface for intelligent recognition, it will further improve the specifications of the camera.



Multimodal scene recognition



Intelligent recognition of people & objects



Intelligent optimization of imaging effects



Handset : AI Image Requirements for CCM Specs



CMOS

Optical System

Actuator

Module Design

Multimodal sensor

Built-in AI

Filters array

Highly adaptable

Strong computation

Faster focus

Better OIS

Multimodal driver

Low latency management

Edge computing

3D Depth
EVS
Multispectral
Thermal
Imaging

AI computing power
↓
Scene detection
Object tracking

RGBW
RYYB
↓
Intelligent white balance

Continuous light change
Variable aperture
Liquid lens

AI noise reduction
Clarity improved
Aberration correction
Dispersion optimization
Portrait blur

Anticipating objects movement
↓
Motor early response
↓
Faster focus

Anticipate handshake
↓
Motor early response
↓
Better OIS

Gyro
+
Scene judgement
↓
Better Algorithm

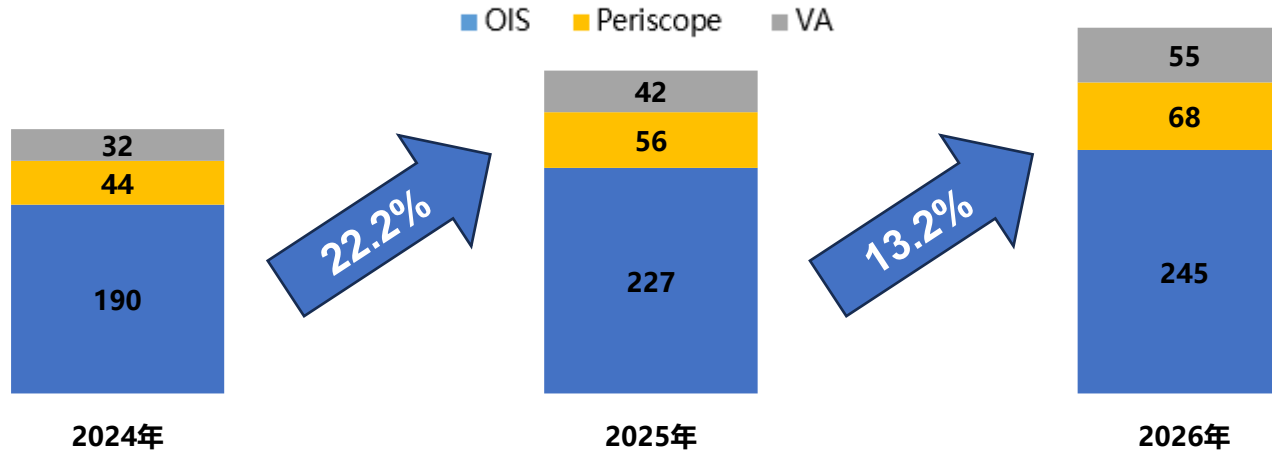
Mipi optimization
Clock frequency speeds up
↓
Real-time AI processing

AI Computation
↓
Scene detection
Object tracking

Handset : High-end Smartphones Drive Demand for High-end CCM

In addition to Apple and Samsung's extensive adoption of OIS and periscope camera, penetration rate in China domestic brands is also increasing rapidly

2024-2026 demand of high-end specs CCM (Units M)



- The penetration rate of OIS in local smartphones brands continues to increase. Samsung and Apple's periscope modules adopted in lower end models , driving the growth of periscope products in local market
- The Group has successfully mass-produced OIS modules in Samsung ODM project
- In 2023, the Group's OIS CCM sales volume accounted for approximately 45% of domestic demand, ranking first in the industry. In 2024, the Group is expected to double its sales volume of periscope CCM and cover all the flagship models' periscope modules for most leading domestic brands.

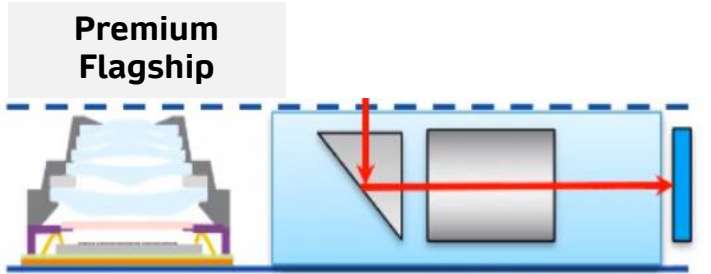
*Subjective forecast based on market dynamics and for reference only

»» Handset: OIS Specs Continue to Improve

Q Tech combines the design capabilities of its lens associate company, actuator connected companies and its own module design capabilities to develop a variety of OIS-modules integrated solutions. It has made significant breakthroughs in technology and cost optimization and suitable for customers to use in different levels of models.

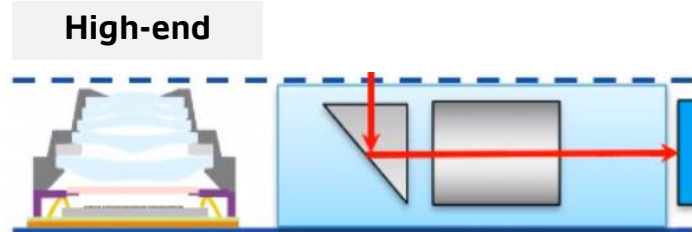
Foldable	<p>Q Tech self-developed solutions</p> <p>SMA OIS Module, Magnetic Static Type OIS Module</p>
Premium Flagship	<p>Q Tech self-developed solutions</p> <ol style="list-style-type: none">1. TSA Sensor-Shift Module2. Variable Aperture + OIS Module
Mid-to-High-end	<p>Q Tech self-developed solutions</p> <p>Large IC Spring Type OIS Module (Built-in IC + 3-axis close loop+ 3 sides magnet)</p>

»» Handset : Periscope Camera Becoming Second Main Camera



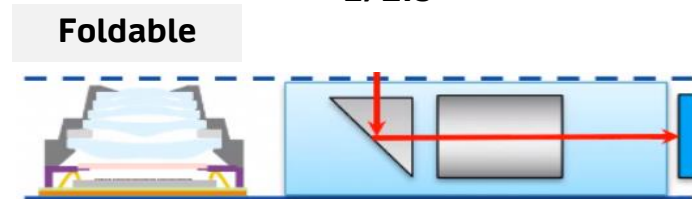
Main cam 1"

Periscope : 1/1.4" or 1/1.5"



Main cam 1/1.3"
or 1/1.4"

Periscope: 1/2" or
1/2.5"



Main cam 1/1.4"
or 1/1.56"

Periscope : 1/2.8" -
1/3.7"



Direction of Periscope Camera:

- ◆ Larger IC
- ◆ Larger Aperture
- ◆ Macro
- ◆ Miniature



»» Automotive : CCM business Enter Acceleration Phrase

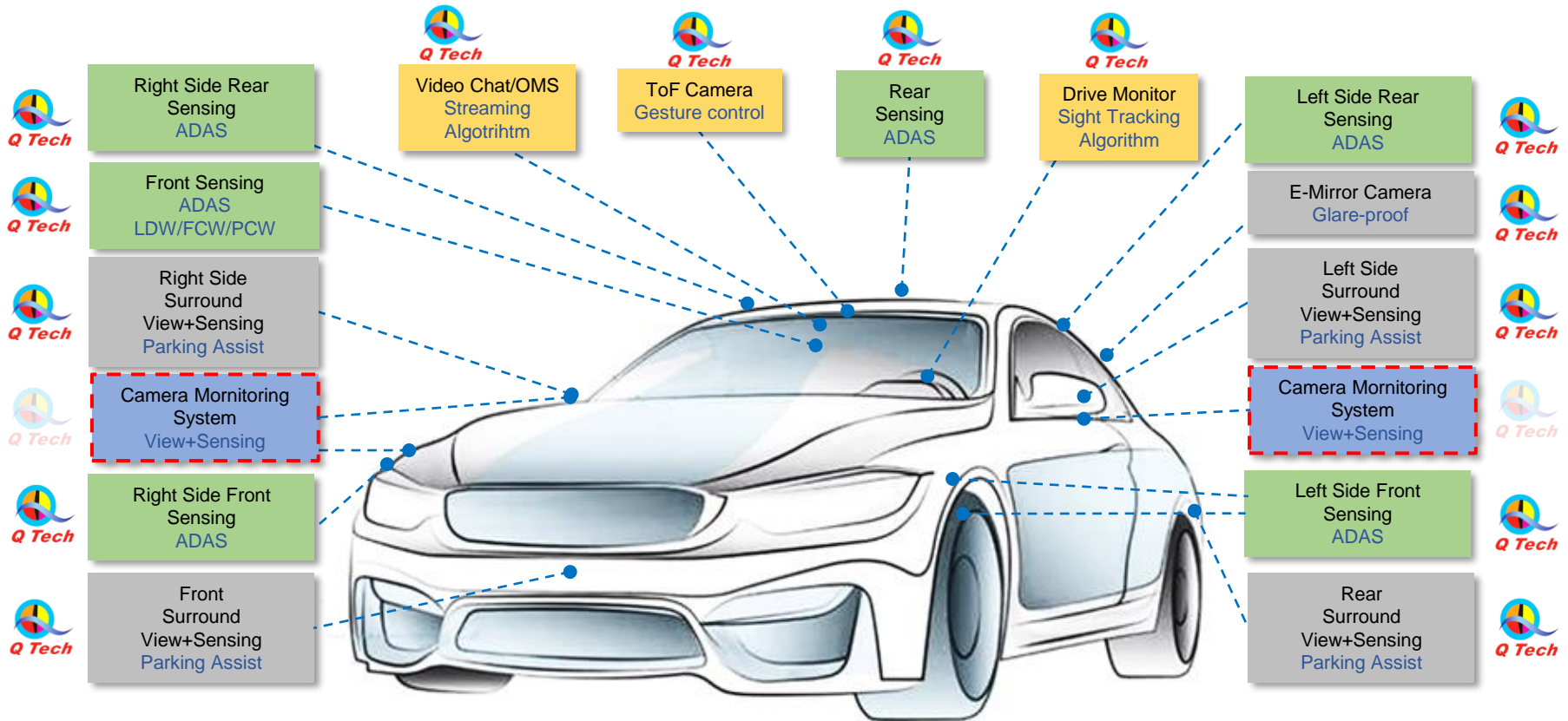


Goal	Q Tech Model	Progress
<p>To replicate Q Tech market position of Smartphone CCM in Automotive CCM market</p>	<p>Focus on Tier-1 Customers</p> <p>Leverage on the advantage in algorithm and module design, Q Tech will provide hardware and software integrated product of CCM and LiDAR to Tier-1 and they will integrate with system and ship to carmakers</p>	<p>Products: Fully cover ADAS\Surround View\In-cabin</p> <p>Customers: <u>Overseas and Domestic Tier-1:</u> H, C, B Customers <u>China NEV:</u> BYD, Xpeng, Nio, Aito, Aion, Geely</p> <p>Sales and Capacity: Sales volume increased 3.6 times YoY in 2023, and total production capacity exceeded 1KK/M</p> <p>Strategic Partnership: Create joint image lab with platform company</p>

2024 Targets:

- 1) The product line covers a full range of automotive cameras and achieves large-scale shipments
- 2) Solidify collaboration with H, C, B Customers and focus on the qualification with overseas Tier-1 customers in Japan, France, Canada and Germany
- 3) Invest heavily in the R&D and production capabilities of automotive COB CCM and scheduled mass production in 2024
- 4) Promote mass production of LiDAR module

»» Automotive : Fully Covered Full-Range Vehicle CCM



Sensing

In-Cabin

View + Sensing

CMS



Development

Mass Production

»» Automotive : Industry Leading 8M ADAS CCM Automation Line

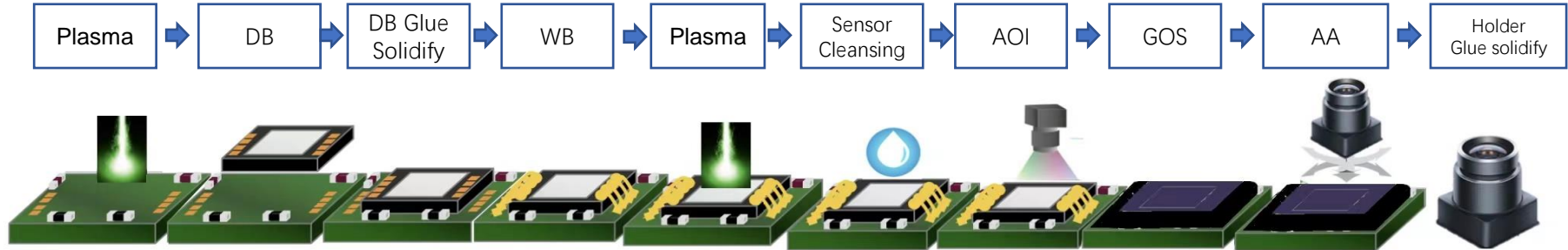
Only 3 operators need for one shift



Automotive: Invest Heavily in Automotive COB Packaging Modules



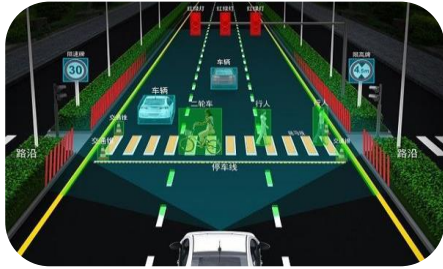
Automotive--COB Sensor Packaging Process



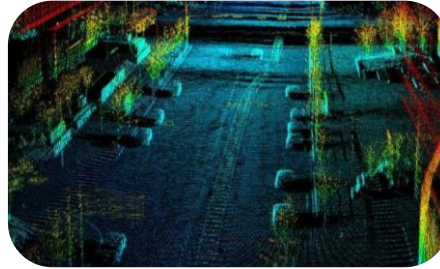
	BGA Packaging	COB Packaging
Production cost	Extra packaging process, Higher cost	Die cost reduction significantly
Optical performance	Cover lens stray light	Improve MTF, less stray light, particularly for 8M and above model
Precision	Lower	Good consistency and precision
Heat dissipation	Worse, higher temperature drift	Better heat dissipation and minimize the impact to MTF
Production process	Need to outsource to SMT	Module makers can perform end-to-end production

»» 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

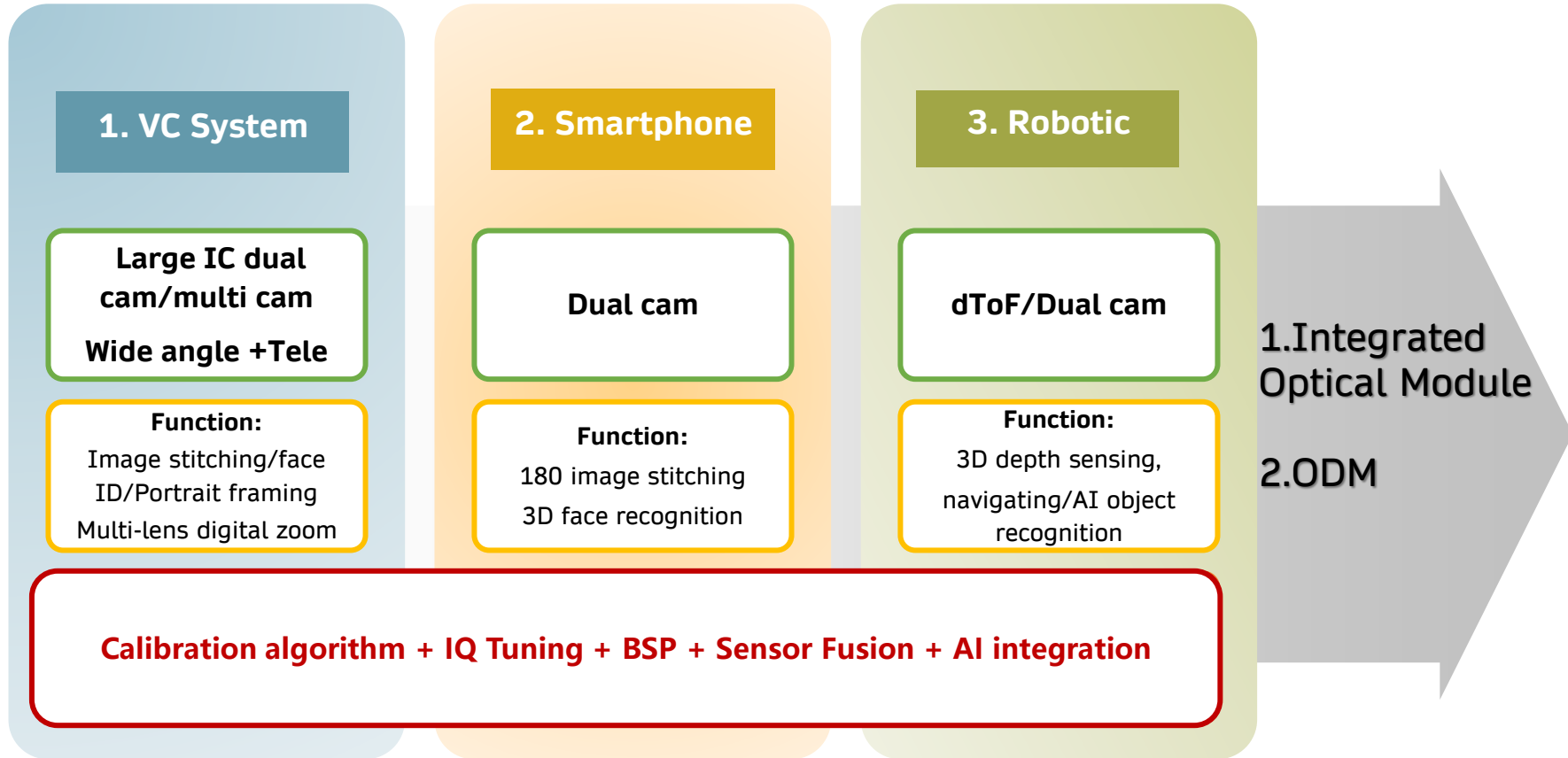
Enhanced Situational Awareness

Better Decision Making

Enhanced Algorithm Efficiency

Products	Q Tech Progress
Drone and Sport Camera	<ul style="list-style-type: none"> ➤ Q Tech and customers co-developed a digital integrated delivery system and strike to maintain its position as a leading supplier in the industry. ➤ Industry drone and handheld products such as pocket shooting stick and sport camera growth further accelerate, Q Tech will participate substantially in a lot of projects in 2024 and 2025
VR/AR Optical Product	<ul style="list-style-type: none"> ➤ Covered major AR brands of China Mainland and Taiwan, including PICO, HTC and DRVR etc. ➤ PANCAKE LENS enter mass production phrase ➤ Acquired vendor code of major US customer
Sweeping robot/Mowing robot/3D doorbell/3D door lock/VC terminal	<ul style="list-style-type: none"> ➤ Provides a variety of products including 2M FF wide angle, 5M FF wide angle and VGA GS wide angle, etc. ➤ Provide software and hardware integrated optical module to multiple customers

»» IoT: Software and Hardware Integrated Optical Module



»» 2024 Operational Target

Q Technology



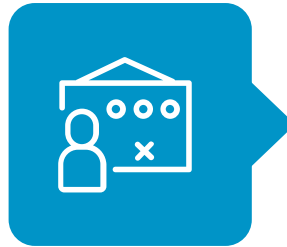
- Sales volume of 32M and above CCM account for more than 45% of total CCM sales volume
- Sales volume of CCM applied in mobile phone increase not less than 5% YoY
- Sales volume of CCM applied in automotive and IoT increase not less than 50% YoY



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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

Automation

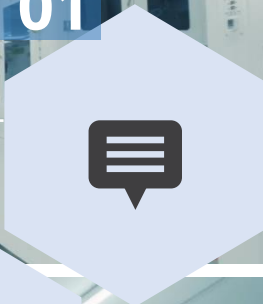
- ❑ AOI
- ❑ Fully automated production line
- ❑ AI production

»» Industrial Internet Large Scale Production System



生产精益化Lean Production

01



控制智能化Intelligent Control

04

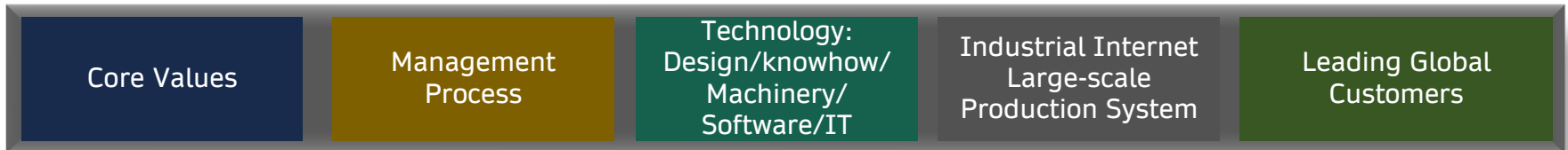
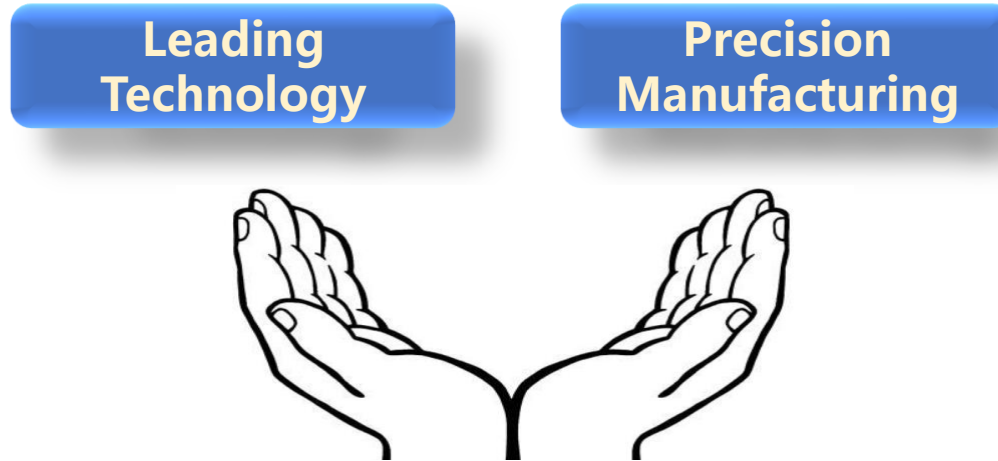
02 制造自动化Automation



03 过程数字化Digitization

Value Proposition:

The world's first-class module technology, the world's leading actuator and algorithm technology, provide customers with competitive CCM and integrated optical module.





丘鈦科技(集團)有限公司

THANKS

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