



HFR Company Profile

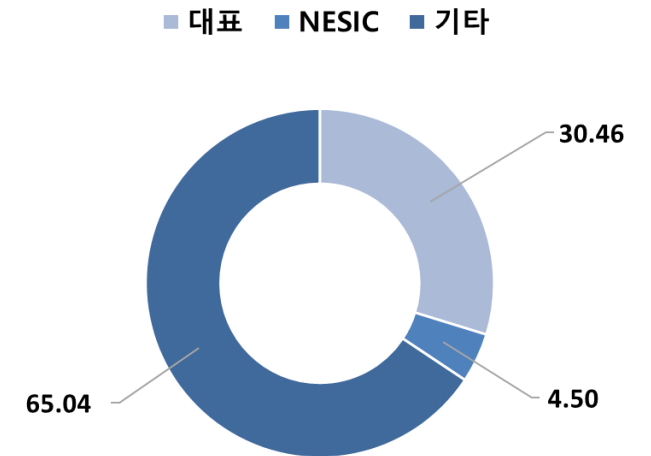
Create the Resonant Networking

Networking should include not only providing connectivity tools, but also providing the necessary services. Networking, like nature, will be always staying next to us.

Nov 2022

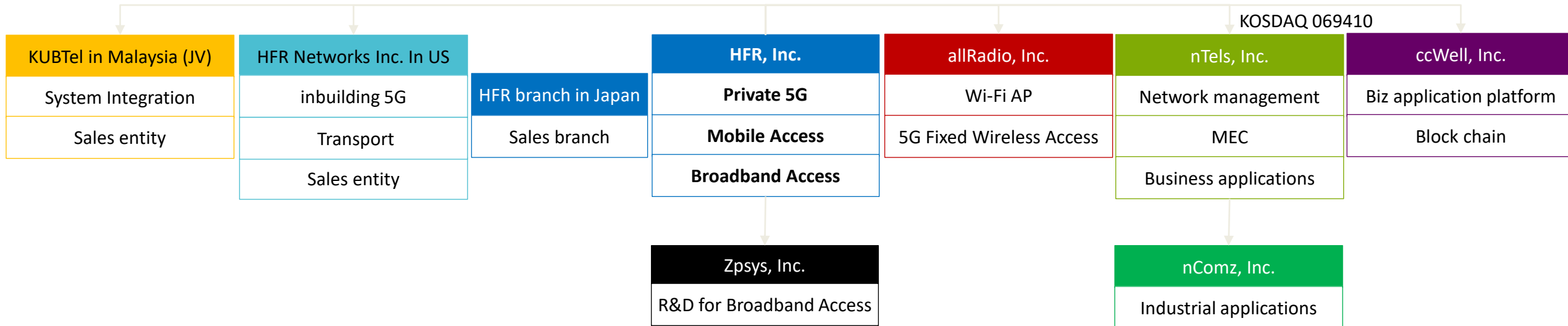
Company Overview

설립일	2000.01.05	업종	정보통신장비 제조 및 제조 서비스	IPO	2018년 (KOSDAQ 230240)
인원	195명	사업영역	Mobile · Broadband Access, Private 5G & Services	홈페이지	http://www.hfrnet.com



HFR and its Affiliates

“Many skills”, “Different views” but teaming up like “One company” based on empowering culture to enrich growth



VISION & BUSINESS STRATEGY

Networking은 연결 도구와 필요한 서비스를 제공하는 것을 의미하며, HFR은 인간 욕구 충족을 위해 공감 네트워킹을 창조하고자 합니다.



인간 욕구 충족을 위한 공감 네트워킹 창조

'Create the Resonant Networking'

사업전략

사업 자산 활용

성장전략

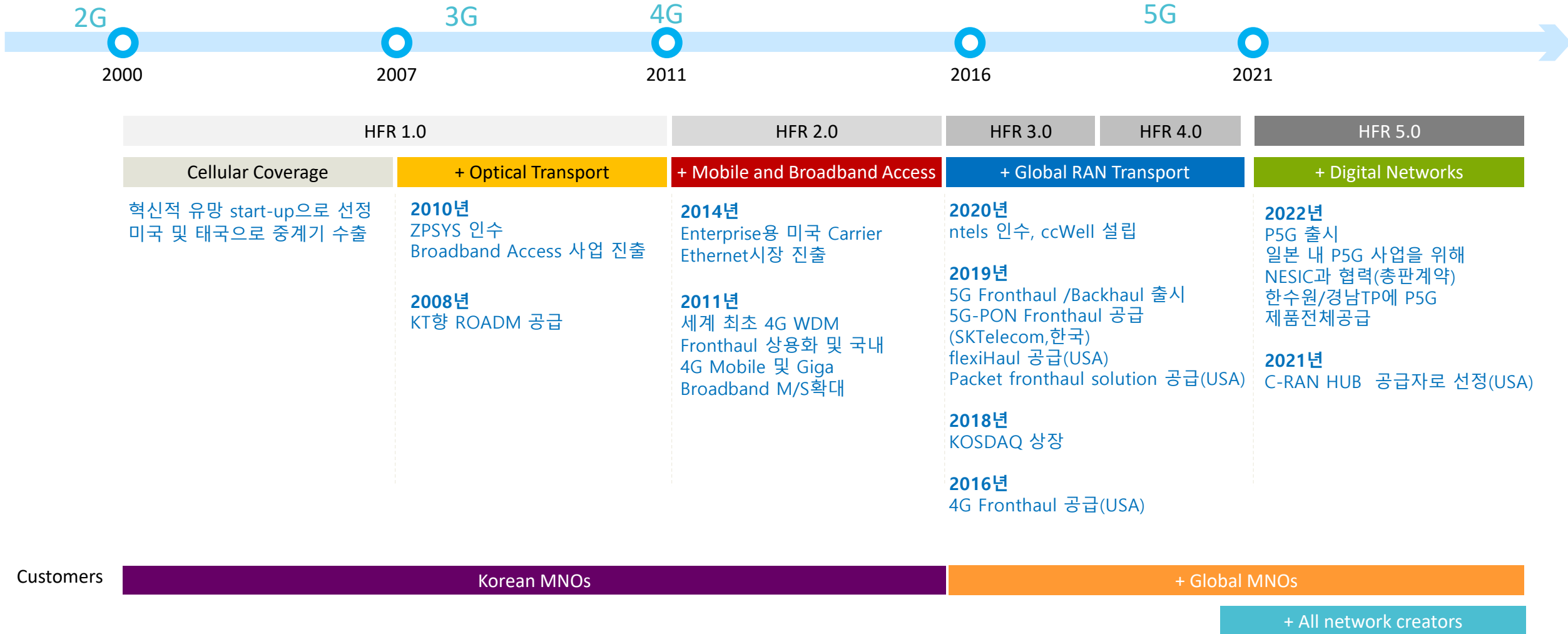
파트너와 탐험

조직전략

젊고 활기찬 조직

BUSINESS STRATEGY

HISTORY



ECOSYSTEM

HFR and its ecosystem are vital links in an innovation value chain, creating a family of companies empowered to achieve vital advancements through their combined technical synergies.

	Mobile Access	Broadband Access	Private 5G & Services
Customers	    	   	   
Partner Companies	  		 NEC ネットワークスアイ
Subsidiaries and affiliates		 	 
Overseas Branch			



Business Domain

Mobile Access

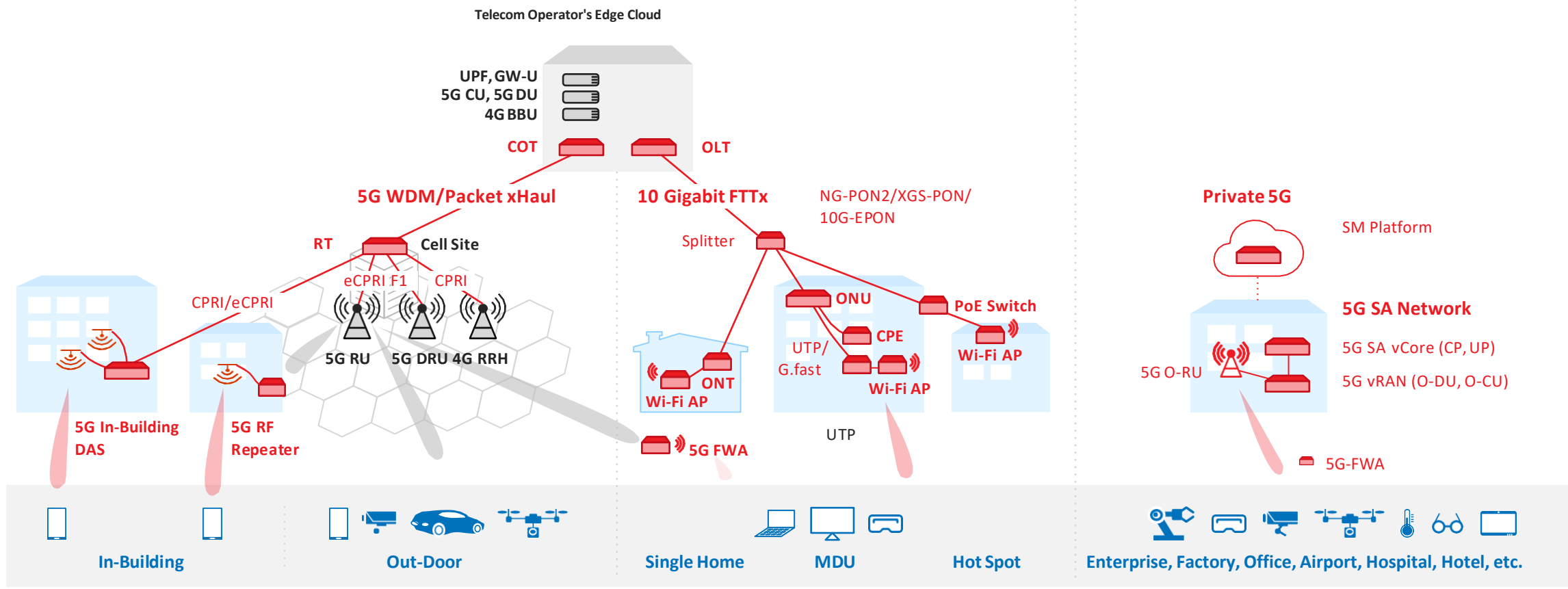
- 4G/5G xHaul (WDM & Packet RAN Transport)
- Indoor & Outdoor Cellular Radio Units

Broadband Access

- 10G Gigabit Internet (FTTx)
- Wi-Fi Access Point & Controller

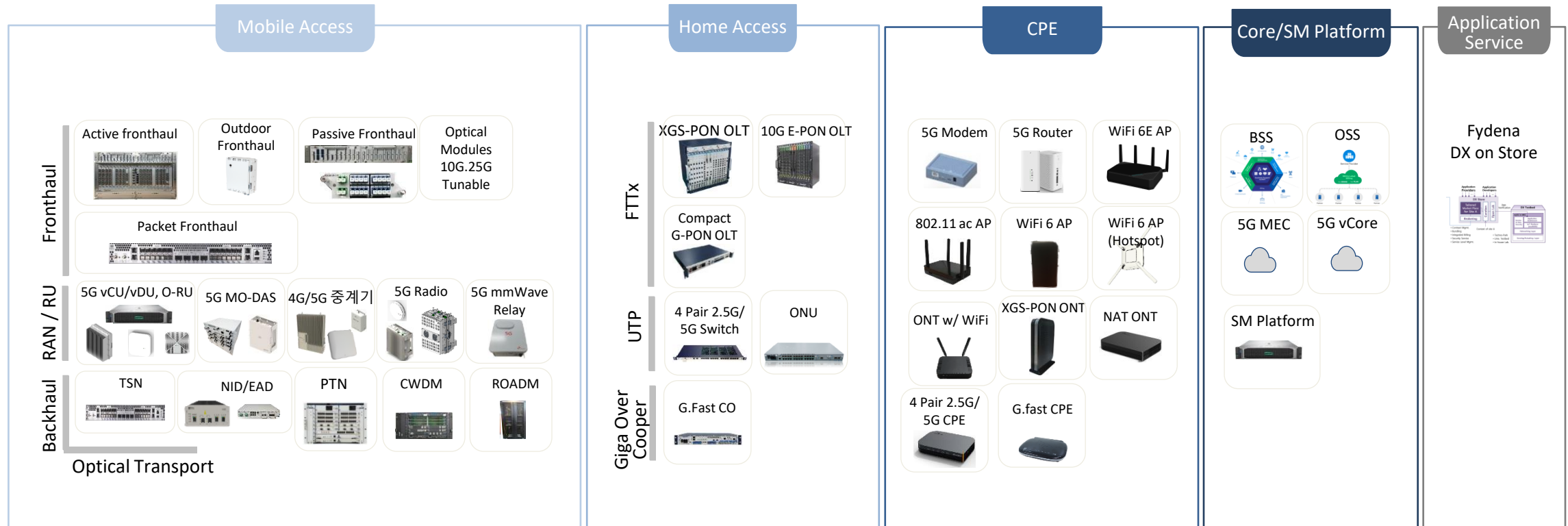
Private 5G & Services

- 5G SA Network (5G vCore, vCU/DU, RU)
- 5G SM Platform



Product & Service Portfolio

통신사업자와 공공 또는 기업 고객을 대상으로 유무선 및 모바일 네트워킹 장비 및 소프트웨어 솔루션을 개발, 제조, 공급 하고 있습니다. 또한, End-to-End Private 5G System 통합솔루션을 제공하고 있습니다.



Accomplishments & Future Leaps

5G Mobile Access 및 10G Broadband Access 시장에서의 리더십을 바탕으로,
 HFR의 향후 성장은 IoT 플랫폼에서 통합 관리 서비스를 제공하여 "Private 5G" 시장에서의 리더십을 확보하는 데 초점을 맞추고 있습니다

Private 5G
& Services

Future Digital Infrastructure Builder

Managed Service Provider
 (On-Site Private 5G Network & Services)
 Provide Private 5G Total Solution

5G SA vCore 5G vCU/DU, RU SM Platform

Broadband
Access

10G Gigabit Internet Commercialization in Korea
Dominant Player in Korea's Wired Access G-PON Market
The World's 1st 2-Pair Giga Ethernet Switch Commercialization

G-PON 2-Pair Ethernet 10G-EPON XGS-PON

Mobile
Access

Packet Fronthaul (RoE, TSN) Development
The 1st Korean Company to Enter the US Fronthaul Market
The World's 1st C-RAN Fronthaul Commercialization

In-Building Cellular 4G WDM Fronthaul 4G/5G WDM xHaul 4G/5G Packet xHaul

Recent Highlights

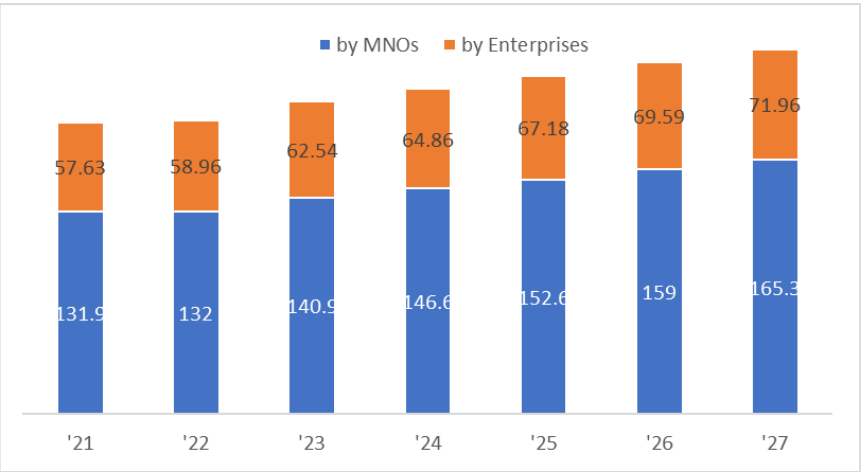
HFR boasts repeated success in introducing disruptive technologies.

Private 5G	Mobile Access	Broadband Access
일본 P5G 사업을 위한, NEC 자회사 NESIC과의 협력 및 투자	북미 C-band Fronthaul 단독 공급	가정용, 기업용 및 Hotspot용 WiFi 6/6E
국방 P5G 사업 수주	Packet Fronthaul 장비 공급	5G Fixed Wireless Access
한국수력원자력(한수원)에 P5G 제품전체공급	O-RAN 기반 최초 fronthaul Mux (SKT향)	2023년 WiFi 7 상용화 계획
경남 TP에 5G 시스템, WiFi 6 구축	4G RRH를 통한 4G/5G 동시 서비스	초저지연 TSN(Time Sensitive Network) Switch상용화

Market Snapshots

[Worldwide 5G infrastructure]

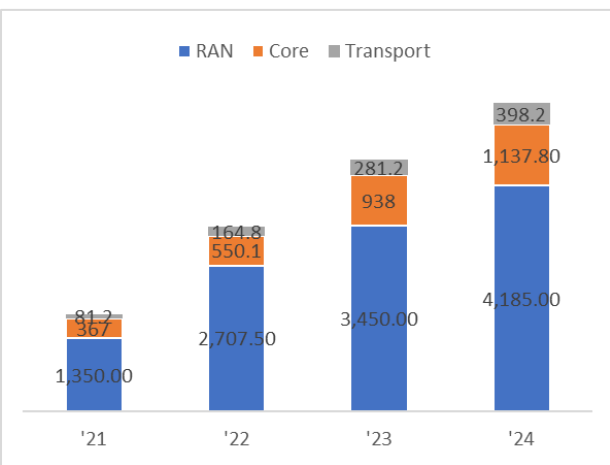
(USD billion)



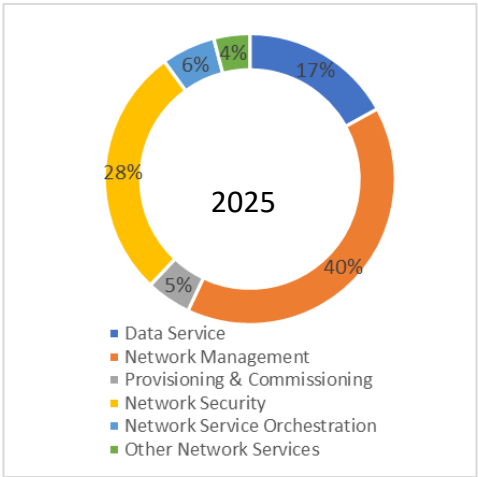
* Source: IDC, Private 5G: Empowering Digitalization for Enterprise and Industrial Organizations, 2021

[Private 5G]

(USD million)



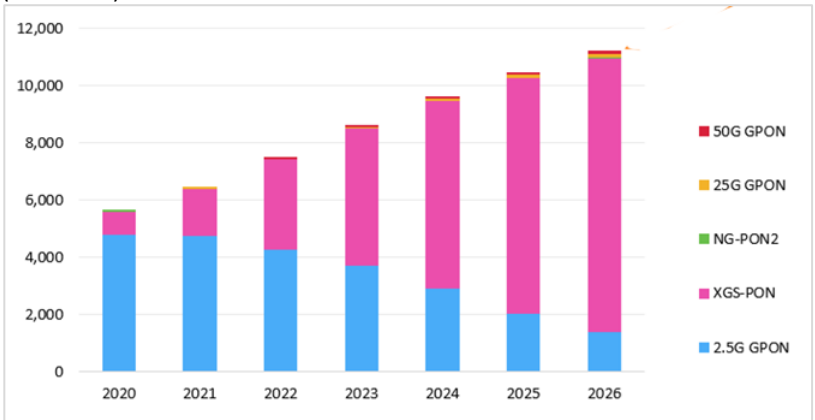
[P5G Services by Revenue Category]



* Source: Harbor Research, 2021

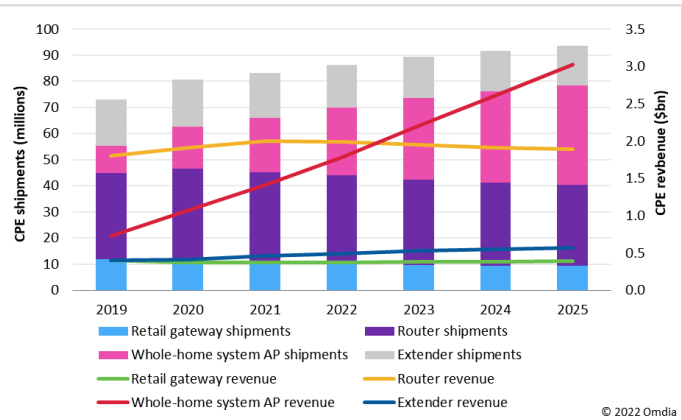
[PON OLT optical component forecast]

(000 Units)



* Source: Omdia, 2021

[Global Consumer WiFi CPE forecast]

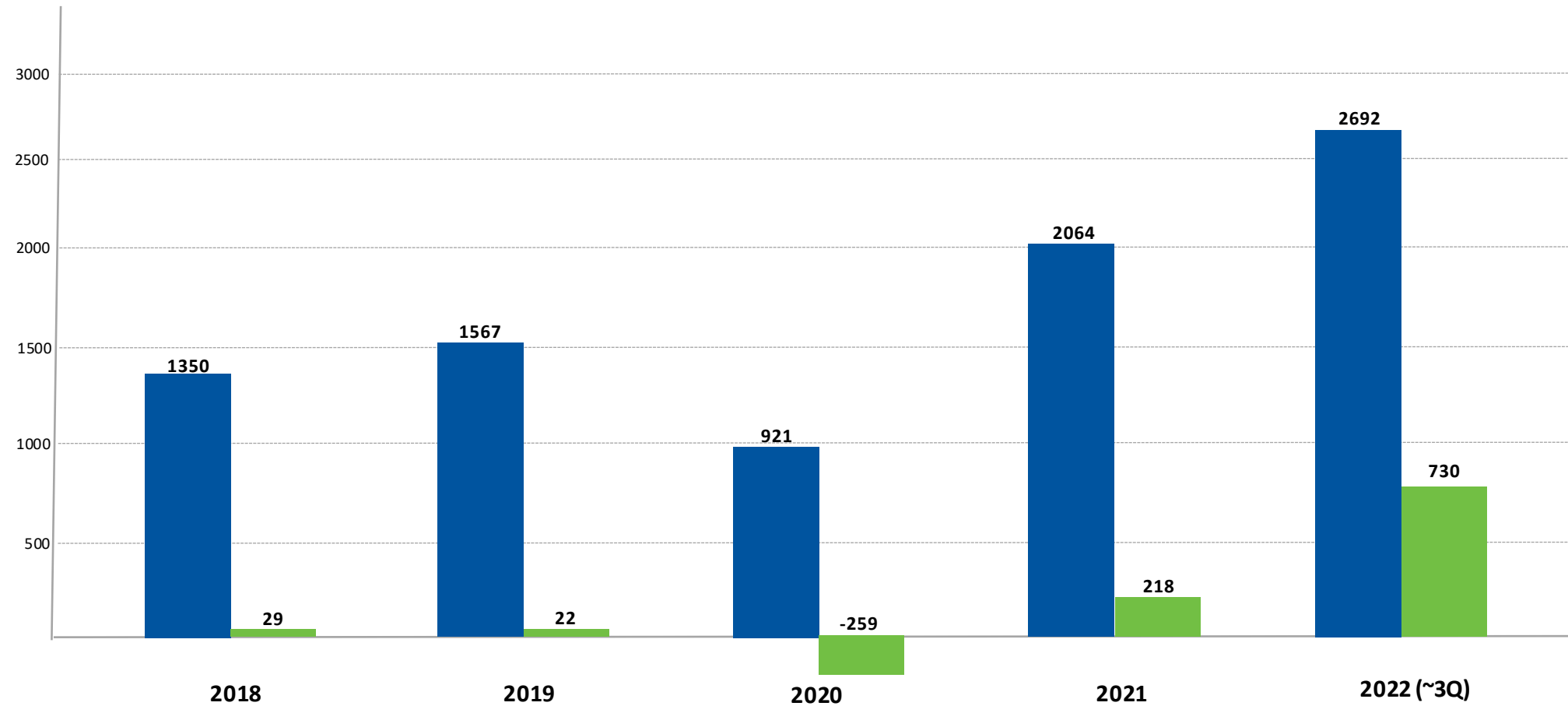


* Source: Omdia, 2022

Financial Performance

매출/영업이익

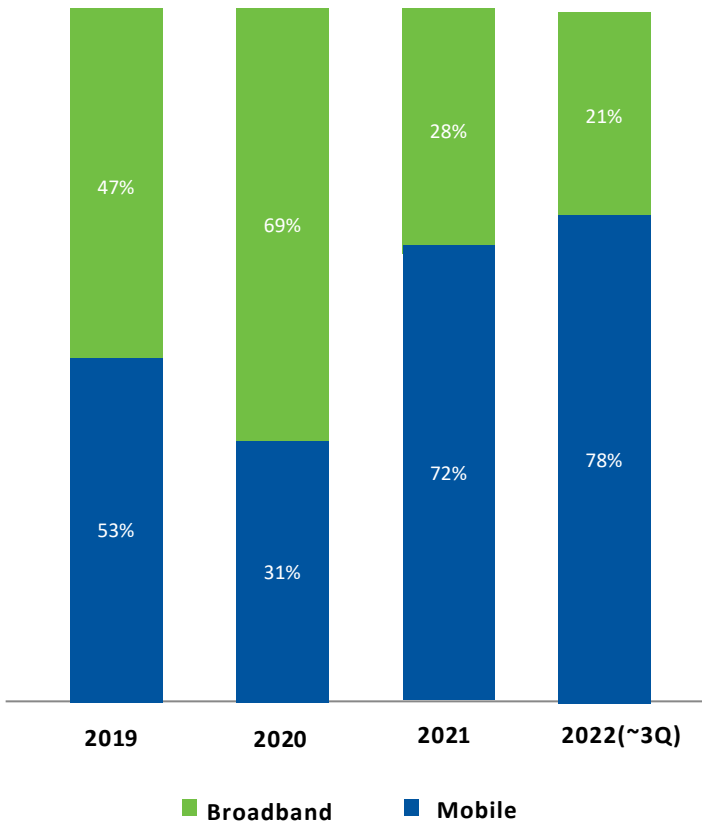
■ 매출액 ■ 영업이익 (단위 : 억원)



Financial Performance

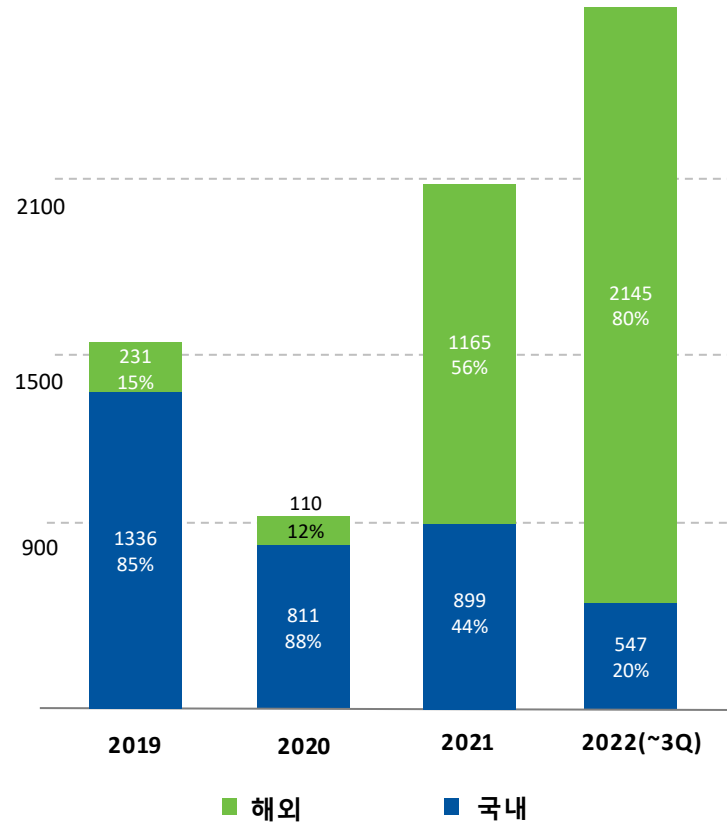
Mobile Access / Broadband Access

(단위: %)



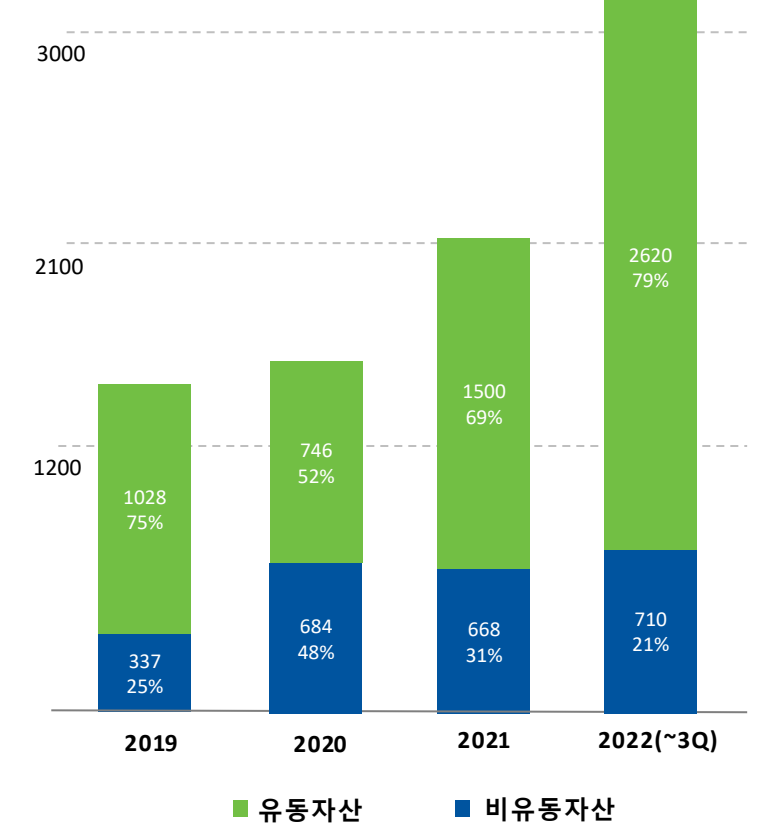
국내 / 해외

(단위: 억원, %)



자산총계

(단위: 억원, %)



HFR's Quality and Process Management System

Resonant System Management

- Adopted HFR System Management in 2007
- Run Innovation/Improvement proposal program every month
- Regularly updated every year
- In conjunction with the **internal control system** in 2021



Quality Certifications

- TL 9000 / ISO 9001
- ISO 140001
- NEBS Level 3
- Bronze from EcoVadis for sustainable growth



Assessment by Customers

- Supplier process audited and proved by global vendors and telecom customers



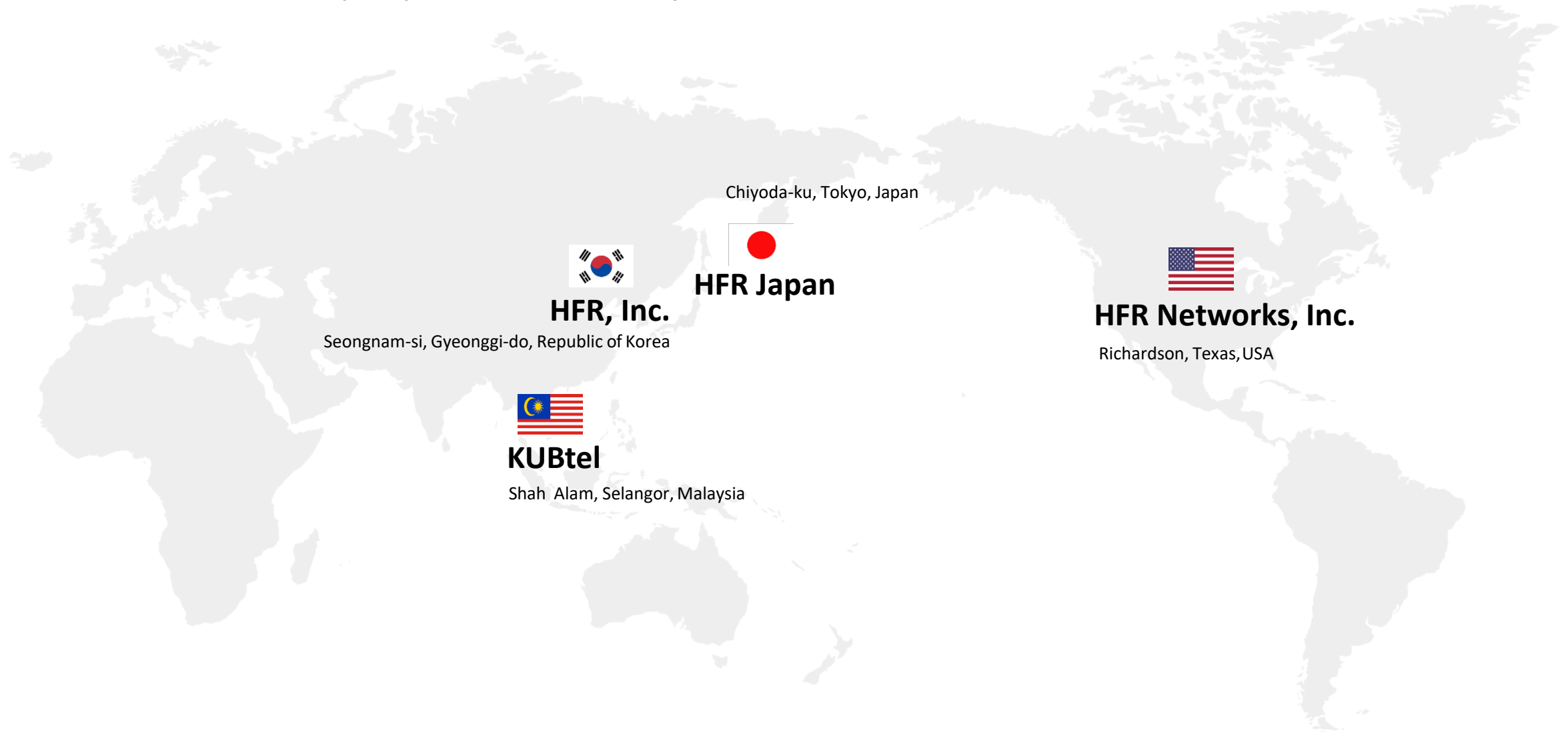
Strongly tied with Global Standard Bodies

HFR은 혁신적인 DNA를 가진 기술 중심 기업으로, CBRS, O-RAN, IEEE, SCTE ISBE 등 글로벌 표준 분야의 전문가들과 함께하고 있습니다.

Global Standard Bodies				
CBRS Alliance	O-RAN Alliance	IEEE 1914.3	SCTE ISBE	TIP
				
Support the common interests of members, implementers and operators for the development, commercialization, and adoption of LTE solutions for the US 3.5 GHz Citizens Broadband Radio Service	Leading the industry towards open, interoperable interfaces and RAN virtualization	IEEE Standard for Radio over Ethernet Encapsulations and Mappings	SCTE ISBE is the applied science leader for cable telecommunications	An engineering-focused, collaborative methodology for building and deploying global telecom network infrastructure

Business Place

한국 내 본사를 포함하여 미국, 일본, 말레이시아에 해외 법인/지사를 두고 글로벌 비즈니스를 위한 역량을 키워가고 있습니다.



CONFIDENTIALITY

Our industry is extremely competitive. The confidentiality of companies' plans and data is obviously critical. Will protect the confidentiality of all such company information. We view our approaches and insights as proprietary and therefore look to our future to protect 's interests in our presentations, methodologies and analytical techniques. Under no circumstances should this material be shared with any third party without the written consent of HFR.