

WORLD **BEST** wireless Solution Provider

As an explorer and leader in this ubiquitous era's communication networking industry, we aim to make our services faster and better in quality and provide a secure pillar in the communication market by utilizing our current technical competence in developing equipment, resources, and environment for the future technology.



QUBICOM

INTRODUCTION

2024. 1Q

QUBICOM Inc.

AGENDA



1

Overview

2

Main business

3

Products & Solutions

4

R&D

5

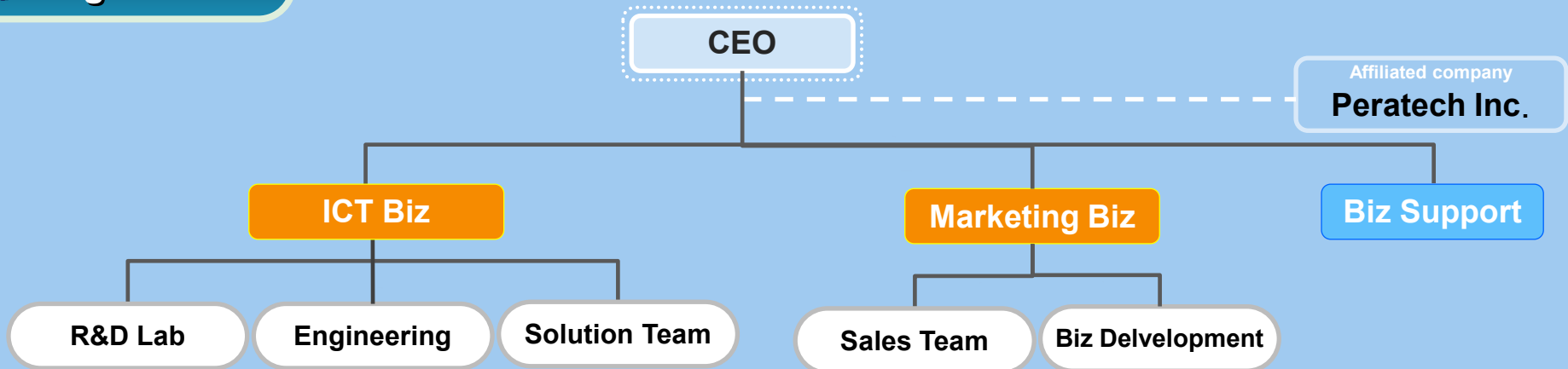
Core competencies

1. Overview

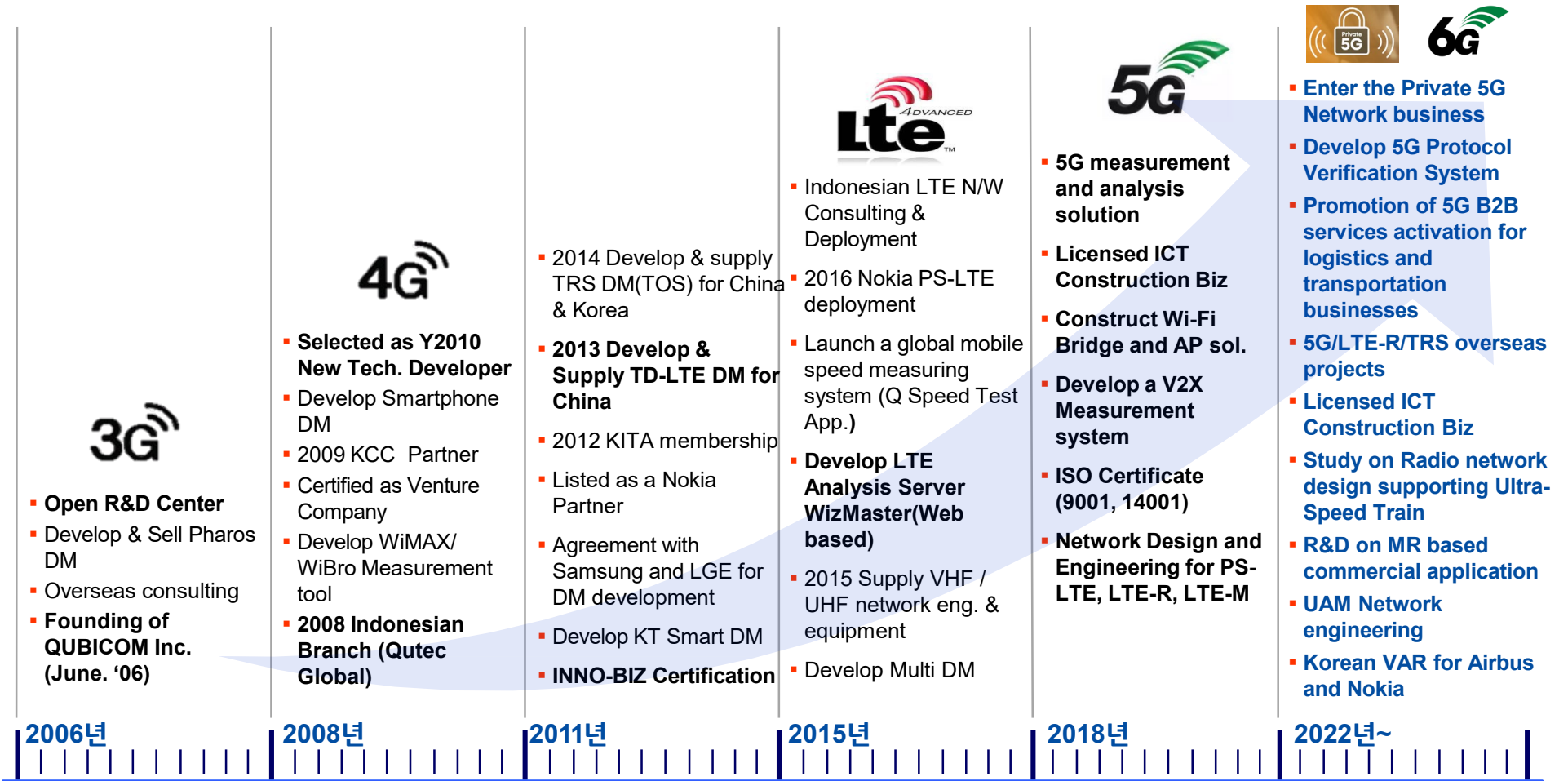
Profile

Company Name	Qubicom Inc.
Foundation	June 2006
CEO	Byeong-Hyeok(Simon) Choi
Capital	KRW 500M (US\$ 390,000)
Business Areas	S/W Development, ICT Engineering & Construction, Training and Consulting
HQ office	#202, 449 Seongnam-daero, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea

Organization



The accumulation of Telecommunications technology capabilities from 2G to 6G and the **development of next-generation solutions**



Major Customers

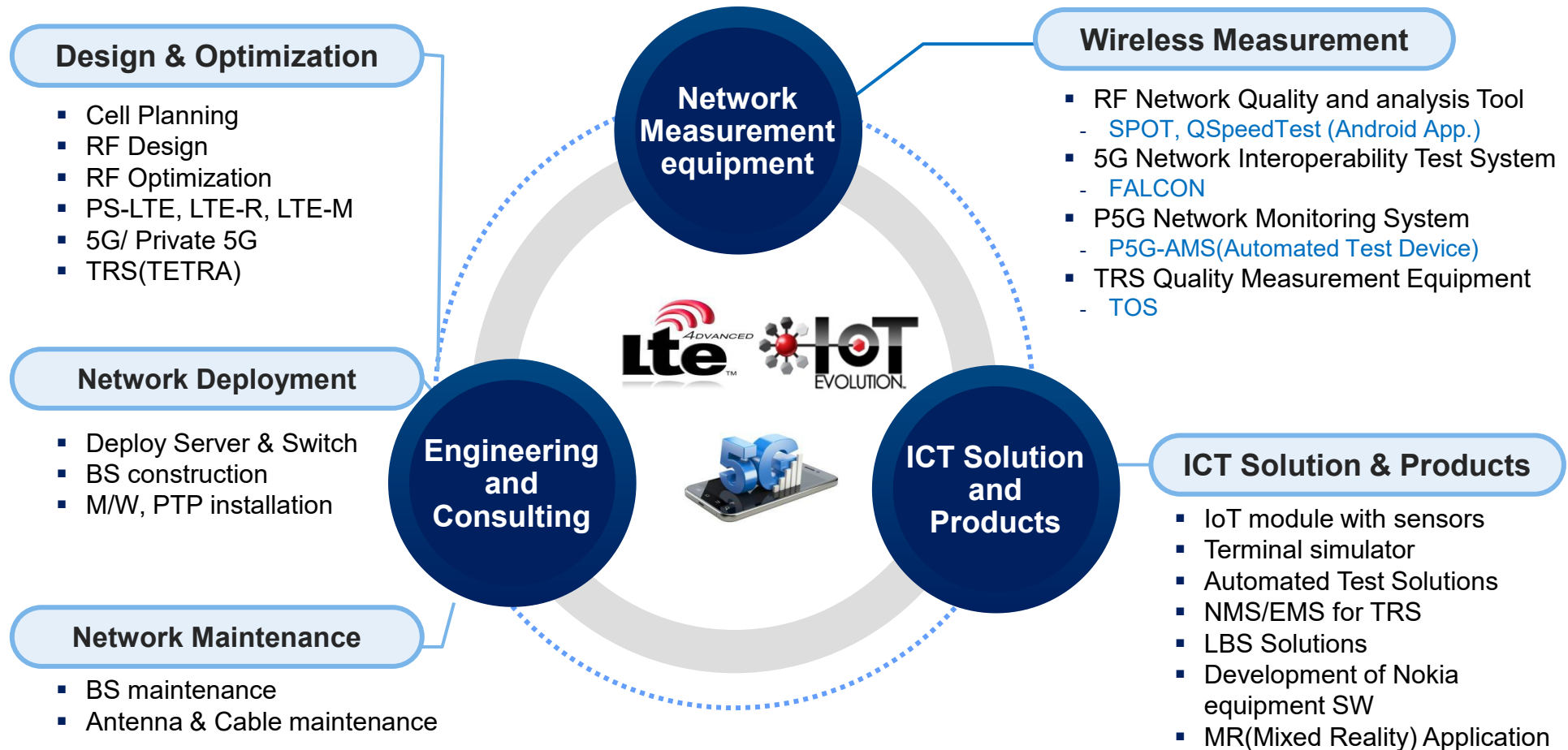
QUBICOM is providing solutions for **Design, Construction, Commissioning, Testing and Quality Improvement** of **Fixed** and **Wireless networks**

PRODUCT	PRODUCT+ENGINEERING		ENGINEERING	

2. Business Areas

To create a synergy effect






3 business fields organized in a related way



3. Products & Solutions

RF Measurement & Analysis solution

To develop and supply **measurement and analysis solutions** for **5G, LTE, WCDMA, WiFi** and **TETRA** both domestically and internationally

Item	Features	Sample Image	Reference
Android application for RF KPI measurement SPOT	<ul style="list-style-type: none"> • Portable equipment for indoor, subway, hiking • LTE, WCDMA, CDMA, GSM, WiFi support • Automated measuring for Voice and FTP • Analysis function 		<ul style="list-style-type: none"> • KT, LGU+ • Verizon, CC • China Telecom • Taiwan, Japan
Automated test for automotive telematics modem SLB	<ul style="list-style-type: none"> • Remote automated measurement • Simultaneous testing of up to 6 units • Automated data collection and analysis support 		<ul style="list-style-type: none"> • LGE • Indonesia
Android application for wireless data throughput measurement QSpeed Pro	<ul style="list-style-type: none"> • Display of network information and transmission of collected data to Server • Measurement to save idle data at 5 sec intervals • Network monitoring and abnormal case alert 		<ul style="list-style-type: none"> • Google playstore
TETRA(TRS) Network KPI measurement TOS	<ul style="list-style-type: none"> • Portable equipment suitable for mountainous and maritime measurements • User friendly UI • Google Map and location information support 		<ul style="list-style-type: none"> • Chinese Railway • KDN • Airbus • MTZ, UBTZ
5G Protocol compliance test FALCON	<ul style="list-style-type: none"> • RRC, NAS Message Parameter compliance test • Script based Test Plan and functional tests support • Post Processing analysis and Report 		<ul style="list-style-type: none"> • TTA

▶ Key product in development

“Automated Monitoring System(AMS) and Mixed Reality(MR) content to manage the quality of the P5G”

■ Unmanned monitoring and MR content

AMS for P5G

■ P5G-AMS UE

- 24/7 unmanned monitoring of wireless environment and quality, conducting high-speed, ultra-low-latency tests, and wireless quality assessments

■ P5G-AMS Server

- Managing the status, test cycles, and collected data of AMS, and integrating with a management server to provide control functions to administrators.
- In case of an issue with the wireless quality, automatic notifications are sent to on-site workers for verification



MR content

■ MR server

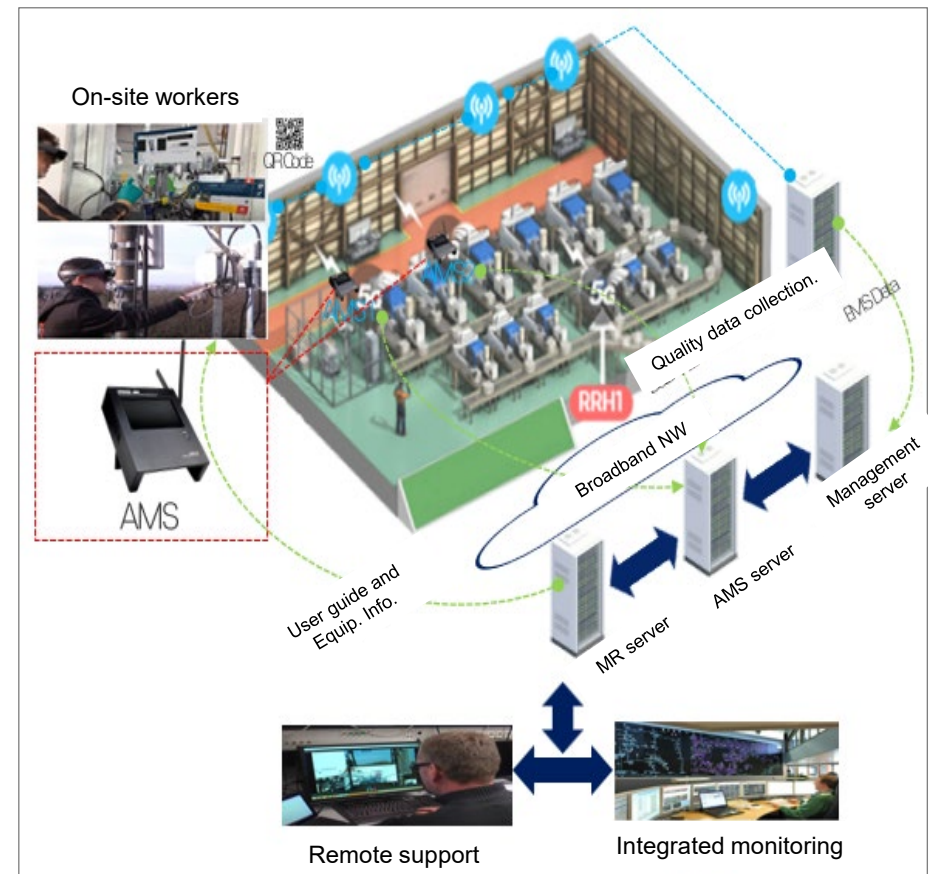
- Managing MR information for BS and integrating with a management server to provide a information to on-site workers.

■ MR content

- Developing MR content for P5G network and its entity

■ Development of an integrated management server

■ Unmanned monitoring system for P5G network

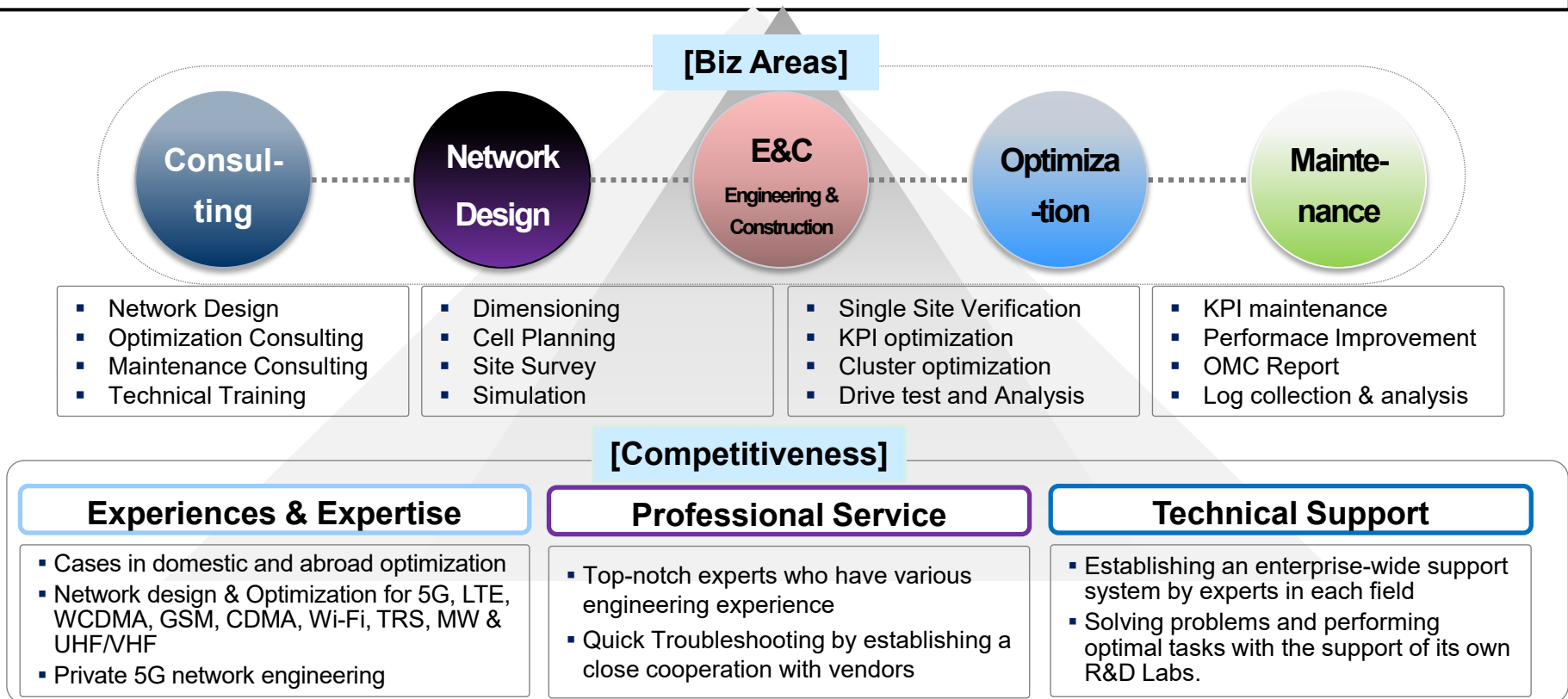


Engineering & Consulting

Qubicom is a **Specialist in RF network design, Construction, Optimization and OA&M.**

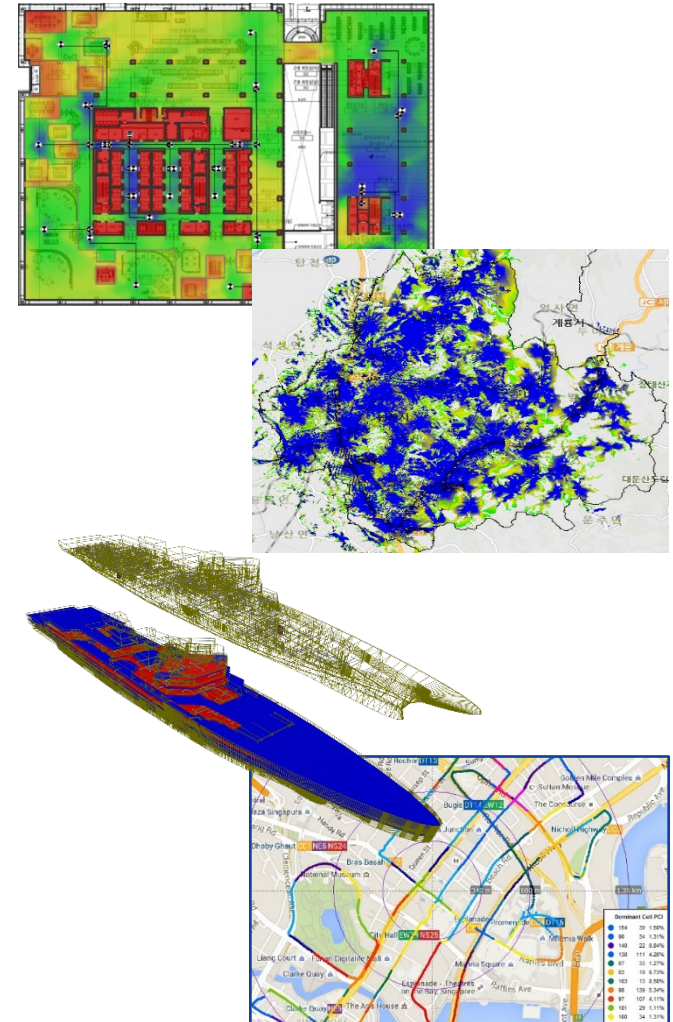
With experiences from 20 mobile operators in 12 countries

Provide Total Engineering Services from Consulting to Maintenance



▶ Desing & Optimization

- **Engineering for various systems:** 5G, Private 5G, Private LTE, LTE, WCDMA, WiBro, CDMA, GSM, Wi-Fi and TRS/UHF
- **Designing RF networks in Korea and abroad**
 - LTR-R : Proposal and Implementation design for Korean KTX, railway, subway
 - Study on RF networks simulation to support 420Km/h high-speed
 - LTR-M: Cell Planning for maritime wireless network
 - PS-LTE: Proposal design of Korean PS-LTE network
 - In-building : Korea, the United States, the Philippines, India, Sri Lanka
 - Out-door: Korea, Japan, Hong Kong, Australia, Bangladesh, Indonesia
 - TRS/UHF: Samsung SDS, Techwin, Airbus, Mongolia Railway(MTZ)
 - Vessel: Cell Planning LTE & BLE for navy smart-ship project
 - Private 5G Network Design: LG, KT, HMC, Sejong Telecom, Yes24 and so on.
- **Measurement and Optimization of Mobile Networks**
 - Network Optimization in 12 foreign countries: India, Colombia, China, Hong Kong, Sri Lanka, Singapore, Thailand, Bangladesh, Philippines, Jordan, Indonesia, Mongolia
 - Government-hosted Korea Communications Commission (KCC) Measurement
 - Nokia 5G, LTE commissioning / BMT, Maintenance and Optimization
 - Quality measurement and analysis of KT networks(WCDMA/ WiBro/ Wi-Fi, LTE)
 - Optimization of Ericsson's equipment for WCDMA HSPA+ and LTE
 - Seoul Drive Test: Monolith Tech. (US)



▣ Construction & Consulting references

■ Multiple Vendors & Various Networks Engineering

- Vendors: **Nokia, Samsung, Ericsson, Huawei, ZTE & Airbus D&S**
- Nokia: Indonesia, Korea (SKT, KT, LGU+)
- Samsung: Indonesia, Malaysia, India
- Huawei: Sri Lanka, Singapore, Indonesia, Philippines, Bangladesh
- ZTE: Hong Kong, Indonesia
- Airbus: Korea (KEPCO, KDN, KCTC, KTP), Mongolia









■ Engineering and Construction for BS, Wi-Fi and M/W

- Replace and relocation of Nokia 5G & LTE BS equipment
- Private 5G engineering and implementation: Sejong Telecom, LGE, KT, LGCNS
- Huawei LTE & WCDMA BS equipment, M/W construction
- ZTE LTE & WCDMA BS equipment
- KT PTP Wireless Bridge installation
- Airbus TETRA TRS for Mongolia railway, Subic Shipyard in the Philippines

■ Engineering consulting

- Senegalese government network consulting.
- Broadband Network and Demonstration Center Establishment: Indonesia, Vietnam

■ Vendor & Technology

Vendor	 					
	 					
	 					
Technology	 					
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: center;">P5G</td></tr> <tr><td style="text-align: center;">PS-LTE</td></tr> <tr><td style="text-align: center;">LTE-R, LTE-M</td></tr> <tr><td style="text-align: center;">WCDMA/ GSM</td></tr> <tr><td style="text-align: center;">TRS/UHF</td></tr> </table>	P5G	PS-LTE	LTE-R, LTE-M	WCDMA/ GSM	TRS/UHF
P5G						
PS-LTE						
LTE-R, LTE-M						
WCDMA/ GSM						
TRS/UHF						

As a best partner of major equipment manufacturers(vendors), securing extensive experience in **P5G**, 5G, LTE and TRS projects, both domestically and internationally and **best skillsets for network construction and maintenance.**

➤ 4G ▶ 5G ▶ 6G Projects

Experience and Expertise accumulated in **LTE and 5G** have evolved into specialized engineering for **P5G and 6G**

1 LTE References

➤ Korea

- Nokia : LTE Deployment/ Installation & Optimization
- Ericsson : LTE Quality Measurement & Analysis
- KT : LTE Tool Development, Measurement & Analysis
- LGU+: Development App Quality Measurement Solution
- LGE: Development of Automobile Quality Measurement
- Etron: UE conformity test and Network Quality analysis for LTE-M

➤ Overseas

- Samsung Electronics: RJIO TD-LTE optimization
- Nokia: Smartfren LTE End-to-End Project (turnkey)
- LTE In-building Network Design: the Philippines
- Columbia Movistar: LTE network optimization

2 Private LTE References

- PS-LTE project proposal design
- LTE-M project proposal design and optimization
- LTE-R project proposal design and implementation design
- LTE for Nuclear power plant construction and measurement

3 5G References

- Nokia 5G Implementation and Commission
- Nokia 5G KPI measurement, analysis and optimization(NPO)
- Nokia 5G operation and maintenance
- Nokia 5G Network equipment test(FAT)
- Nokia equipment SW development verification test(DVT)











4 Private 5G References

- LGE Private 5G PoC network implementation
- Sejong Telecom Private 5G Testbed implementation
- Government Complex Sejong e-UM 5G implementation
- Navy 2nd Fleet e-UM 5G implementation
- KAI e-UM 5GT implementation
- HMC Private 5G Testbed implementation and PoC by HMC R&D
- AGV/AMR for Automated Logistics Center using Private 5G

ETRI 6G(0.1THz): Radio measurement and DB collection

ICT Solutions and Products

“ Based on various network experiences and accumulated knowledges,
To provide ICT Solutions and Products”

Biz Area	IoT	NW Management	Automation	LBS
Task	<ul style="list-style-type: none"> BT module H/W and S/W development Module development w/ BLE and sensors 	<ul style="list-style-type: none"> TETRA NMS development PS Network measuring module development 	<ul style="list-style-type: none"> Automated test of mobile comm. equipment HMC Telematics terminal simulator BCM automated test 	<ul style="list-style-type: none"> UE location info. solution Data communication equip. for train operator High-gain Rooftop antenna TLDS solution
Customer	  성남산업진흥재단 SNVENTURE.NET	 대한민국 국방부 Ministry of National Defense  한진중공업 HANJIN HEAVY INDUSTRIES & CONSTRUCTION	 HYUNDAI  POSCO ICT  LG 전자  CANsystem Automotive Test & Measurement System	 한진중공업 HANJIN HEAVY INDUSTRIES & CONSTRUCTION  벽산파워
















Smart Wireless Communication



▶ App. & IoT based H/W, S/W development → Total platform development and Task performance

▶ ICT products

“Supplying **main equipment, accessories** and **engineering tools** through collaboration with **key partners in each field**”

Category	Description	Partners
Private 5G/ LTE	<ul style="list-style-type: none"> Enterprise-specific network solutions 	 
TETRA(TRS)	<ul style="list-style-type: none"> TETRA system, Terminal, Smart PTT Airbus official Korean distributor 	
P2P/ WiFi	<ul style="list-style-type: none"> Wireless backhaul and WiFi equipment for easy installation and maintain 	 
Power system	<ul style="list-style-type: none"> Rectifier, Battery and parts for LTE and 5G equipment 	  
Antenna & optical terminal	<ul style="list-style-type: none"> Auxiliary equipment for mobile network 	 
Accessories	<ul style="list-style-type: none"> RF cables, Distributors, Adaptors, Arrestors, Connectors, Attenuators, Filters for LTE/5G 	 
Engineering Tool	<ul style="list-style-type: none"> Network Design and Quality Measurement tools 	  

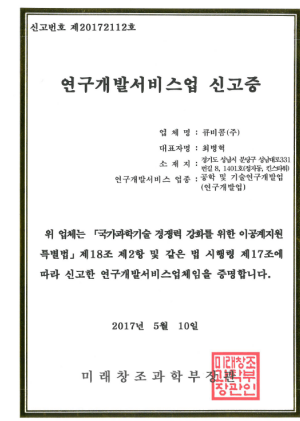
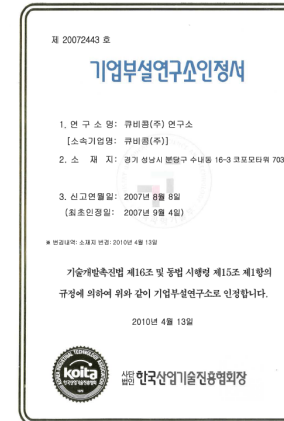
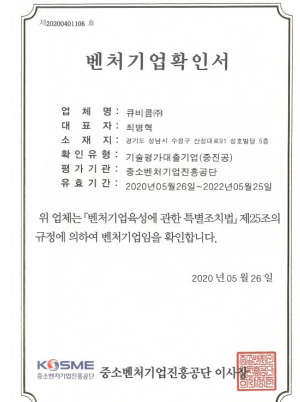
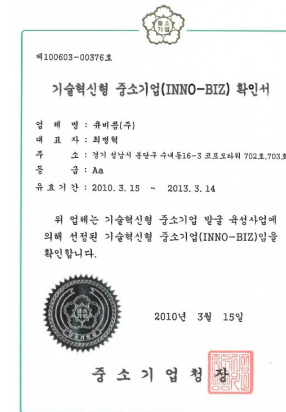
4. Research & Development

“10 Government Projects, 3 IPRs and continuous investment for R&D”

Implementation of 10 government tasks

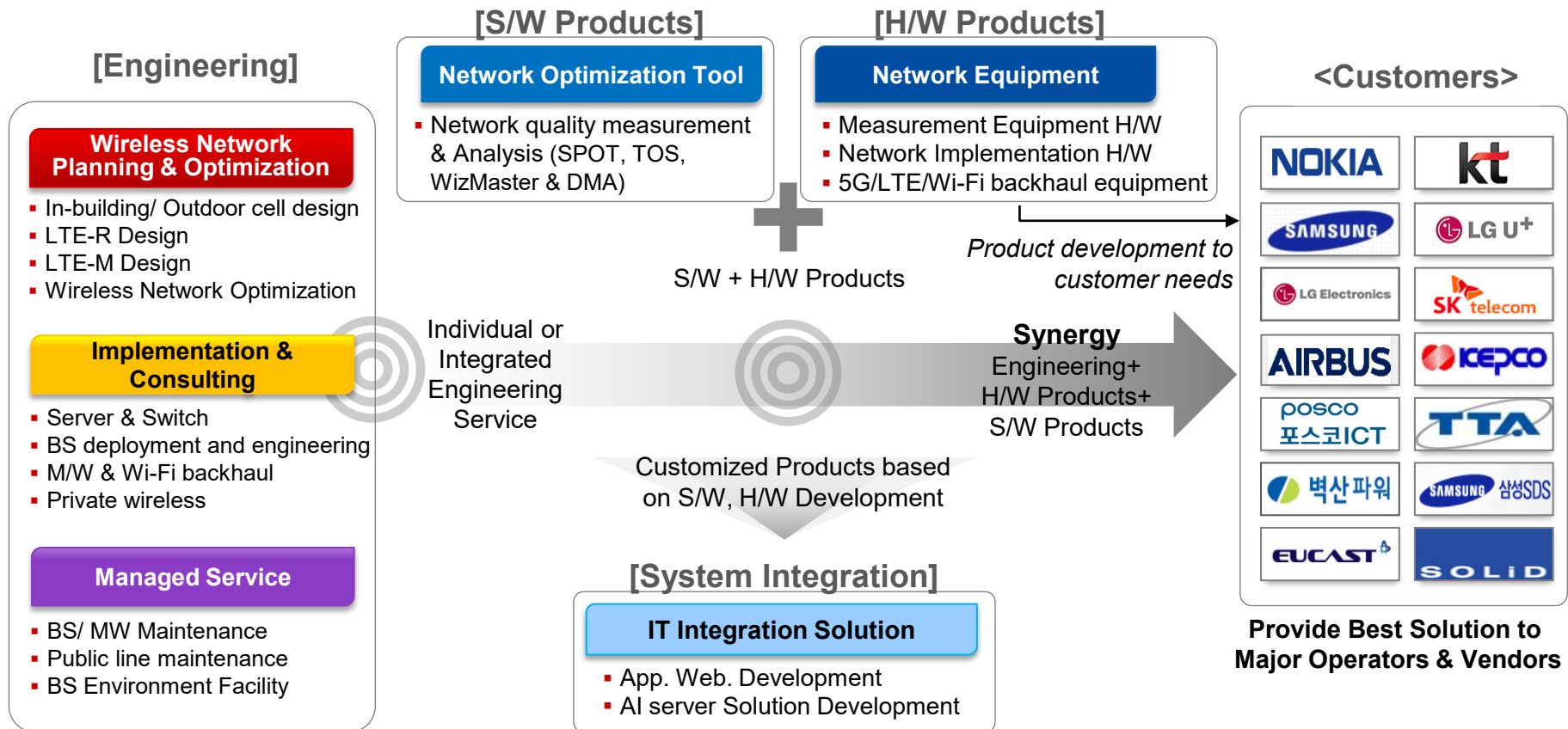
Main Org.	Description	Period
성남산업진흥재단	Pharos RmDM development	2009.3~ 2009.12
	Digital Broadcast repeater Cell Planning Analyzer development	2010.4~ 2012.3
	Smart Phone and Android OS network quality measurement S/W development	2010.6~ 2011.5
지식경제부	LTE(LTE-Adv) Smart Phone Multi DM and Web based RRC Analysis System development	2013.7~ 2015.6
성남산업진흥원	IoT Total Fishing Service Application	2016.7~ 2016.12
성남산업진흥원	Development of automation analysis system for mobile communication (LTE /5G) using Machine Learning	2017.9~ 2018.10
Ministry of SMEs and Startups	Automobile modem measurement and Big Data Analysis System using Machine Learning	2017.6~ 2019.6
Ministry of Science and ICT	Development of Verification Technology for High-Speed, Low-Latency, and Super-Connection Support for 5G	2018.7~ 2020.12
Ministry of SMEs and Startups	MR based co-work system development for Unmanned monitoring equipment to implement P5G network	2022.4~ 2024.3
한국지능정보사회진흥원 NATIONAL INFORMATION SOCIETY AGENCY	Promotion of 5G B2B services activation for logistics and transportation biz to adopt AGV/AMR using P5G	2023.7~ 2023.12

R&D Center, Venture company



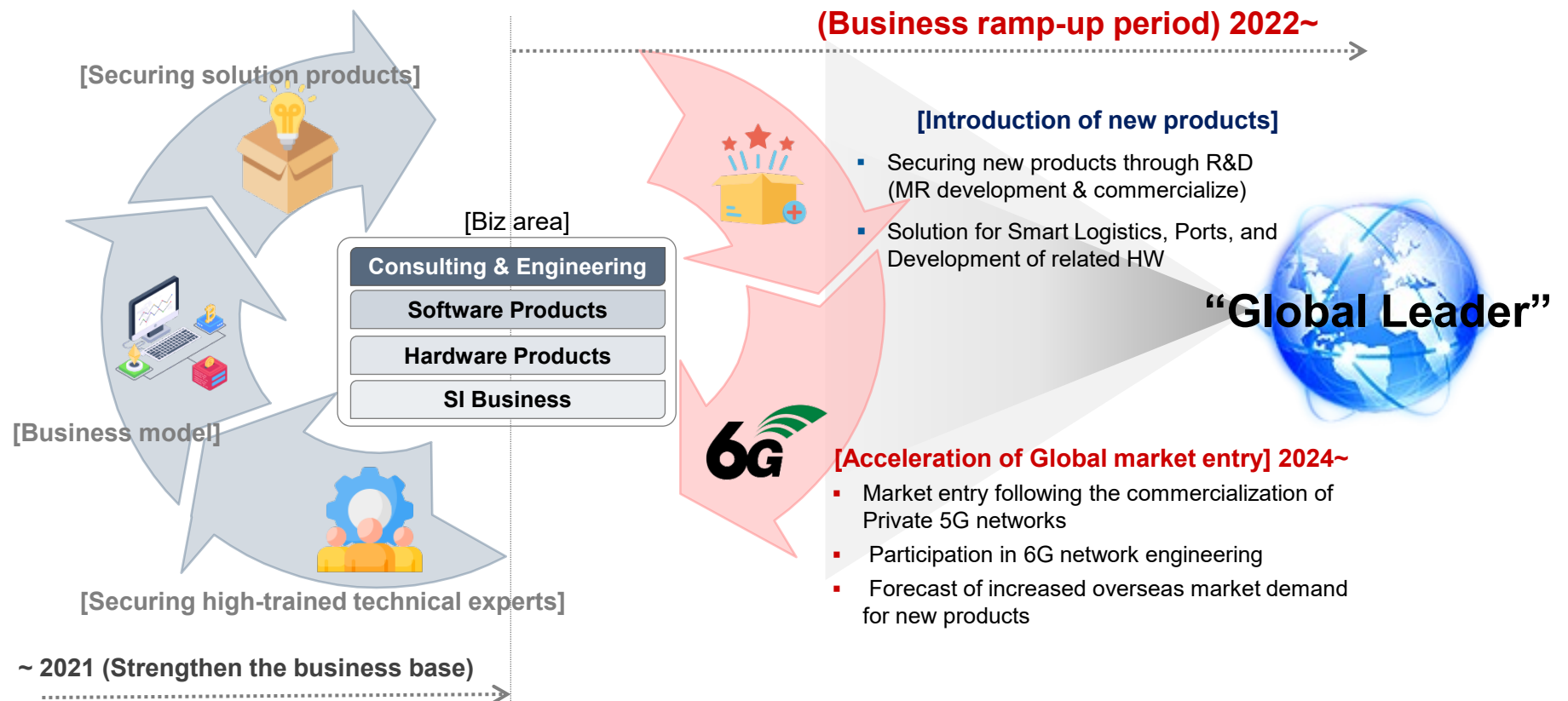
5. Core competencies

Establish a portfolio of Fixed and Wireless ICT business
 → To provide **the best integrated solution** to Customers



▶ Vision 2024_Global Leader in ICT


“Expanding into the world's leading network solution company”



Need More Info ?

 www.qubicom.co.kr

 www.youtube.com/user/QUBICOMINC

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THANK
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