



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

Stock Code 股份代號: 1478

# **2019 Annual Results Investor Presentation**

**March 9, 2020**

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# ➤ Contents

- **1. 2019 Annual Results Business Review**

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- **2. Market Trend Analysis**

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- **3. Planning and Outlook of 2020**

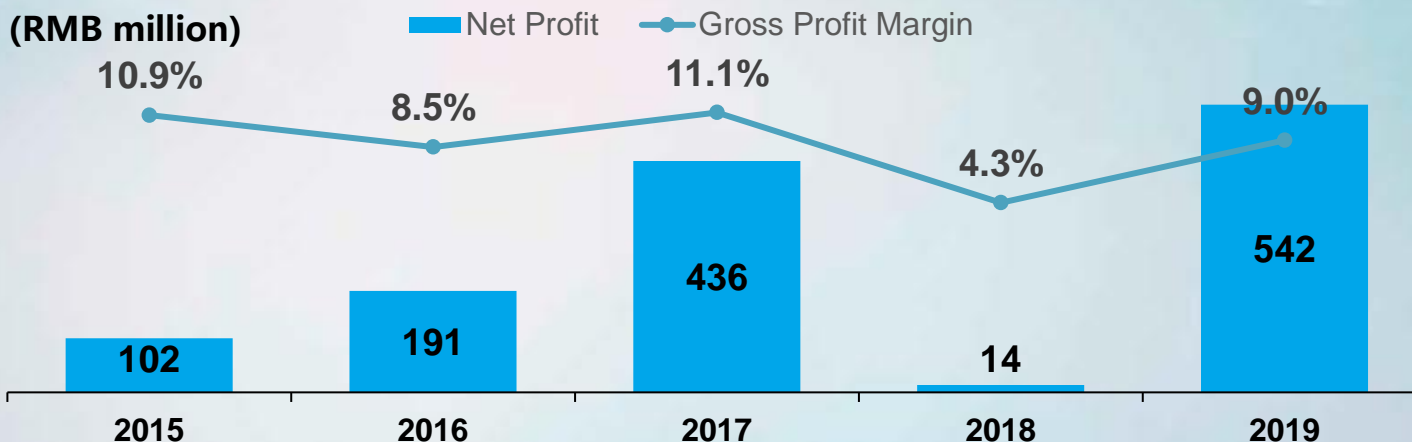
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# Financial Highlights

RMB '000	FY			2H	1H	HoH Change
	2019	2018	YoY Change	2019	2019	
Sales Volume (units)	<b>508.0 KK</b>	371.4 KK	+36.8%	287.7KK	220.3KK	+30.6%
Revenue	<b>13,169,678</b>	8,135,161	+61.9%	8,108,733	5,060,945	+60.2%
Gross profit	<b>1,179,872</b>	353,108	+234.1%	764,667	415,205	+84.2%
Gross profit margin	<b>9.0%</b>	4.3%	+4.7pts	9.4%	8.2%	+1.2pts
OPEX ratio	<b>4.1%</b>	4.5%	-0.4 pts	4.3%	3.7%	+0.6pts
Net profit/ loss	<b>542,372</b>	14,399	+3,666.7%	361,539	180,833	+99.9%
Net profit margin	<b>4.1%</b>	0.2%	+3.9pts	4.5%	3.6%	+0.9pts
Basic EPS	<b>47.6 cents</b>	1.3 cents	+3,561.5%	31.7 cents	15.9 cents	+99.4%
Operating cash flow	<b>2,399,551</b>	-172,505	N/A	1,455,787	954,764	+51.3%
ROE	<b>18.9%</b>	0.7%	+18.2pts	N/A	N/A	N/A

## ➤ Highlight 1: Net Profit Hit Record High, Gross Profit Margin Improved Significantly

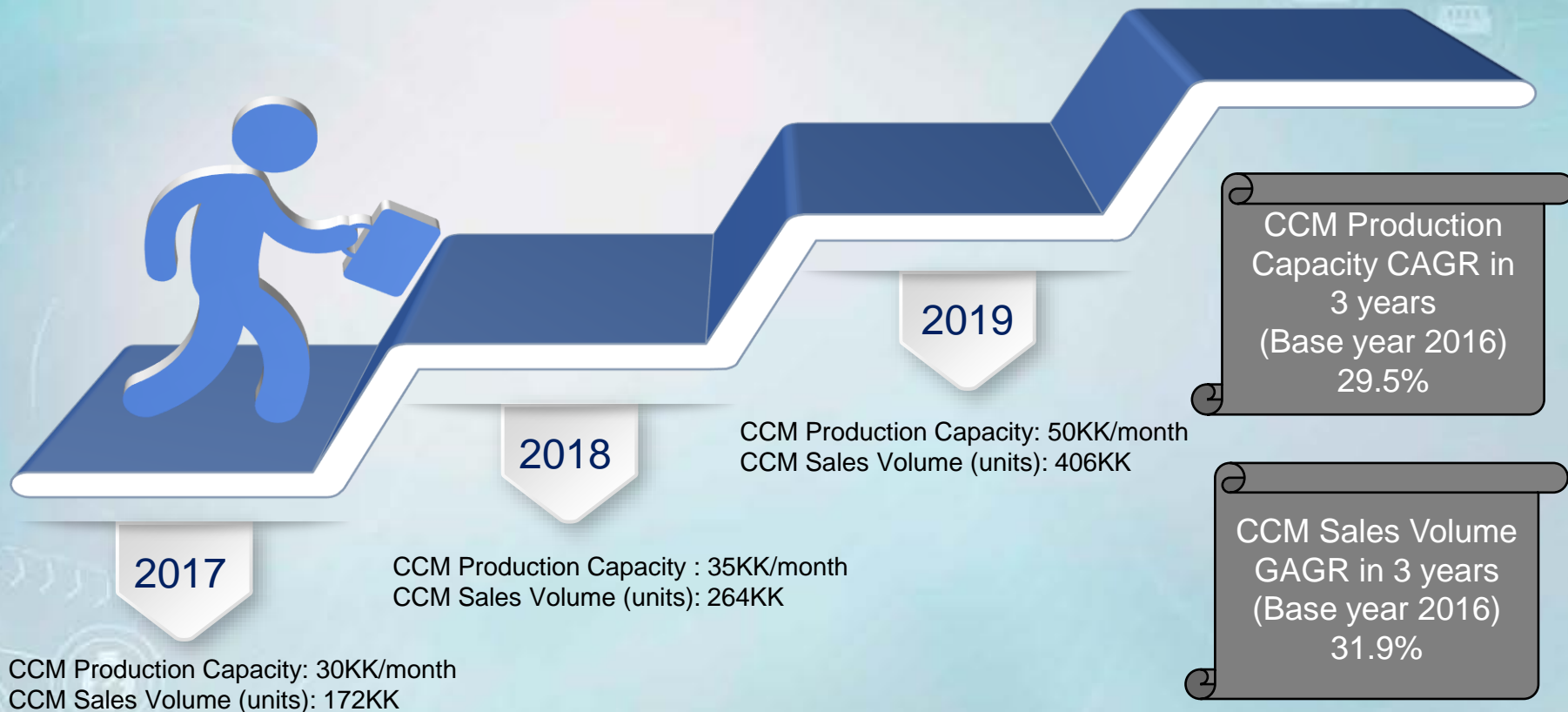
Net Profit and Gross Profit Margin of last 5 years



During the Year, the Group's gross profit margin increased to 9.0% from 4.3% in 2018, raised 4.7 pts. Mainly due to:

- The production capacity of the Group has recorded a substantial increase, whilst the significant increase in sales volume of camera modules maintained a higher utilisation rate of production capacity, resulting in a lower marginal cost
- Production automation upgrading and transformation gradually shows the effect with the manpower requirements for producing the same output significantly reduced, resulting in a decrease in the proportion of labour costs
- The significant rise in proportion of high-end products during the Year enhanced the added-value.
- However, The RMB exchange rate against the US dollar fluctuated this Year due to trade disputes, which affected the gross profit margin of the Group

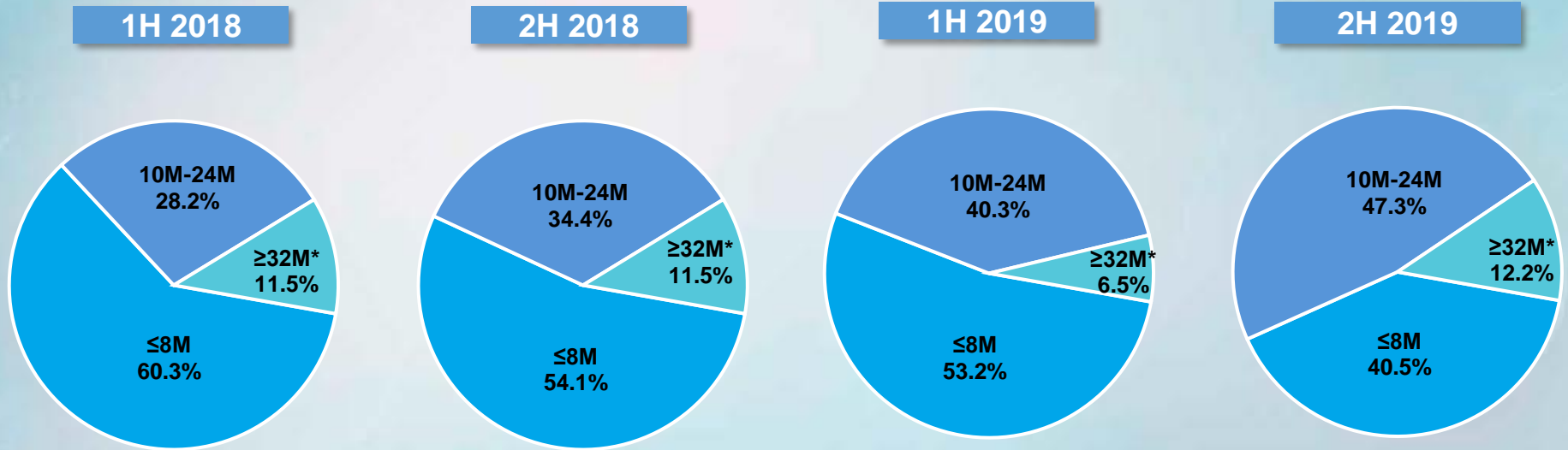
## ➤ Highlight 2 : Deepening Scaling up Strategy, CCM Sales Volume Increased Rapidly



# CCM Monthly Sales Volume Hit Record High

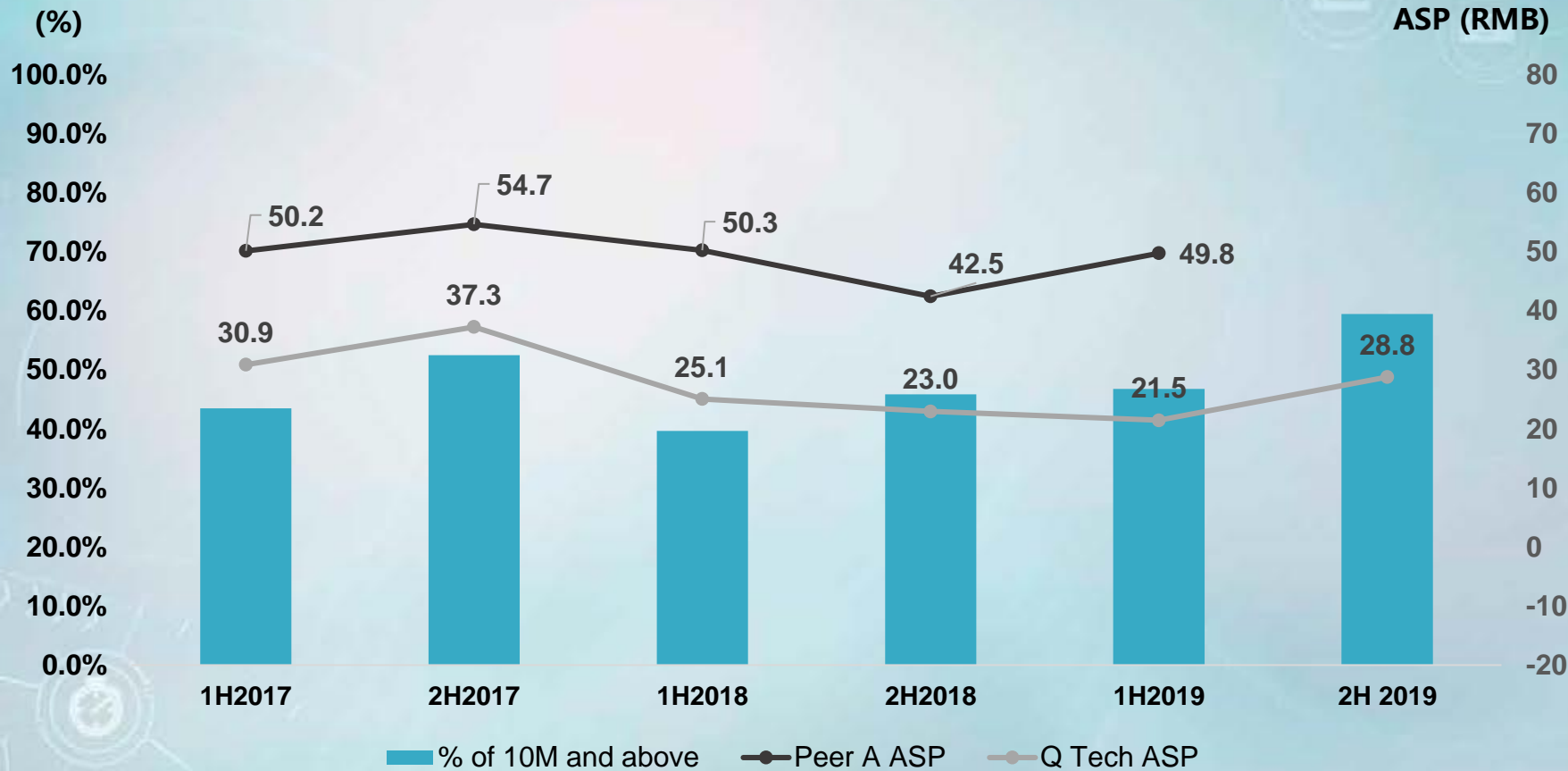


## ➤ Highlight 3: Product Mix Significantly Improved And Proportion Of High-end CCM Increased Sharply

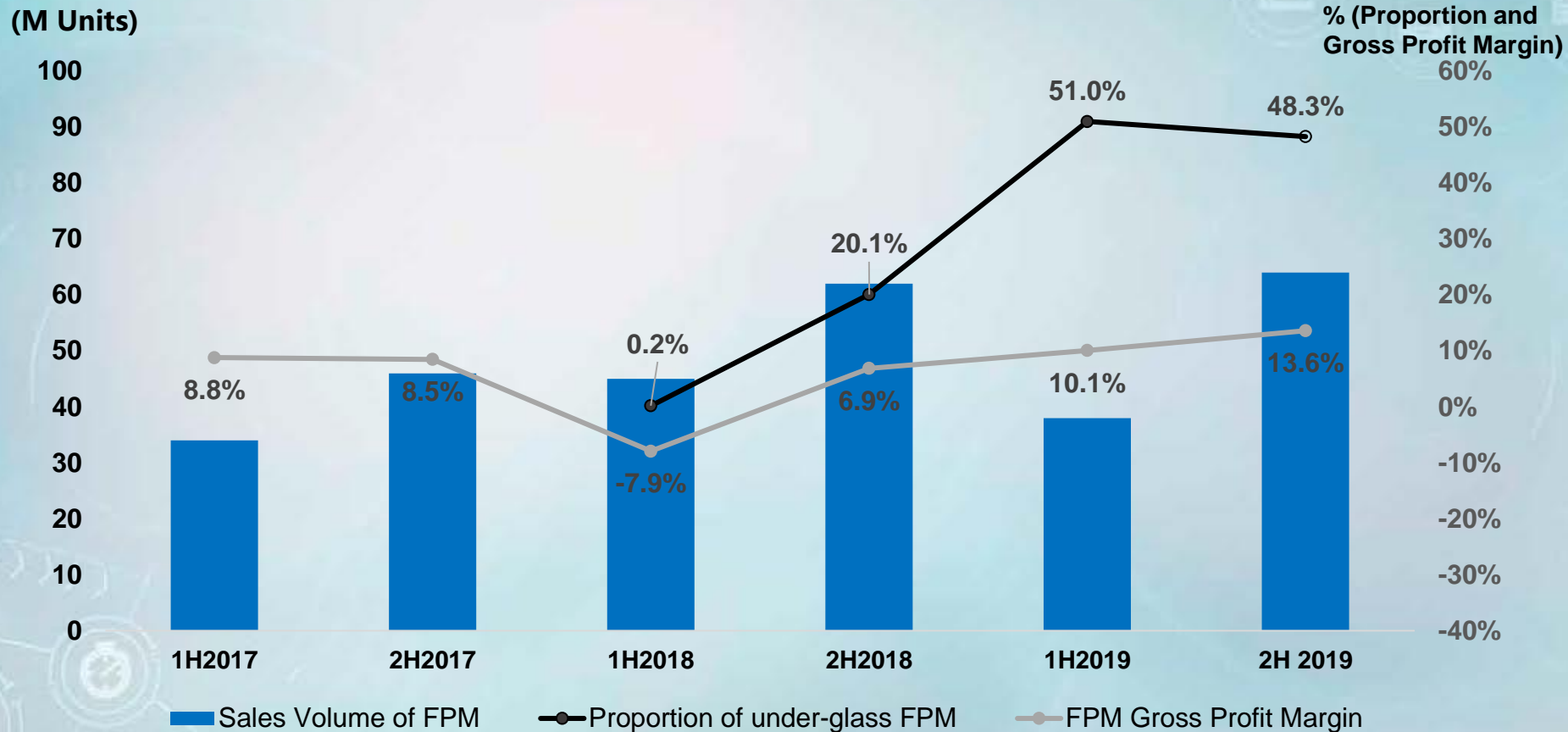


\*Products include single camera module of 32 megapixels and above, dual/multiple camera module, 3D module, automobile camera module and other camera modules

# CCM ASP Rebound with Huge Potential Growth



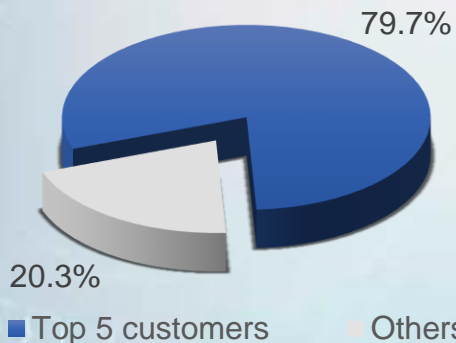
# Proportion of Under-glass FPM Increased Sharply, Raised ASP and Improved Gross Profit Margin



## ➤ Highlight 4: Significant Improvement in Customer Mix and Market Position

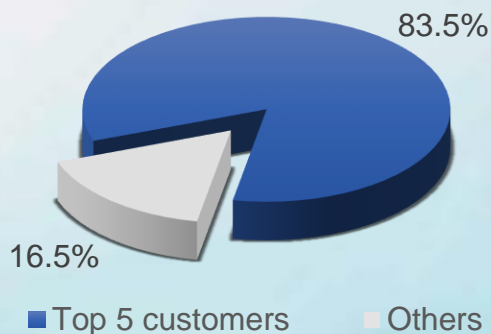
### Top 5 customers in terms of revenue

2017



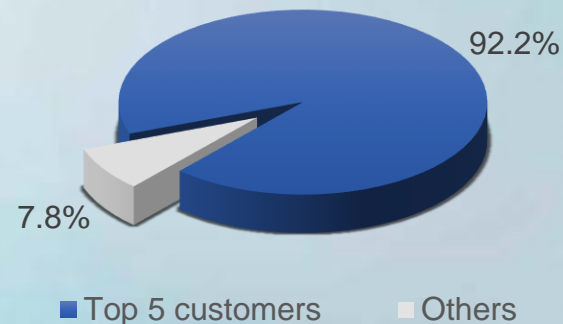
Leading Branded Customers and ODM Customers

2018



Leading Branded Customers and ODM Customers

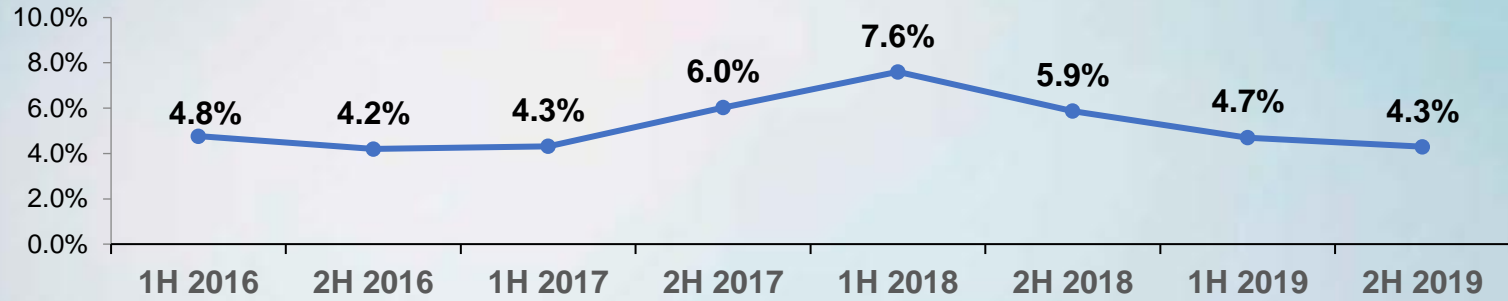
2019



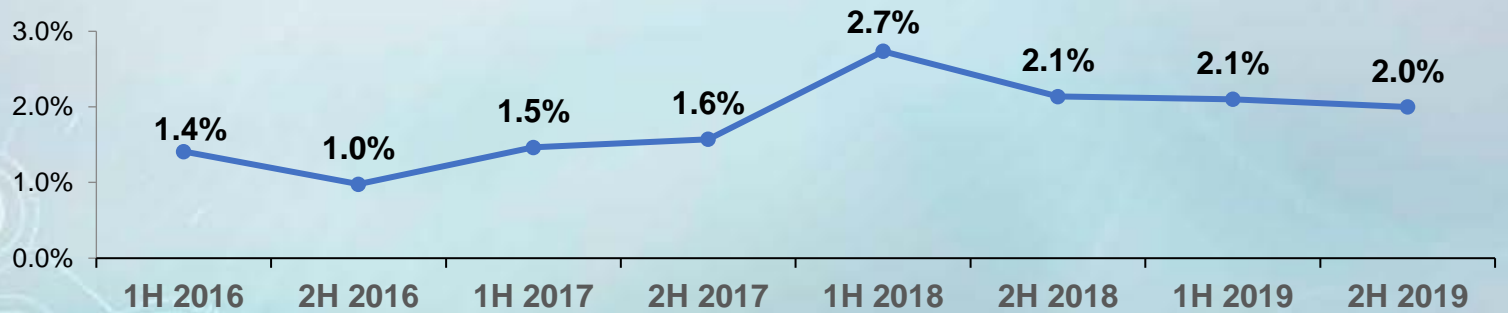
Leading Branded Customers and ODM Customers

# ➤ Highlight 5: Sound Progress in Automation, Labor Cost Further Optimized

Labor Costs / Cost of Sales



Depreciation Cost / Cost of Sales



## ➤ Highlight 6: New Product Development leading the Market



Jul 2018

First mass production of front cam 3D structured light module in PRC



Mar 2019

Mass production of 2nd generation under-glass FPM



July 2019

Mass production of 48M ultra-high pixel module



Oct 2019

Mass production of integrated triple camera module and ToF module



Nov 2019

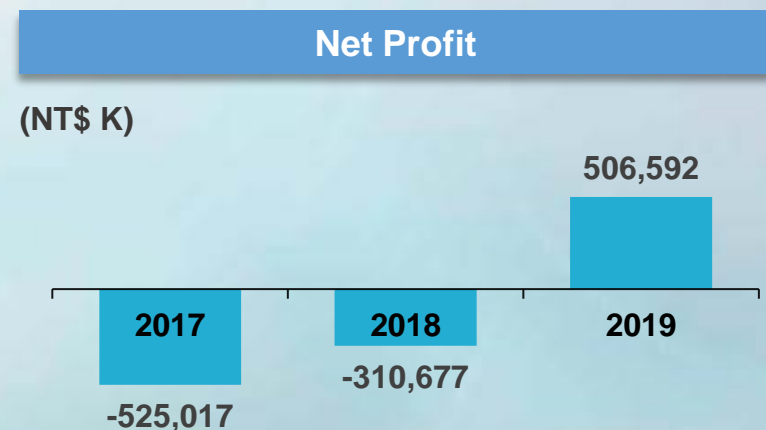
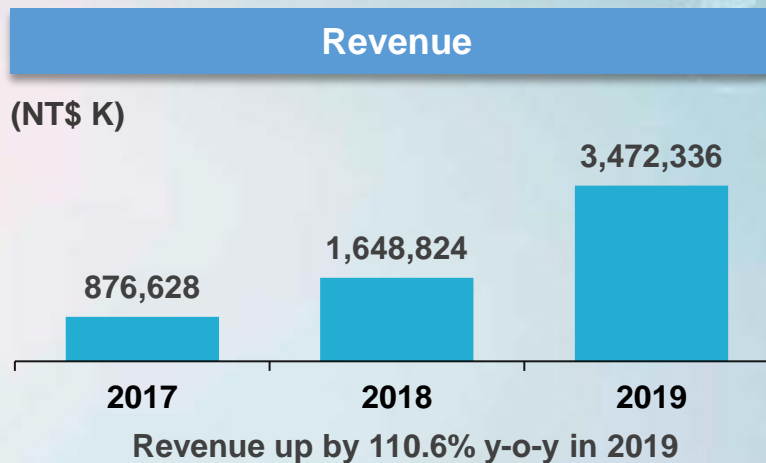
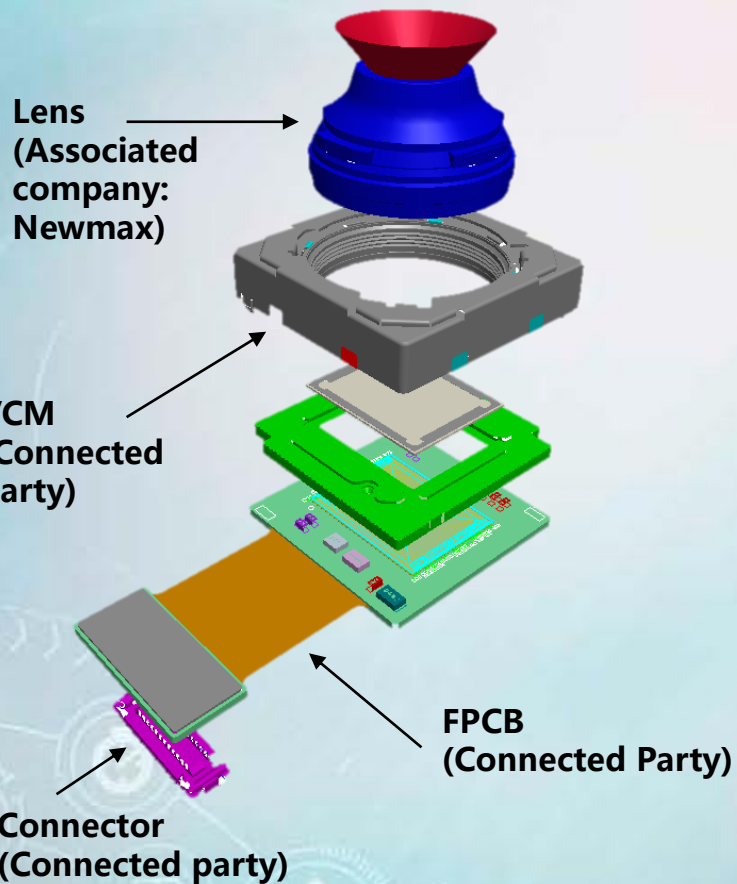
Mass production of 64M ultra-high pixel module



Dec 2019

Mass production of ultra-thin optical under-glass FPM

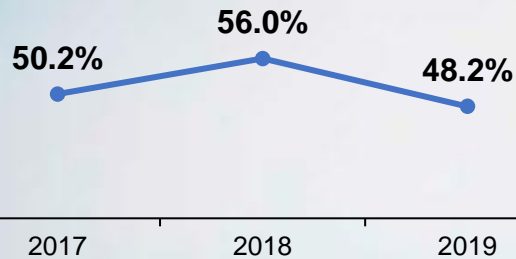
# Highlight 7: Vertical Integration Strategy Executed Well with Newmax Technology's Financial Results Improved Significantly



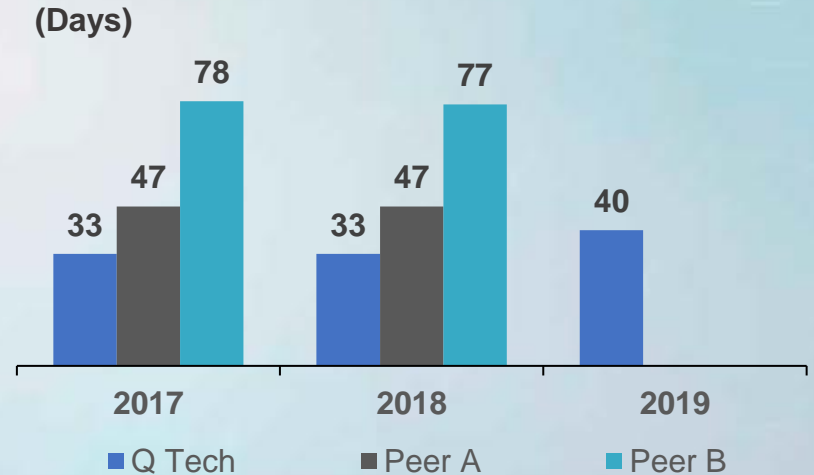
Turnaround with a net profit of NT\$507 million in 2019

# Highlight 8: Balancing the Credit Risk and Production Expansion

## Debt to Equity Ratio



## Inventory Turnover Days



## Net Cash Generated From Operating Activities

(RMB K)



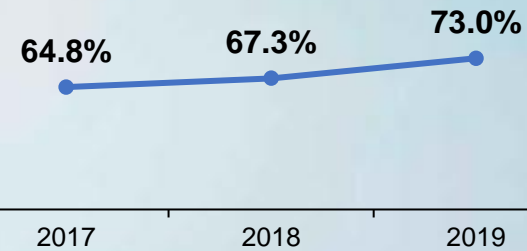
CCM capacity expanded by approx. 27KK/month (approx.117%) from 2017-2019

## Other Financial Ratios

### ROE

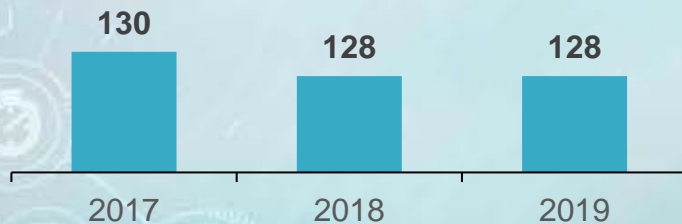


### Debt to Asset Ratio



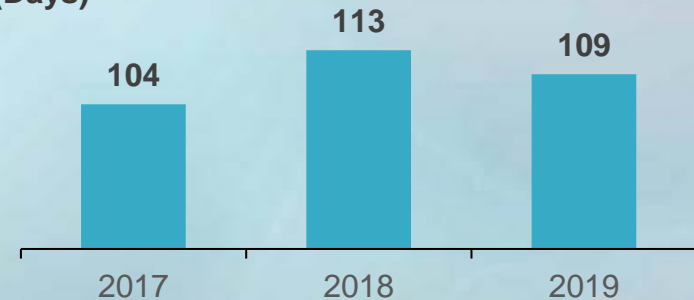
### Accounts Payable Turnover Days

(Days)



### Accounts Receivable Turnover Days

(Days)



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# ➤ Rationale of Intelligent Vision Industry Growth

## Huge Market Demand

IoT era driven by AI,  
CCM is the largest  
information collection  
interface

## Vision Technologies Continue to Growth

Optical + mathematical +  
computation power improvement  
lead intelligent vision  
development, and further expand  
the application of CCM



## Market Trend

CCM market continues to grow, CCM specifications continue to  
upgrade

# 5G Commercialization Trend Speeds up 5G Infrastructure Development

Accelerating  
5G  
Commercialization

- eMBB
- URLLC
- mMTC

Operator  
infrastructure  
development

5G Mobile

Enhanced  
Added  
Value

- China Mobile: Completed 5G 1st phase infrastructure development; realized 5G commercialization in 50 cities, strive to reach 300,000 5G base stations in order to cover all prefecture-level cities
- China Unicom: 64,000 5G base stations were built covering all direct-controlled municipalities and major cities such as Beijing-Tianjin-Hebei, and other cities in Yangtze River Delta, Greater Bay Area
- China Telecom: Through the 5G co-construction and sharing agreement with China Unicom, construction of 100,000 base stations were completed in 1H 2019 and 250,000 base stations nationwide were built by 3Q.
- China's three major operators' estimated capital expenditure in 2020 will grow by 15-20% YoY
- 2019: China's four major brands have launched 5G mobile phones, with a total sales of about 15-20 million units
- By market estimations:
  - 2020: global sales of 5G mobile phones will be about 200 -250 million units, with Chinese mobile phones accounting for more than 150 million units
  - January 2020: 5G mobile phones accounted for 27% of China's mobile phone shipments
  - 2021: penetration rate of global 5G mobile phones will reach 35-40%
- 5G mobile phones boost ASP of mobile phones by about RMB 300-500
- Increased bandwidth drive users to take more high-quality photos and videos
- Camera upgrade trend: multi-camera, ultra-high pixel, new optical image stabilization, wide angle
- Promote the development of 3D modules: front biometric authentication, rear 3D modeling, gaming, AR / VR

# Multi-CCM, Higher Specification and Wider Application Trend Intact

1

The number of CCM per mobile phone has grown significantly

Cameras adopt dual-, triple- or even quad-camera design, becoming a trend

2

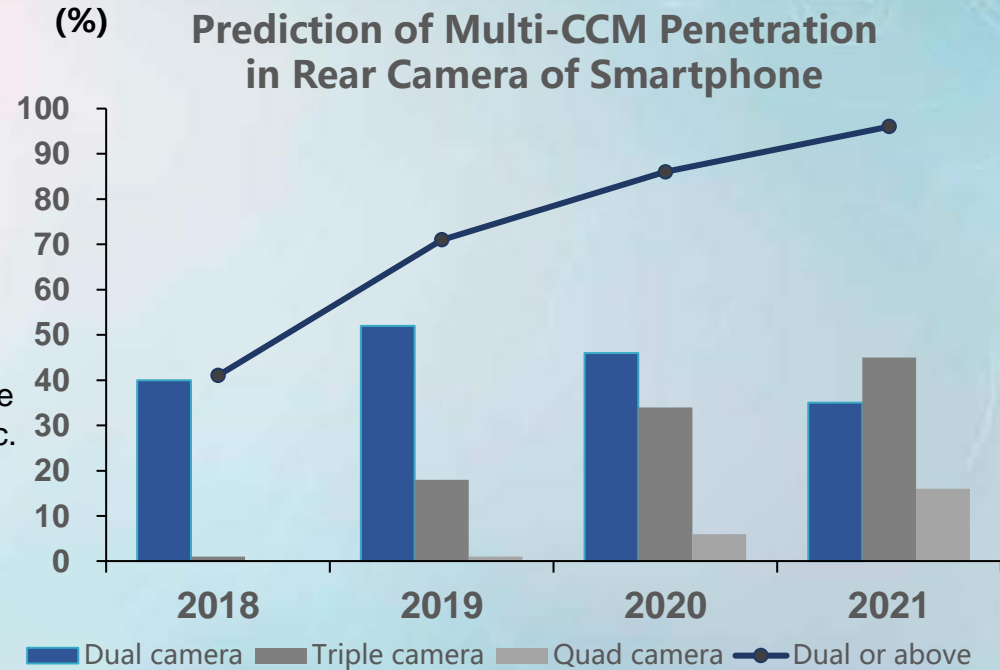
Significant increase in the value of CCM in each mobile phone

Achieve higher-end shooting effects, such as multiple optical zoom, large aperture and ultra high pixels, etc.

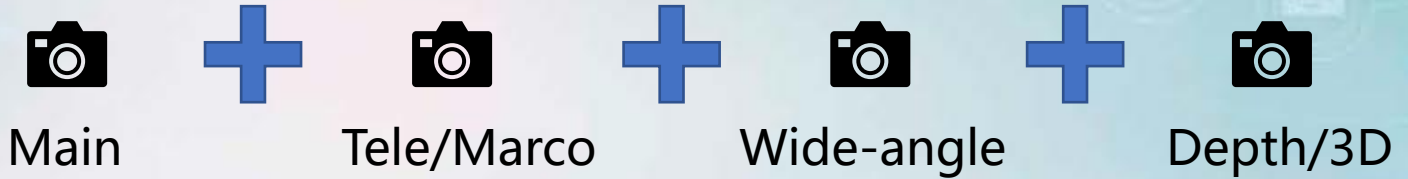
3

Expansion of applications of camera module

Facial recognition, AR/VR, 3D modeling, etc



# Multi-CCM Specification Boost up Both Volumes and ASP



**Low-end  
(RMB <1000)**

13M  
16M

Marco  
2M (AF)

8M

Bokeh  
2M (FF)

**Mid-end  
(RMB 2000-3500)**

48M

2X optical  
Zoom  
13M/32M

13M

Bokeh  
5M (FF)

**Flagship  
(RMB 3500-7000)**

48M OIS  
64M OIS  
108M OIS

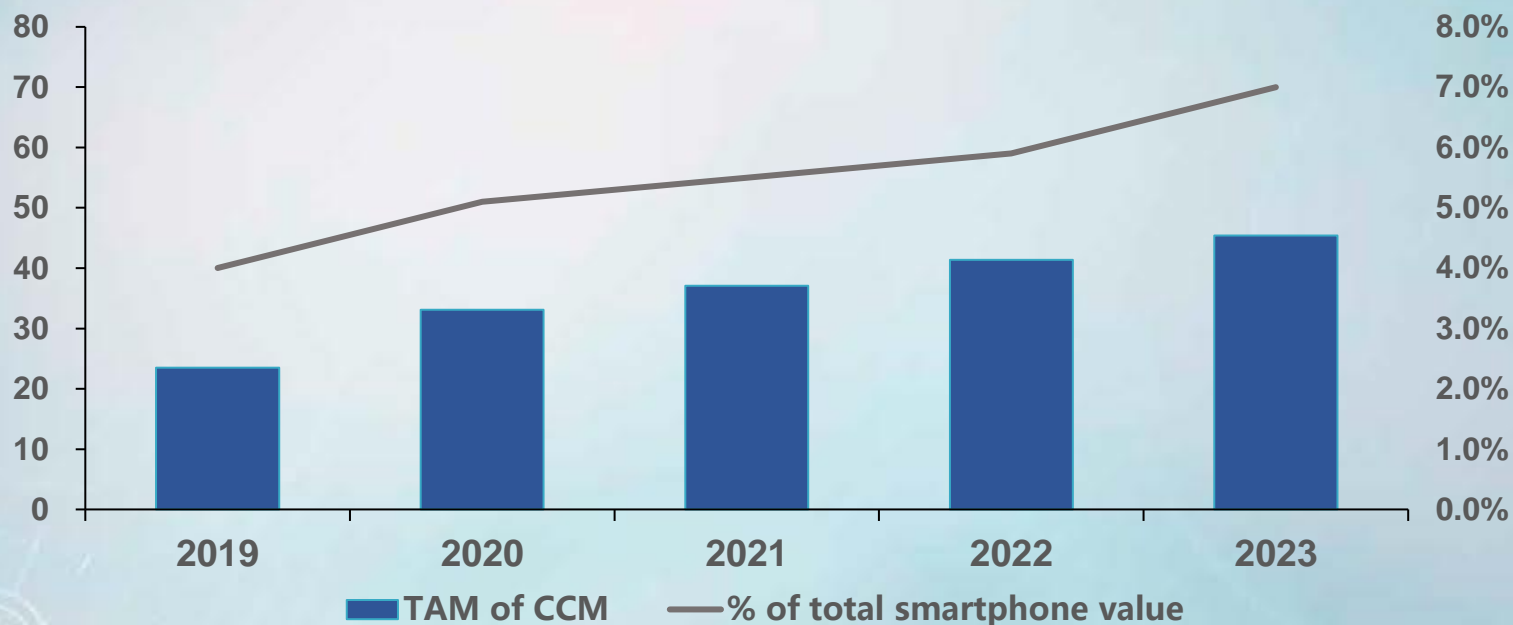
3X optical zoom  
(8M/13M)  
5X Periscope

40M (OIS)  
108M

ToF

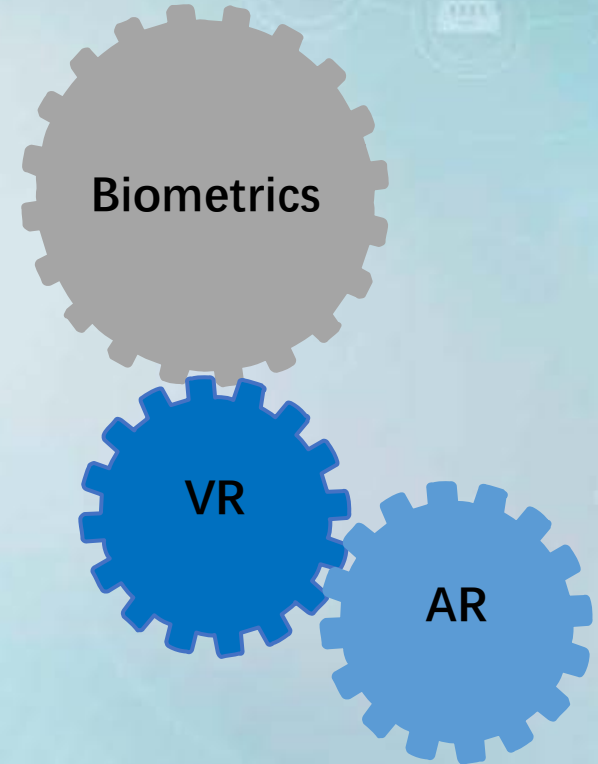
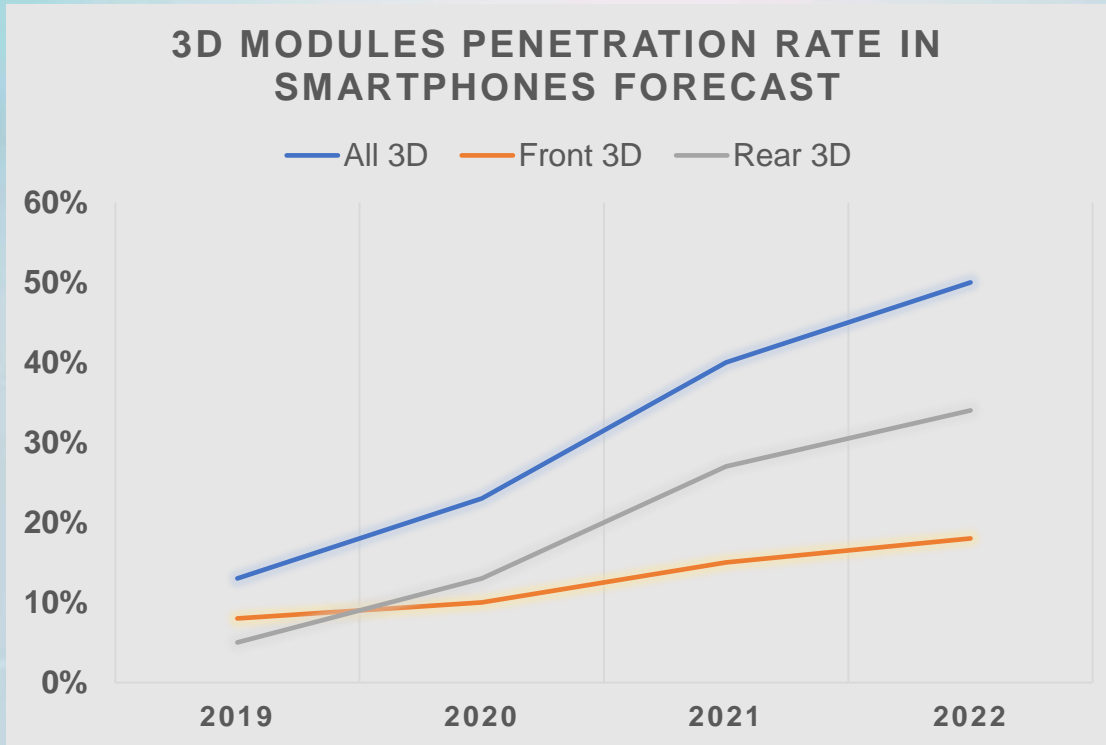
## Value Proportion of CCM in Smartphone Continue to Grow

USD (billion)



\*Information is sourced from independent research institution without Company's verification, and therefore for reference purposes only

# ➤ ToF Modules Penetration Rate in Smartphone Continues to Grow



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# ➤ Under-glass FPM Products Continue to Evolve

## Full screen



2019

**Key new products: Fixed Optical Under-glass FPM +  
Ultra-thin solution**

**Global Sales Volume: over 150mn pcs**

2020

**Key new products:  
Large area / Half screen optical FPM  
LCD optical Under-glass FPM**

**Global Sales Volume: expect to reach 250mn pcs**

# IoT Vision Products Become Focus of The Market

## Consumer robots

Sweeping robot, companion/educational robot, toy robot



## Industrial robots

Warehouse sorting robot, food delivery robot, commercial robot, medical robot



## Industrial security cameras

Building surveillance camera, industrial camera, public transportation monitoring system



## Consumer-grade camera

Sports camera, handheld PTZ camera, sports DV



## Smart Home Devices

Smart door lock, visual doorbell, smart camera, smart TV



## UAV

Aerial photography UAV, police/agriculture/surveying and mapping and other industries UAV



## Cargo identification equipment

Smart shelves, unmanned supermarkets, License plate recognition system of intelligent parking lot



## Face recognition device

Face recognition payment equipment, attendance machine, Face recognition device of public access gate



## Travel/Business

Smart rearview mirror, car camera, Business conference system

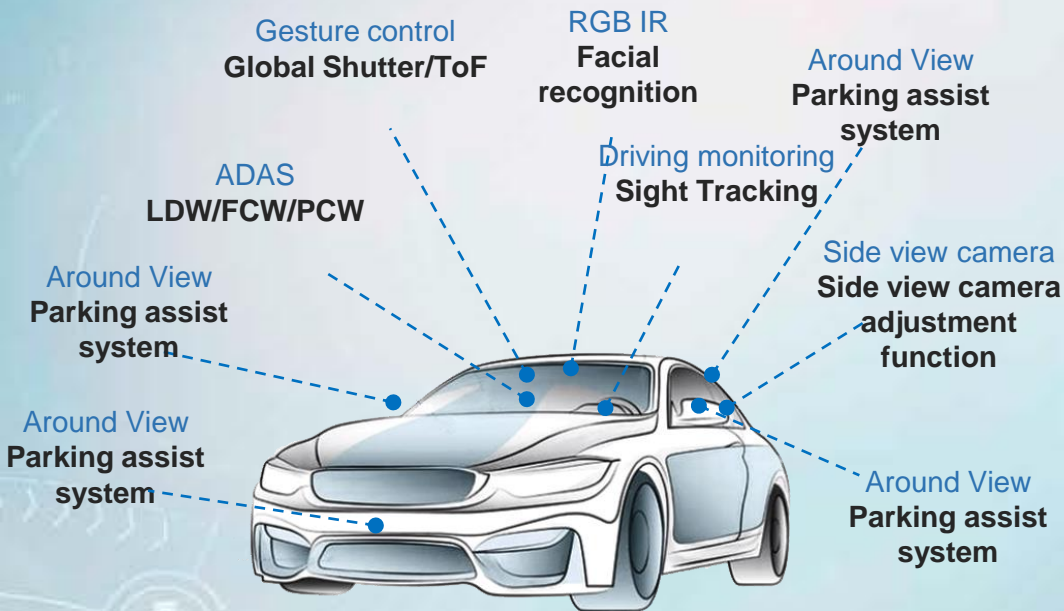


## AR/VR

VR Glasses, AR Glasses



# HD Car Camera Development Towards Three Applications



## **Around View**

- 1.HD: 720p/1080p
2. Performance improvement: Low illumination, HDR, LFM
3. Vision fusion algorithm: BSD (Blind spot detection) APA (Automatic parking)

## **Smart Cabin**

1. Rich application scenarios: DMS Face ID Body Tracking Gesture Control
2. Application of new technology: Global Shutter RGB IR

## **ADAS**

1. High resolution: 2M/4M/8M
2. High performance: 120dB HDR, LFM, Stellar
3. Vision algorithm application: LDW/FCW/LKA/PCW/AEB
4. Multi-modules fusion: High frame rate, frame synchronization

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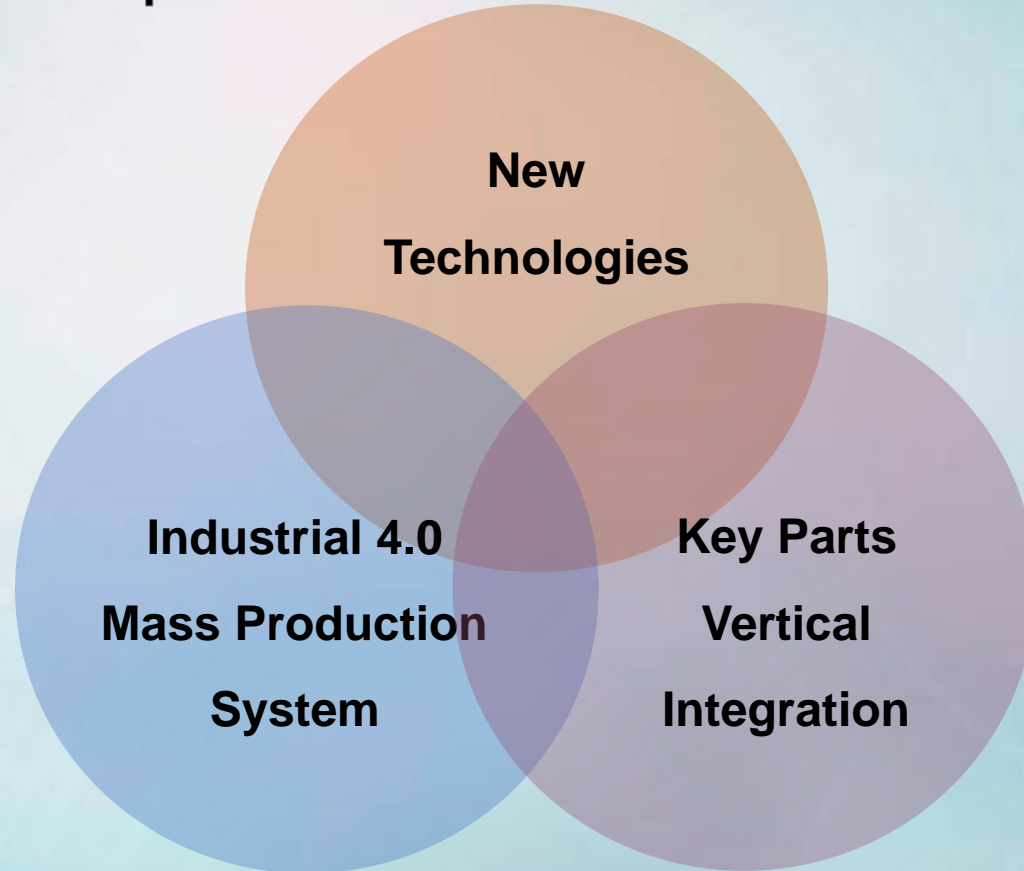


# 01

Building core capabilities, further enhancing product mix and the positioning as a major supplier

**Mission: To Illuminate Machine**

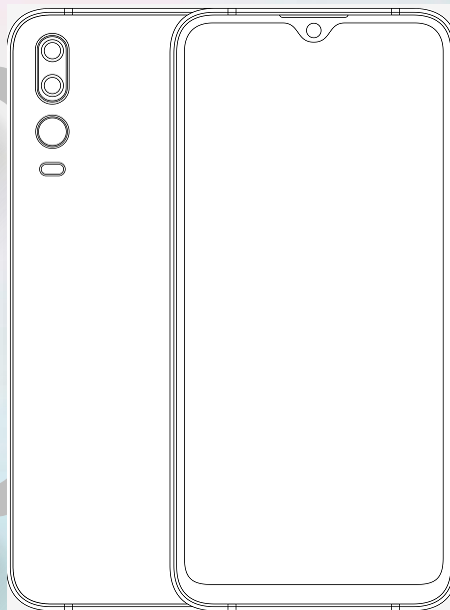
**Vision: Leading Camera Module Technology, Serving Customers with  
Excellent Customer Experience**



## ➤ Core Technologies of CCM

Miniaturization

01



02

Front and rear 3D Sensing

Rear High Pixel

03

04

Rear Optical Zoom

05

PTZ stabilization

# Core Technologies of FPM

2019 New Technology



Side-mounted Capacitive Coating Fingerprint



AMOLED optical under-glass FPM/  
Optical Under-glass Ultra-thin FPM

Full Screen

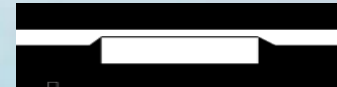


Under-glass FPM  
Mid- to High-end  
Flagships Models

2020  
Technology  
trend

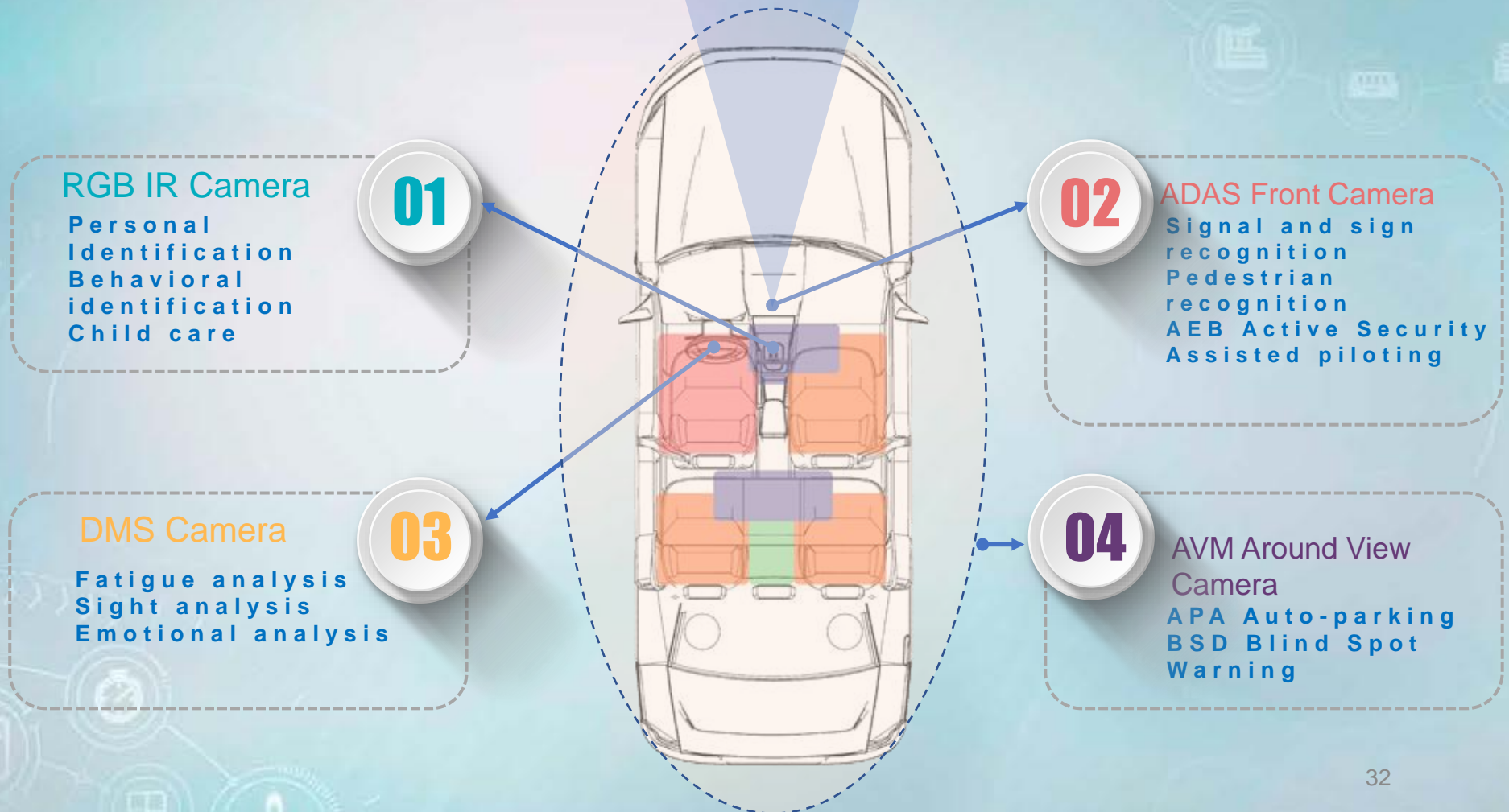


AMOLED Optical Half Screen  
under-glass FPM



LCD Optical under-glass FPM

# Core Technologies of Automotive CCM



# ➤ Core Technologies of IoT CCM

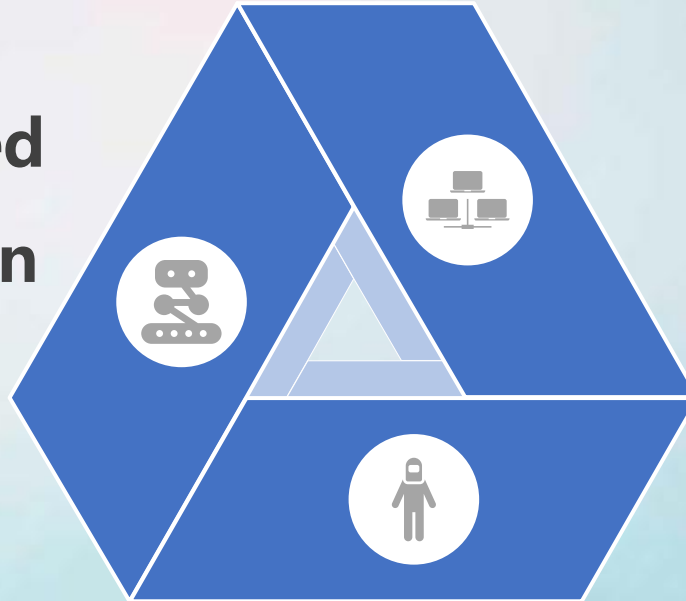


## IoT CCM

- 3D modules
- Large sensor camera module
- Visual obstacle avoidance module
- Large wide-angle module
- High power optical zoom module

# ➤ Building Industrial 4.0 Mass Production System

**Automated  
Production**



**Process  
Digitalization**

**Intelligent Control**

# ➤ Fully Automated Module Manufacturing Workshop and Testing Workshop



**COB Inline  
production line**



**Automated testing workshop**

# ➤ Vertical Integration Implementation Continue

**01 Technology enhancement**  
6P lens, 7P lens, 3D lens, FOD lens

**02 Scale up production**  
Expansion of Jingke capacity and building of CTSP new production base

**03 Client base expansion**  
Four key Chinese customers and overseas customers

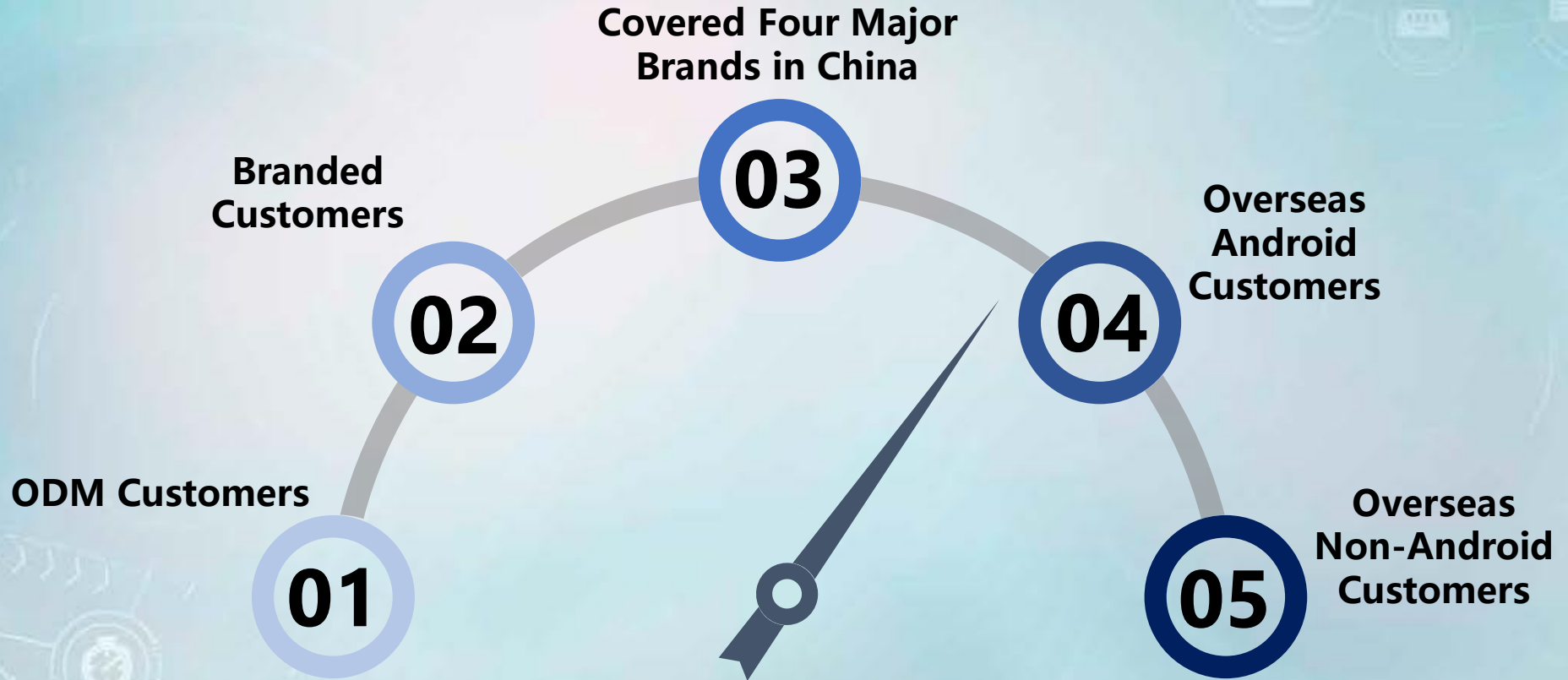




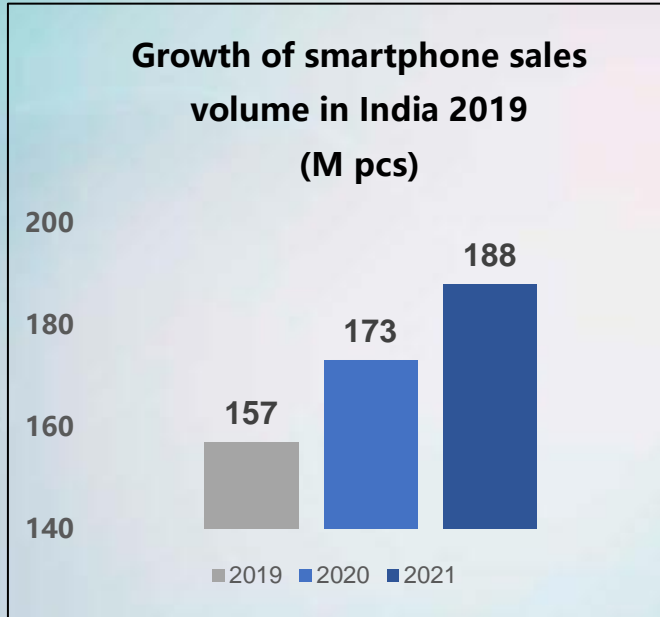
## 02

Expanding overseas markets,  
Building second production base in India

# Customers Acquisition Roadmap



# Global Layout Rolled Out Smoothly, Expand India Production Base



\*Information is sourced from independent research institution without Company's verification, and therefore for reference purposes only





## 03

Extending to non-handset applications  
Accelerating penetration into  
automotive and IoT markets

## ➤ Four Major Non-Handset Applications



- **Facial Recognition Payment**
- **Drone**
- **Smart Security**
- **Automotive**



# ➤ Operating Targets in 2020

## 2019 Targets (Revised up)



- CCM sales volume grow by 50%, of which not less than 50% are mid-to-high end products of 10M and above
- The under-glass FPM account for not less than 40% of total sales volume of FPM
- Production capacity of CCM expand to approximately 50KK/month

## 2020 Targets



- Sales Volume of CCM grows by not less than 20% YoY, of which 10 mega pixels and above will account for not less than 60% and 32 mega pixels and above will account for not less than 25%;
- Expand production capacity of CCM to not less than 60KK units per month by the end of 2020