# Comba

京信通信系統控股有限公司 Comba Telecom Systems Holdings Limited

股份代號 Stock Code: 2342

# 2021 Annual Results Corporate Presentation

Persistent

Focus

繼往開來•凝心聚力

Innovation

Brilliant

創新發展•再創煇煌



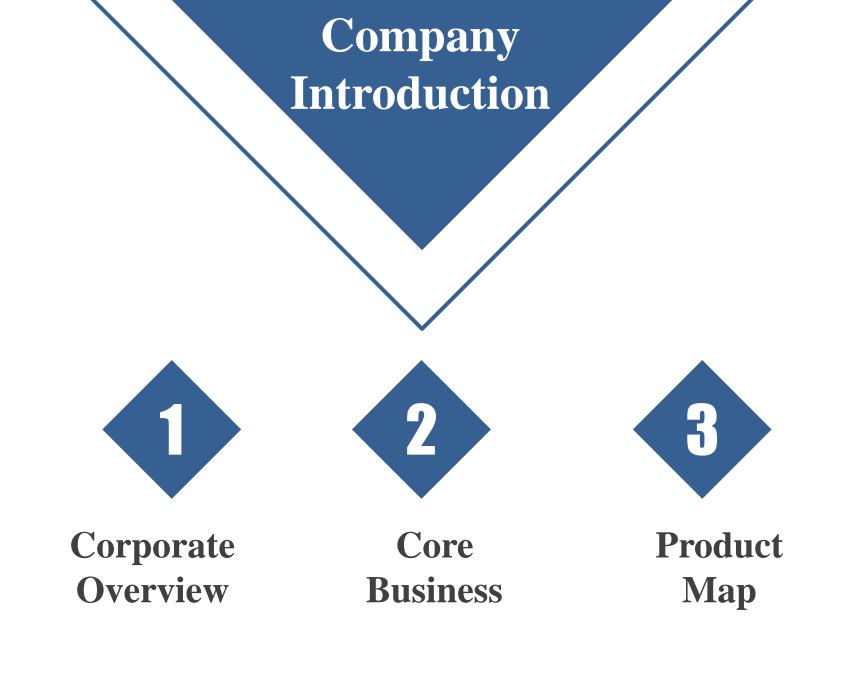
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# **Company Introduction**



Corporate Overview

Core Business

Product Map

Comba is a global leading wireless solutions provider with its own R&D facilities, manufacturing base, and sales and service teams.

Comba offers a comprehensive suite of products and services including Antenna and subsystems, Network system and 5G+ Industry, Services, Wireless Transmission and Smart manufacturing etc. to global customers.



#### **Business Network**

Cover 100+ Countries and Areas; Included in the Southbound Shenzhen-Hong Kong Stock Connect, MSCI China Small Cap Index



**Headquarters R&D Base**– Guangzhou Science Park

 $Area > 40000 \, m^2$ 







#### **Global Patents**

Numbers: 5400+



#### **Technology Innovation and Honour**

The 22nd China Patent Award – 2 Silver Award, 1 Excellence Award (2021) 7th Guangdong Patent Award - 1 Gold Award, 1 Silver Award (2020) Selected as final 100 brand enterprises in the themed "Brilliant Centennial Road, Brand New Vitality", Guangzhou 2021 "Hundred Years · Hundred Products"



"Hundred Years · Hundred Products" Ceremony

# **Company Introduction**



Corporate Overview

**Core Business** 

**Product Map** 

## **Core Business**



**Base Station Antennas** 



Network Systems and 5G+ Industry



**Services** 



**Wireless Transmission and Smart manufacturing** 

# Maximize the values of network

- Outdoor Macro Site Coverage
- Outdoor Micro Site Coverage
- Indoor Coverage/Enhancement

•••••

#### Build the Intelligence Ecologic system

- **Smart Mining**
- WITMED (Wise Information Technology of med)
- Smart Park
  - **Smart Energy**

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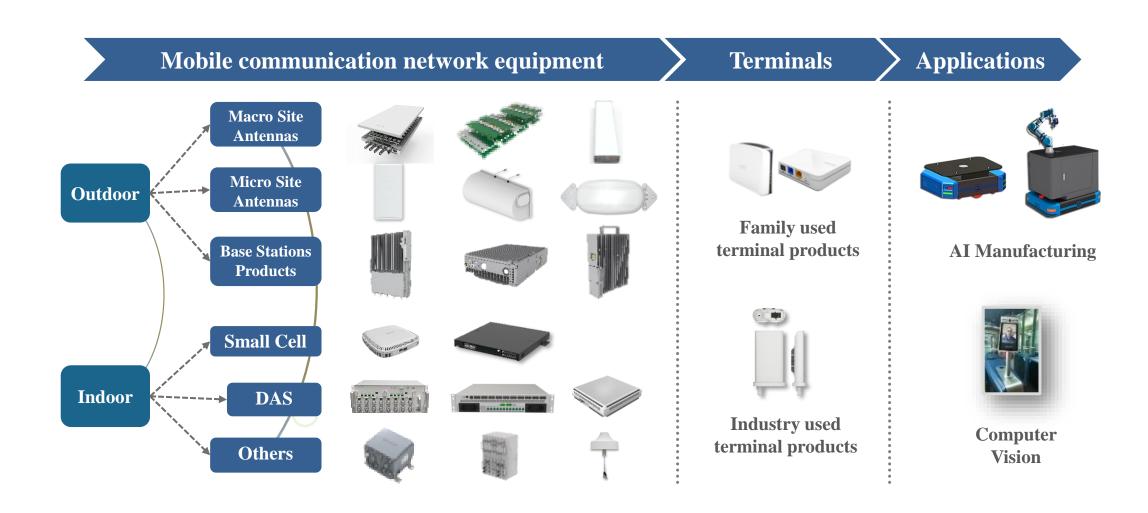
# **Company Introduction**

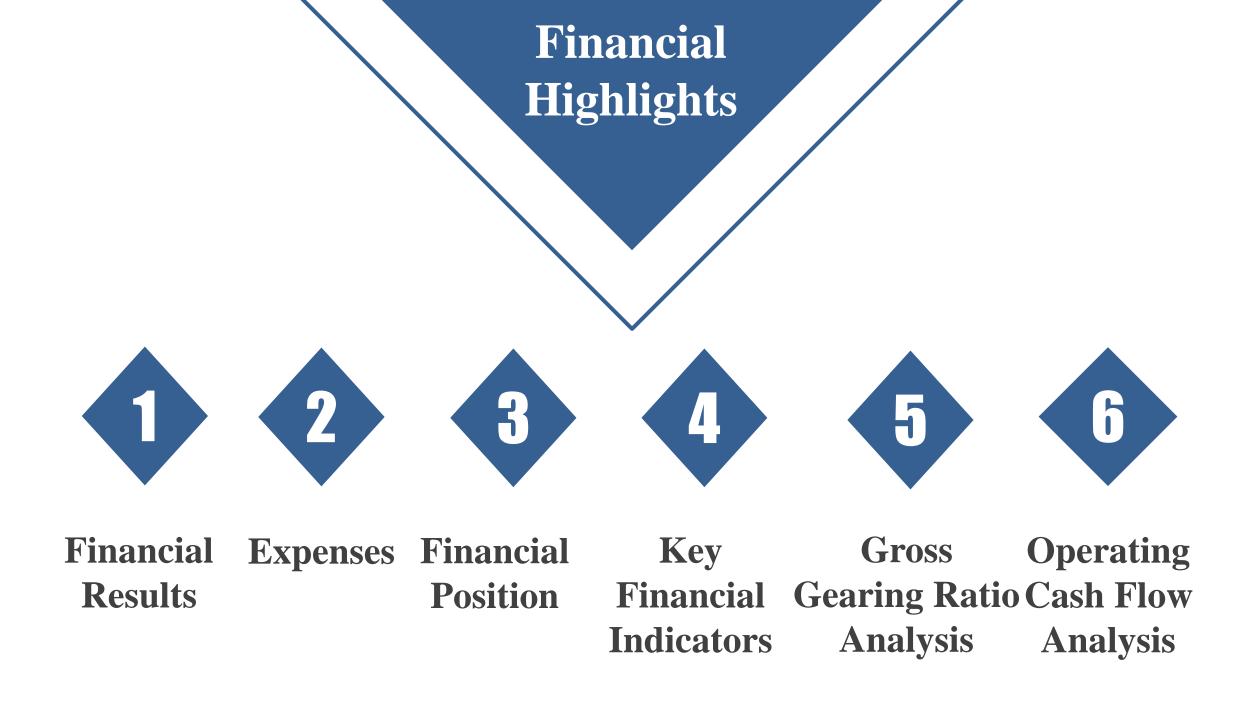


Corporate Overview

Core Business

**Product Map** 





Comba

**Financial Results** 

Expenses

Financial Position

**Key Financial Indicators** 

Gross Gearing Ratio Analysis Operating Cash Flow Analysis

	For the year ended 31 December		Change	For the six
HK\$'000	2021	2020	Change	months ended 30 June 2021
Revenue	5,869,666	5,057,240	<b>↑16.1%</b>	2,418,128
Gross profit	1,422,831	1,445,181	↓1.5%	680,986
Gross profit margin	24.2%	28.6%	<b>↓4.4pp</b>	28.2%
<b>Operating Expense</b>	(2,042,496)	(1,644,993)	<b>↑24.2%</b>	(753,525)
Loss before tax	(656,457)	(268,112)	>100%	(89,057)
Income tax	(16,100)	(23,011)	<b>↓30.0%</b>	(26,943)
Loss attributable to shareholders	(592,567)	(194,104)	>100%	(89,360)
Net loss margin	(10.1%)	(3.8%)	<b>↑6.3pp</b>	(3.7%)
Basic loss per share (HK cents)	(21.43)	(7.36)	>100%	(3.26)



**Financial Results** 

Expenses

Financial Position

**Key Financial Indicators** 

Gross Gearing Ratio Analysis Operating Cash Flow Analysis

#### Profit/ (Loss) attributable to shareholders after adjustment

	For the year ended 31 December		Chango	
HK\$'000	2021	2020	Change	
Profit/ (Loss) attributable to shareholders after adjustment	3,460	(33,918)	↑37,378	
Research and development expenses (capitalization and amortization)	(74,955)	15,868	(90,823)	
Trade receivables impairment	(255,279)	(82,008)	(173,271)	
Inventory impairment	(231,617)	(84,427)	(147,190)	
Fair value change of financial liabilities of investment and Awarded share expenses on Comba Networks	(34,176)	(9,619)	(24,557)	
Subtotal of the non-operating items	(596,027)	(160,186)	(435,841)	
Loss attributable to shareholders before adjustment	(592,567)	(194,104)	(398,463)	



**Financial Results** 

Expenses

Financial Position

**Key Financial Indicators** 

Gross Gearing Ratio Analysis Operating Cash Flow Analysis

#### Profit/ (Loss) attributable to shareholders after adjustment

	For the year ended 31 December		
HK\$'000	2021	2020	Change
Revenue	5,869,666	5,057,240	<b>↑16.1%</b>
Gross profit	1,654,448	1,529,608	↑8.2%
Gross profit margin	28.2%	30.2%	
<b>Operating Expense</b>	(1,678,085)	(1,569,234)	<b>↓</b> 2.0pp
Loss before taxation	(60,430)	(107,926)	<b>↑6.9%</b>
Profit/ (Loss) attributable to	3,460	(33,918)	<b>↑44.0%</b>
shareholders	2,100	(,)	<b>↑&gt;100</b> %



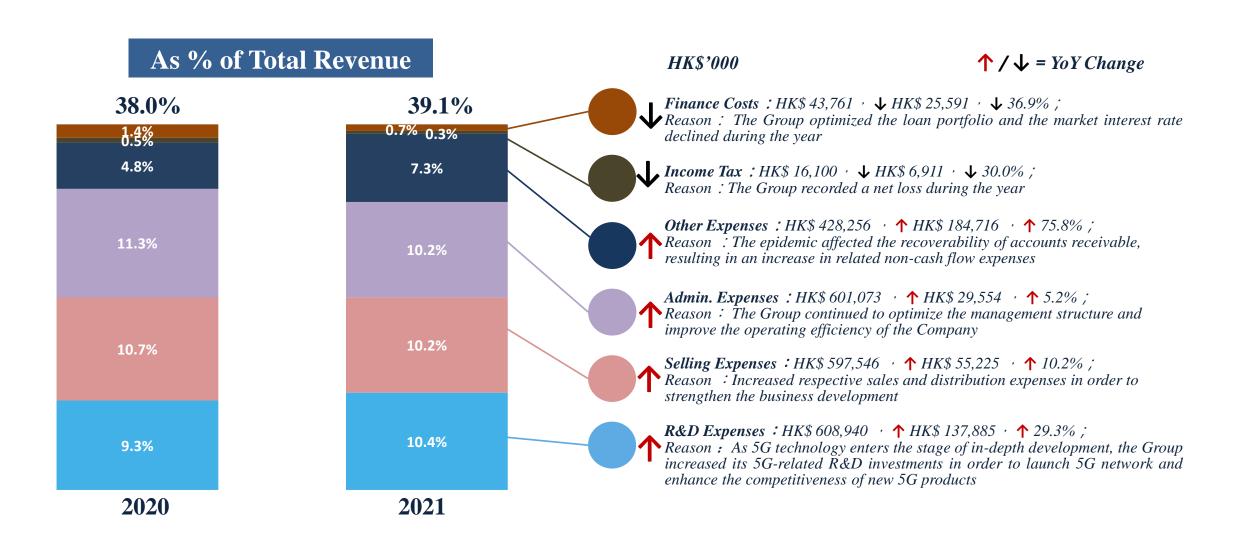
Financial Results

Expenses

Financial Position

Key Financial Indicators

Gross Gearing Ratio Analysis Operating Cash Flow Analysis





Financial Results

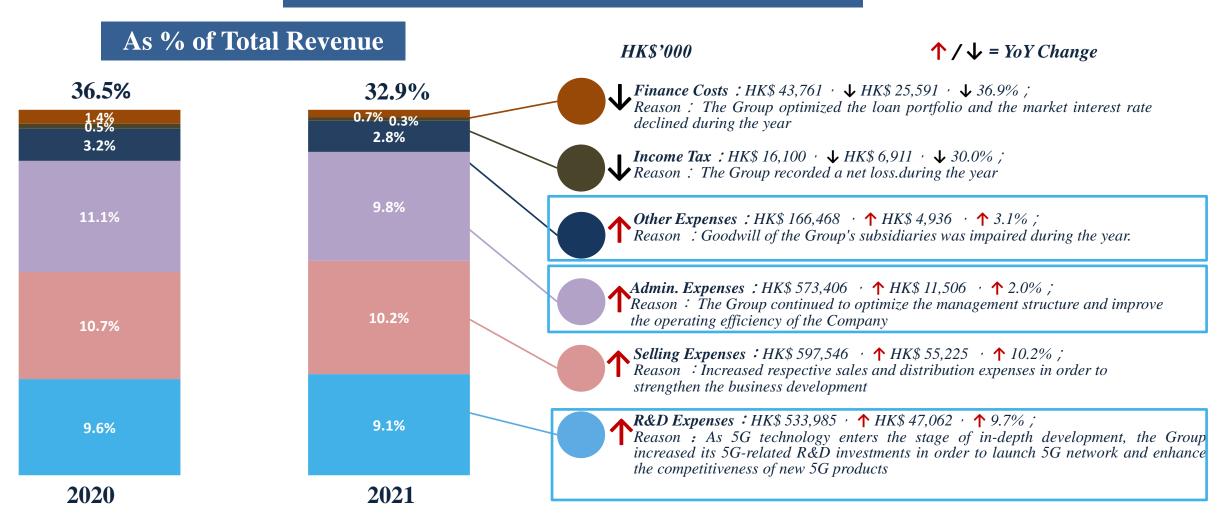
Expenses

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Key Financial Indicators

Gross Gearing Ratio Analysis Operating Cash Flow Analysis

#### Profit/ (Loss) attributable to shareholders after adjustment





Financial Results

Expenses

**Financial Position** 

**Key Financial Indicators** 

Gross Gearing Ratio Analysis Operating Cash Flow Analysis

	As at 31 December			As at
HK\$'000	2021	2020	Change	30 June 2021
Net cash	844,137	494,381	<b>↑70.7%</b>	559,609
Total assets	11,512,579	11,325,161	<b>1.7%</b>	11,198,371
Total liabilities	7,328,762	6,775,127	↑8.2%	6,600,796
Net assets	3,774,716	4,106,913	<b>↓8.1%</b>	4,140,229
NAV per share(HK\$)	1.36	1.49	<b>↓8.7</b> %	1.50



Financial Results

Expenses

Financial Position

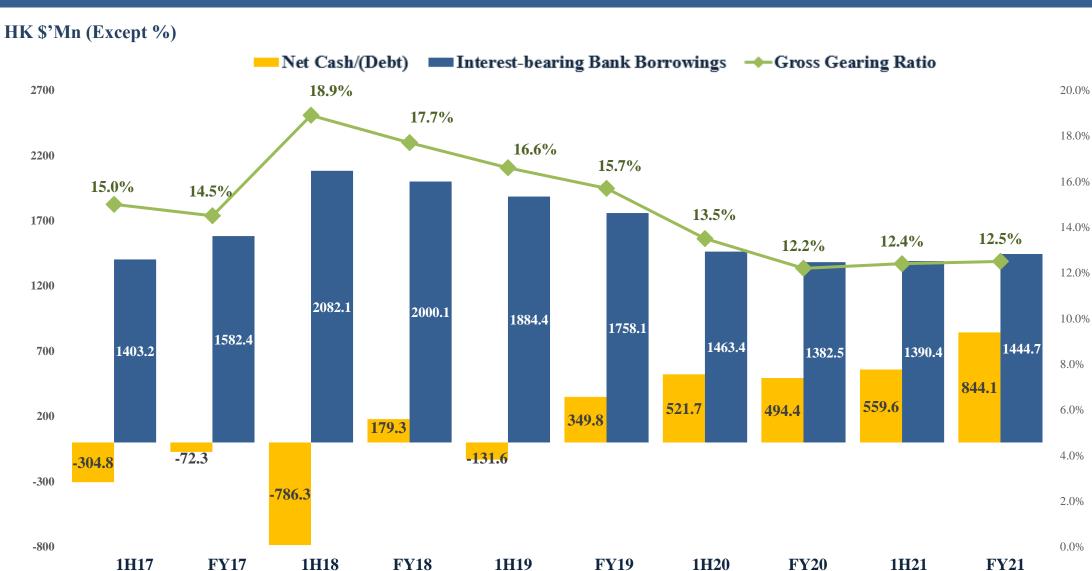
**Key Financial Indicators** 

Gross Gearing Ratio Analysis Operating Cash Flow Analysis

	For the year ended 31 December			For the six
	2021	2020	Change	months ended 30 June 2021
Inventory turnover days	108	125	<b>↓17 days</b>	141
A/R turnover days	257	293	<b>↓</b> 36 days	312
A/P turnover days	352	407	<b>↓</b> 55 days	419
Cash conversion cycle	13	11	↑2 days	34
Operating cashflows (HK\$ million)	374.6	(334.5)	<b>↑&gt;100%</b>	(48.3)
<b>Gross Gearing Ratio</b>	12.5%	12.2%	<b>↑</b> 0.3pp	12.4%
Debt-to-assets ratio	63.7%	59.8%	<b>↑</b> 3.9pp	58.9%
Return on average equity	(15.0%)	(5.1%)	<b>↓</b> 9.9pp	(4.3%)



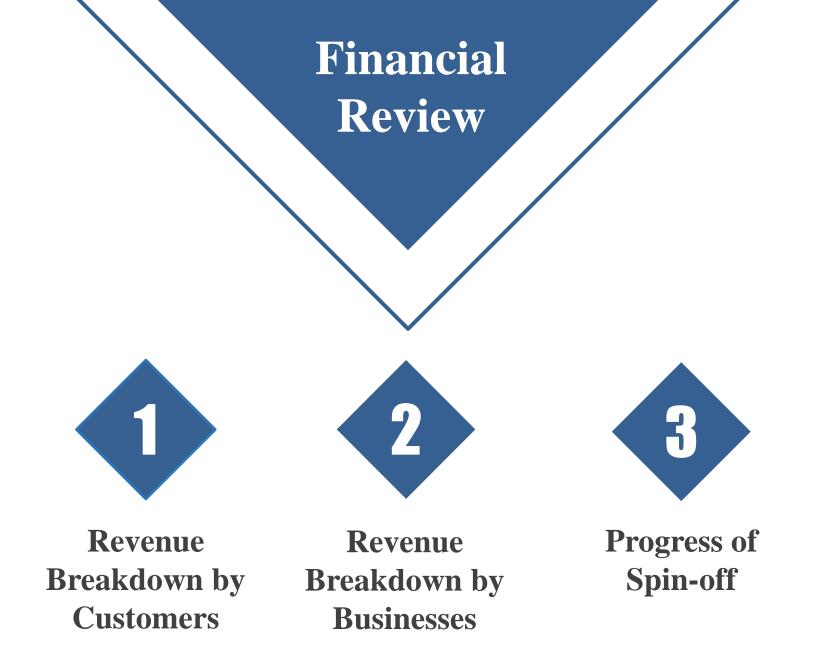
Financial Results Expenses Financial Position Key Financial Indicators Gross Gearing Ratio Analysis Operating Cash Flow Analysis





Financial Results Expenses Financial Position Key Financial Indicators Gross Gearing Ratio Analysis Operating Cash Flow Analysis

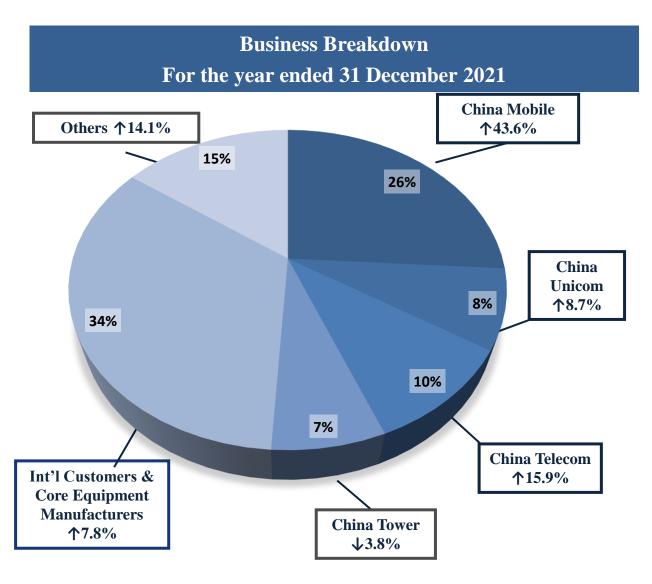


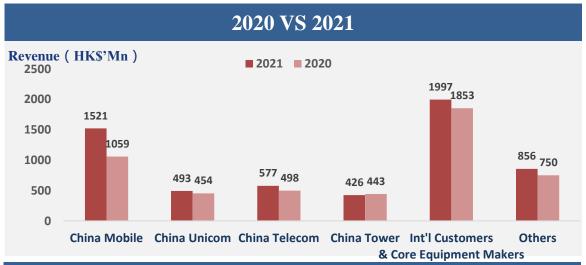


## **Financial Review**



Revenue Breakdown by Customers Revenue Breakdown by Businesses Progress of Spin-off





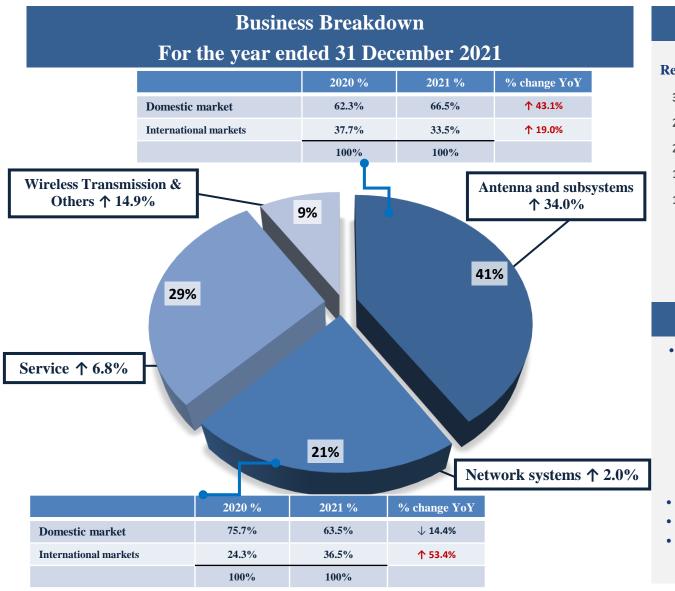
**Customer Breakdown** 

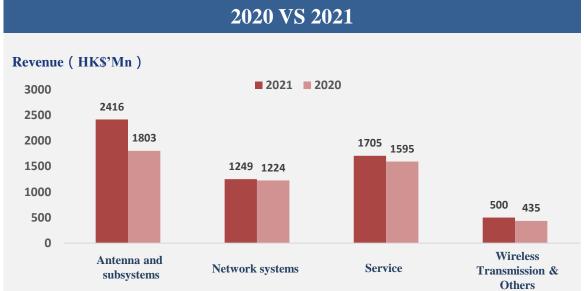
#### • Domestic Customers:

- ✓ Three major operators accounted for 44.1% of total revenue, ↑ 28.8% YoY;
- ✓ China Mobile's revenue in the H2 of 2021 represented 74.3% of China Mobile's 2021 total revenue, increased by ↑ 105.6% YoY;
- ✓ China Tower accounted for 7.3% of total revenue,  $\downarrow$  3.8% YoY;
- Int'l Customers & Core Equipment Manufacturers accounted for 34.0% of total revenue, ↑ 7.8% YoY;
- · Other customers include Railway Transit, ETL, among which,
  - ✓ Railway Transit accounted for 1.8% of total revenue,  $\sqrt{42.4\%}$  YoY;
  - ✓ ETL accounted for 3.6% of total revenue, ↑ 26.5% YoY;

## **Financial Review**







#### **Business Breakdown**

Antenna and subsystems ↑ 34.0% YoY; Among them, the domestic market business rebounded sharply:

HK million	H1	H2
2020	834	969
2021	723	1,693
% change	↓13.3%	<b>↑74.7%</b>

- Network systems ↑ 2.0% YoY
- Service (Indoor coverage project and other project) ↑ 6.8% YoY;
- Among Wireless transmission & Others include,
  - ✓ Wireless transmission accounted for 4.9% of total revenue, ↑ 4.2% YoY;
  - ✓ ETL accounted for 3.6% of total revenue, ↑ 26.5% YoY;

# **Progress of Spin-off**

Revenue Breakdown by Customers

Revenue Breakdown by Businesses

**Progress of Spin-off** 



# **Business Restructuring**

• Completed IPO network systems business restructuring



# **Employee Share Platform**

• Completed the employee share platform



#### Share Structure Reform and Change of company name

 Completed the related works of share structure reform and change of company name



#### A and B Round Funding

• The Capital Increase Subscription
Agreement entered into by
Intel (英特尔亚太),
Fortune Chuanghong (达晨创鸿),
Guangdong Utrust (粵财产业),
Mount Morning (晨山创业)
and other parties.



# Granted PN15 approval from HKEX

 Granted PN15 approval from Hong Kong
 Stock Exchange on the spin off listing

# Industry Development







# Global Wireless Network Development

✓ 5G development has entered an in-depth stage

# China 5G Construction

# **5G+ Industry Applications**

✓ 5G+, empower industries

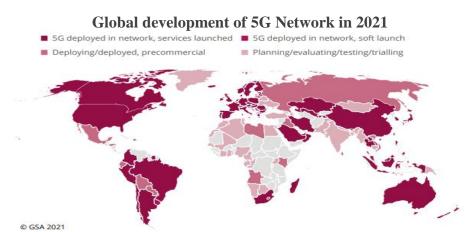
✓ Progress of Global 5G Network Deployment

# 1. Global Wireless Network Development



#### **Progress of Global 5G Network Deployment**

- As of December 2021, the number of 5G commercial networks increasing to 200;
- According to the Ericsson Mobility Report November 2021, the number of 5G users will reach 4.4 billion in 2027, covering about 75% of the world's population.;
- Global 5G network construction will continue until 2025, and it is estimated that 55% of global operators' CAPEX (about **US\$890bn**) will be spent on 5G networks in 2021-2025.



#### Wireless Network Infrastructure Revenue Forecast, Worldwide (USD million)

Segment	2020 Revenue	2021 Revenue	2022 Revenue
5G	13,768.0	19,128.9	23,254.6
LTE and 4G	17,127.8	14,569.1	12,114.0
3G and 2G	3,159.6	1,948.2	1,095.2
Small Cells Non-5G	6,588.5	7,117.9	7,113.9
Mobile Core	5,714.6	6,.056.2	6,273.3
Total	46,358.5	48,820.3	49,851.0

Source: Gartner (2021), The Mobile Economy China 2021 – GSMA, 5G Use Cases for Vertical China 2021 – GSMA, Recent Development Reports in Spectrum and Devices

#### Latest progress of 5G commercial use in the US, Japan, South Korea and Europe

US

- ❖ T-Mobile' plans to deploy its 5G mid-band to reach more than 250 million people by the end of 2022
- AT&T plans to offer the millimetre-wave network in selected areas and locations
- ❖ Increase number of 5G base stations to 210,000 by the end of 2023
- A wide-area trial network will be built in 2022 for 5G Open RAN testing. NTT Docomo, Rakuten Mobile and NEC are expected to participate in the test

Japan

❖ On December 28, the Japanese government convened the "Conference on the Realization of the National Concept of Digital Rural Cities", proposing the goal to build the standard of "5G" high-speed communication and increase the **penetration** rate of 5G to 90% in 2023



According to the statistics released by the Ministry of Science and ICT of Korea, 5G users in South Korea exceed 20 million, and about 30% of mobile network users are using 5G



- The number of 5G base stations in South Korea was 160 thousand as of the second quarter of 2021
- Under "Radio Wave Revitalization Plan 2021", an extra band width of 470 MHz will be added to the 5G mid-and-low band
- Deutsche Telekom adopts the high-speed communication standard of "Open-ran" technology. The 5G project uses base station equipment developed by NEC of Japan and Mavenir of the US

#### Europe \*

❖ Vodafone Germany's 5G network operates with 700MHz, 1800MHz and 3.5GHz frequency bands



The German Federal Network Administration has issued **5G Independent Private Network Licenses to 179 Enterprises or Institutions**. Companies such as Audi,
BMW, Siemens, Bosch and other companies responded positively, BMW, Bosch,
Volkswagen, BASF and Lufthansa have responded positively, and have completed
several 5G private networks. The speed of spectrum application has reached a new
high.

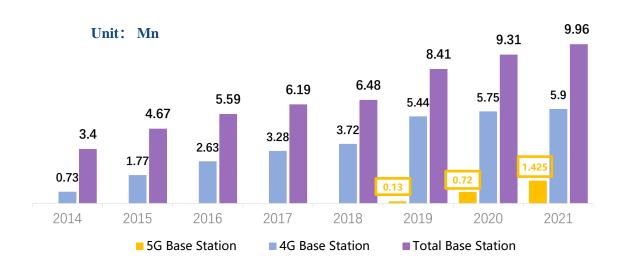
## 2. China 5G Construction



#### 5G development has entered an in-depth stage

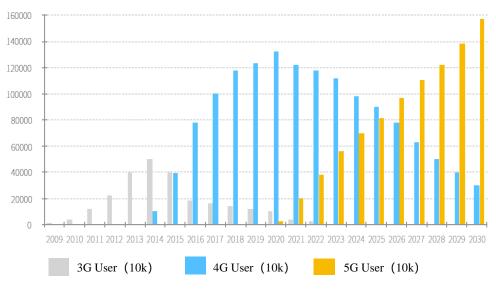
- By the end of 2021, China has built near **1,425,000** of 5G base stations, basically covering all cities above prefecture level nationwide, accounting for more than **60%** of the world.
- The 5G network will solve coverage, capacity, speed and other issues through the **collaborative networking of low- and mid-band**, extend coverage to all counties and major developed towns, and continue to improve the accuracy and in-depth coverage of covered areas.

#### Accumulative number of mobile communication base stations in China, 2014-2021



Data source: MIIT

#### Estimated Number of 3/4/5G Users in China (2020-2030)



Data Source: China 5G Economic Report 2020, 5G Cases for Vertical China 2021

The Group continue to evolve and upgrade network infrastructure. The **5G** investment in major domestic telecom operators has reached 184.9 billion, accounting for **45.6%** of the total investment, an increase of **8.9%** over the previous year.

# 3. 5G+Industry Applications

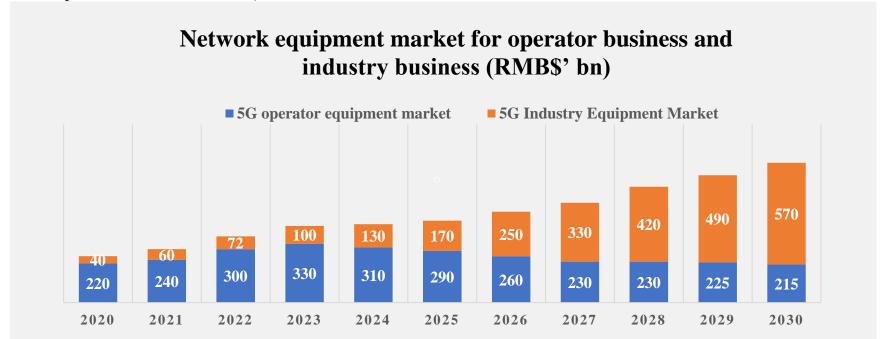


#### 5G+, empower industries

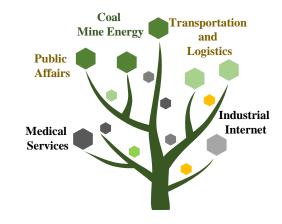
- With the advancement of 5G construction, 5G has derived a variety of application scenarios. In the past two years, several typical 5G+ converged applications have been emerging, and explosive growth is expected to see in the future.
- With the release of the R16 standard for uRLLC and mMTC scenarios, as well as the advancement of the R17 standard and the development of "new infrastructure", 5G business will gradually expand from consumption to various vertical industries, and 5G+ industry application scenarios will also be fully promoted.

• 5G + vertical industry will be the blue ocean of business in the future, with huge market potential, and the cumulative market in the next 10 years is

expected to reach RMB\$2,600bn+.



Source: Industry Research Report on Special Market Research and Investment Strategy of China's 5G Industry in 2018-2024



**5G's important mission:** 

To empower different industries and facilitate the digital, network and intelligent transformation of traditional ones.

# Company Outlook



#### **Antenna Products**

- ✓ Market Outlook of Antenna
- ✓ Status of Antenna Products/ Market Development
- ✓ Innovative solution of Antenna Subsystem



#### **Network System**

- ✓ Market Outlook of Network Product
- ✓ Network Product Form
- ✓ Market Progress of 5G Series Network Products
- ✓ Open-RAN Open Network Solution



### **Business Operation**

- Market Outlook in 2022
- Operating Strategy

# 1. Development of Antenna Products in the 5G era



**Market Outlook of Antenna** 

Status of Antenna Products/Market Development

Innovative Solution of Antenna Subsystem

#### **International Markets: Gradual Recovery of Network Construction**

- Telecom operators' 5G investment tends to be rational, and the demand for 4G/5G integration BSA increases;
- Sub3GHz spectrum re-cultivation is an inevitable trend. System upgrade and replacement of network antenna will bring long-term demand for BSA;
- Europe and the Asia-Pacific region have accelerated the deployment of 5G on a large scale. The demand for 4G/5G integration BSA has increased due to the **collaborative networking of low-and mid-band** and the deployment of sub-scenarios;
- 4G network deployment and optimization in India, South America, Middle East and Africa bring about continuous demand for FDD ultra-multi-port multi-system common antenna and hybrid beam antenna.

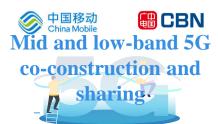


#### Bidding for centralized procurement of base station antennas in the international market

Client	Project	Scale	Status
Telenor	Telenor 2021-2024 BSA bid project	0.19 million antennas	Rank 2 <sup>nd</sup>
Airtel	Airtel 2022-2023 BSA bid project	0.16 million antennas	Rank 2 <sup>nd</sup>
MTN	MTN 2021-2025 BSA bid project	0.15 million antennas	Rank 1 <sup>st</sup>
Ooredoo	Ooredoo 20121-2025 BSA frame bid project	0.1 million antennas	Rank 2 <sup>nd</sup>
Vodafone	Vodafone 2020-2022 BSA bid project	50 thousand antennas	Rank 1 <sup>st</sup>

#### Domestic Market: Scale deployment of 700M, 900M and 2.1G 5G networks

- The rapid development of 5G+industry applications and the strengthening of new infrastructure in China have promoted 5G wireless network investment, and maintained the growth trend of 5G scale deployment;
- Operators started to construct 700M, 900M and 2.1G 5G networks. The scale of antenna purchased will be increased to **around 3 million** in the next three years;
- Comba won the bids for the Base Station Antenna Collection Project of the three major operators, ranked 1st in market shares, laying the foundation for the stable performance of the antenna feeder business in the next two years;
- Completion of antenna delivery guarantee projects of three major operators with high-quality in 2021, ranked 1<sup>st</sup> in terms of shipment volume in China Mobile.



Centralized Procurement Bidding situation of Base Station Antenna of three major operators in China

Client	Project	Scale	Status
China Mahila	Centralized Procurement of Multi-band (including	Package 1: 0.6 million antennas	Rank 1st
China Mobile	700M) Antenna Products of China Mobile	Package 2: 1.14 million antennas	Rank 2 <sup>nd</sup>
China Telecom	Centralized Procurement Project of the Base Station Antenna of China Telecom (Year 2021)	536,000 antennas	Rank 2 <sup>nd</sup>
China Unicom	Centralized Procurement Project of the Base Station Antenna of China Unicom (Year 2021)	Package 1: 273,500 antennas Package 2: 100,000 antennas	Rank 1 <sup>st</sup>

# 1. Development of Antenna Products in the 5G era



Market Outlook of Antenna

**Status of Antenna Products/Market Development** 

Innovative Solution of Antenna Subsystem

Synergic deployment of 4G/5G, collaborative networking of low- and mid-band, and advancement of antenna structure drive the enrichment of Antenna product form.

#### Comba Series 5G Antenna Product AAU Antenna Module (AAS/AFU) **Active + Passive Integrated Convergent Antenna** Partner of a major equipment vendor, accumulated shipment of An important solution for 5G "ALL in One" scenario with extremely over 400k units. Our new cavity AFU products are highly high technical barrier. Comba and its vendor has completed R&D and recognized by customers, and the first product has been supplied in small-scale experiment, gradually achieving the integration of batches. With the increase of 5G construction in international active/inactive status. operations, it is expected to bring about steady growth of orders. FDD Ultra Multi-Port Multi-System Shared Antenna 4G/5G (4TR) Integrated BSA An important solution for the reframing of 5G low-to-med 998808866 A main solution for FDD network which has taken up an absolute frequencies and has been applied in the 5G network scale of 700M, proportion globally. Secured tenders from global operators such as 900M and 2.1G frequency bands of the three major operators in VF/Airtel/Telenor and maintained steady supply. China. Operators in Asia Pacific, Europe, South America, Middle East and other countries are scaling up the application. FDD Hybrid Beam Multi-System Shared Antenna 4G/5G (8TR) Integrated BSA A mainstream solution for 5G deployment of oversea operators, An important solution for 4G network expansion which has been scale applied in Asia Pacific, Europe. Trials are carried out in applied in India, Asia Pacific, South America and other areas at scale. South America, Middle East. The first six-band antenna has Continuous and steady demand is expected in the future. passed the test of Vecta, an authoritative third-party testing agency. The demand of such products will maintain a steady growth due to the growing demand of 5G deployment.

# 1. Development for Antenna Products in the 5G era



Market Outlook of Antenna

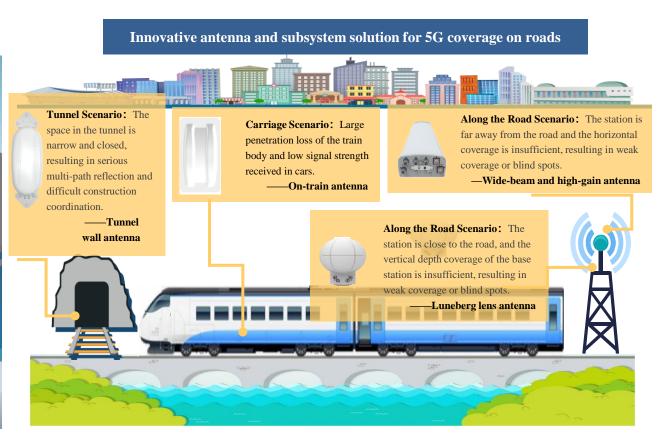
Status of Antenna Products/Market Development

**Innovative Solution of Antenna Subsystem** 

Comba customized innovative solutions of for 5G broad indoor and rail transportation scenarios, and has been applied in many provinces in China at scale. Expected to continue to contribute to the growth of results.

#### Innovative solutions of antenna for 5G broad indoor coverage Community & residential scenario: High cost: Hard to manage; Poor coverage. ——New building coverage Large passive rooms are Large venues / transportation built and shared: hub: Concentration of users; Huge Multiple system access; business demand; Severe Complex interference; interference in adjacent areas of 5G High power; Large loss co-frequency network; Complicated installation -Stereo square wave--Medium fullshaped antenna band POI and devices

• Comba won tenders and **achieved scale application in multiple provinces**, and operators will strengthen the 5G blind-area. The demand will remain stable in the future.



• Comba won tenders and **achieved scale application in multiple provinces.** As 5G road coverage is increased by the operators, it will bring incremental contribution to sales.

# 2. Network System



**Market Outlook of Network Product** 

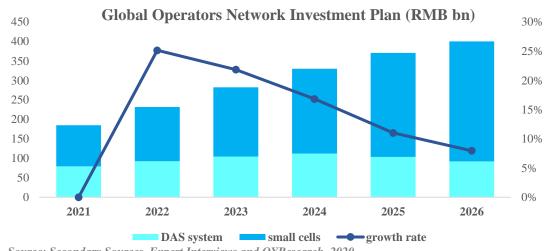
Network Product Form

Market Progress of 5G Series Network Products

Open-RAN Open Network Solution

#### **International Market: positive outlook on Indoor coverage and Open RAN industry**

- Comba has actively promoted the **co-construction and sharing of indoor wireless network coverage solutions**, with breakthrough growth in Asia-Pacific and North America.
- Open RAN continues to lead technological innovation in the industry, and related product series have been recognized by leading operator groups in the industry, participating in a number of commercial and pilot deployments around the world, and widely used in various coverage application scenarios.
- The total investment in equipment in the global **small base station** and **DAS** market will be about RMB\$180 billion in 2021, with an estimated average annual growth rate of 17%, of which the investment in small base station equipment accounts for 60% -70%.



#### Source: Secondary Sources, Expert Interviews and QYResearch, 2020

#### Domestic market: 5G small base stations usher in market opportunities

- Comba continues to promote deep wireless network coverage solutions and promote the commercial development of 5G in **vertical industries**, such as industry, mining, medical and other fields.
- With the increased consumption of Internet, indoor deep coverage has been put on the key construction agenda by major operators in 2022, and the three major operators have launched the normalization test of 5G extended pico base station collection.
- China Mobile: Carry out indoor coverage construction in an orderly manner in 2022, and add 80,000 stations/sets for indoor distribution.
- China Telecom and China Unicom: a total of 200,000 stations/sets are planned in 2022, of which China Telecom's construction and investment account for about 58%.



Source: According to the rolling investment planning of the three major domestic operators' wireless network

# 2. Network System (either slide 27/28)



Market Outlook of Network Product

Network Product Form

Market Progress of 5G Series Network Products

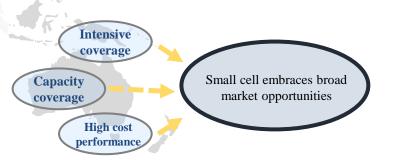
Open-RAN Open Network Solution

**Product Innovation** – Focus on the coverage capacity of scenario-oriented requirements, launch innovative products like E-Femto, indoor source and XDAS

**Business** Development – Fully grasp the inelastic demand of 4G's weaknesses enhancement and gear up 5G projects innovative development

# 5G series network system products 5G extended base station 5G high power repeater KDAS E-Femto

- The competitiveness of 5G small base station technology has maintained a leading position,. The industry-leading "OneChip" ultra-lightweight 5G RAN solution and 5G cloud station vRAN solution have been released successively, and ranked first in the TOP20 list of 5G small base station suppliers published by well-known media;
- Industry's first 5G X-DAS fiber feeder hybrid cost-effective digital distribution system; elevator coverage solution with innovative plug-and-play E-Femto;
- Exert the benefit and value of **small cells** in complementing weakness, and fully grasp the 4G coverage to gain a solid market position of small stations;
- The three major operators have successively launched the collection of 5G extended pico base stations, which is expected to be completed in the first half of 2022.



# 2. Network System



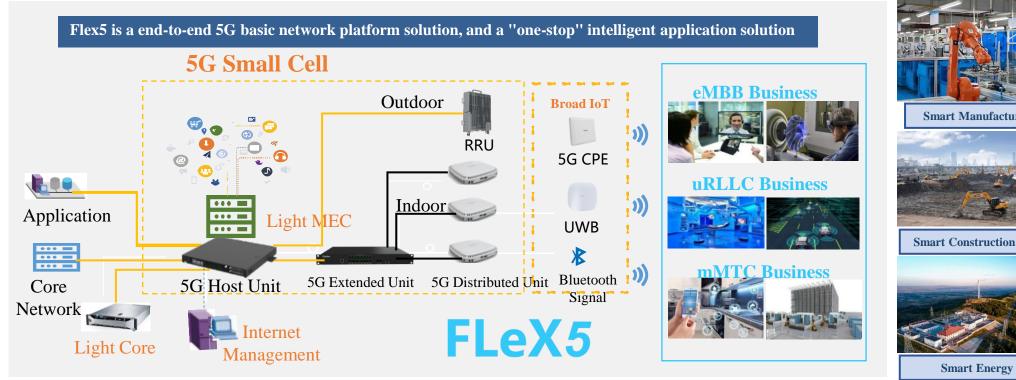
Market Outlook of Network Product

Network Product Form

**Market Progress of 5G Series Network Products** 

Open-RAN Open Network Solution

- The industry 5G private network solution (Flex5) has a product series covering China Mobile, China Telecom, China Unicom and China Radio and Television; With this end-to-end, large and small power, indoor appearance and customized base stations, full frequency band and full series products, we have a superior product competitiveness in the vertical industry;
- A replicable business model has been initially formed in the 5G + smart mine, and we will continue to strengthen the technical support and expansion of the smart mine business in the future, and steadily promote the implementation of application projects in industries such as smart construction sites, smart energy, smart medical treatment, 5G smart testing and 5G smart entertainment.





# 2. Network System



Market Outlook of Network Product

Network Product Form

Market Progress of 5G Series Network Products

**Open-RAN Open Network Solution** 

#### **Open RAN Industry Leader**

Provide a full set of indoor & outdoor Radio solution



based on the lightweight indoor coverage solutions with open structure







#### **OpenRadio RRU**

Radio active units of base station with high power

## **Multi-RAT**

2G, 3G, 4G, 5G

#### Leader in RF

Multi-band, high power RF remote design

#### Multi Patented design

(DFE, PA, mechanical, thermal, etc.)





#### OpenRadio DAS

based on the high-volume indoor coverage solutions with open structure







#### Mass production and commercial deployment of the new platform for high-power base station RRU

- Launched the industry's first multi-mode (2G/3G/4G/5G) dual-band (B1 + B3) and triple-band (B28 + B20 + B8) Open RAN highpower and high-efficiency RRU product;
- Commercialized 10 industry-leading multi-mode 2G/3G/4G Open RAN RRU products, supported multiple trial networks around the world;
- Deepened cooperation with industry-leading software suppliers and system integrators, and continue to expand the partner ecosystem;
- Shortlisted by several leading global operators for O-RU, preparing to participate in several Open RAN pilots and scale deployments in Europe, Middle East, America, Asia-Pacific and Africa in 2022.

Nine high-power RRU products have been recognized by TIP (Facebook Telecommunications Infrastructure Project) field test performance and successfully launched in TIP Exchange Market Place.

# 3. Business Operation



#### Market Outlook in 2022

#### Operating Strategy

#### **Domestic market**

#### **Antenna business**

- Deliver the bid-winning centralized procurement projects and the new centralized procurement projects in high-quality, and ensure its leading position in the market;
- Continuously looking for the demand on broad indoor and road coverage applications; Promote the commercial scale of innovative products and bring incremental contribution to performance;
- · Actively explore emerging areas such as smart terminal IoT antenna to find potential business growth points.

#### **Network Systems business**

- Expand indoor distribution, village communication and other sub-scenarios to innovate cost-effective solutions to ensure the leading position in the industry;
- Win projects with three major operators for the collection of 5G extended pico base stations, and speed up the product landing;
- Build FLeX5 into a fully connected smart computing platform of 5G network + ubiquitous Internet of Things + MEP + AI engine and expand in the field of smart energy.

#### New business

Explore intelligent technology field such as AGV cars, visual inspection and others in order to enhance brand awareness in an all-round way



#### **International and OEM markets**

#### **Antenna business**

- Focus on the global Top30 operator customers, ensure the key countries and projects are under the framework agreement and enhance market share;
- Cultivate the core equipment vendors, and make sure key position of partners;
- Increase R&D and market promotion investment in 4G/5G (≦8TR) convergent BSA and A+P integrated antenna to maintain the advancement of technology and products in order to enhance the overall competitiveness and profitability.;

#### **Network Systems business**

- Continue to promote strategic cooperation with partners and international ecosystem, breakthrough key operator accounts and make large orders in the Open RAN;
- Expand business size with multiple cooperation modes;
- · Strengthen the expansion in key areas and actively promote common and shared indoor wireless network coverage solutions











# 3. Business Operation



Market Outlook in 2022

**Operating Strategy** 

# **Group's General Strategy**



**Develop innovative** strategy to achieve substantial growth in the field of indoor 5G networks and 5G+ vertical industry



Continue to explore and seek growth opportunities in new business areas such as intelligent technology in order to establish brand image









Intensify to cultivate and consolidate the leading position in the antenna, **ORAN** and other market segments





# Thank you!